

Navistar[®] CV Model PTO and Remote Start/Stop Programming Guide

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1. Revision Summary Table

REVISION	DATE	SECTION	CHANGE DESCRIPTION	REASON FOR CHANGE	REVISED BY
01	5/03/2023	ALL	INITIAL DRAFT	INITIATION OF DOCUMENT	Schnellenberger

2. Forward:

This programming guide will help the user with programming the PTO, on the CV model truck.

The PTO, engine ramping, and remote start programming for all vehicle modules is accomplished from these menus. Programming individual modules is not required to set up these functions.

3. Special Tools and Software:

Tool Description	Tool Number	Comments
EZ-Tech® or Electronic Service		Ensure there is a strong WIFI
MDI 2 Interface	<u>EL-52100 MDI II</u>	Signa

To place an order for Service Tools, use the <u>Tool Catalog Link</u>.

4. Additional References:

Link Description	Link	Notes
CV Electrical Integration Guide	Electrical Systems Integration Guide (CV)	This site contains information about setting up a PTO. It includes complete wiring schematics, pin out information and component locations
GM Upfitters Manuals	<u>GM Upfitter.com</u>	Details that are specific to the GM product line, but contains important TSB's and other cross functional information that may apply to your set up strategy
Master Service Information (Subscription required)	Master Service Information Site	Navistar's internal service portal

5. Getting Started:

The PTO system is programmed, from the factory, for a basic 3 speed idle up and Stationary Preset mode, with the relay control circuit enabled and ready to close a customer provided control relay. The relay is not included and must be added by the Truck Equipment Manufacture (TEM).

For most customers, the only electrical connections that are required are a control relay and an oil solenoid. The system is ready to go. Older systems did not have the relay driver turned on so they would not engage the PTO until reprogrammed by a dealer. That has been corrected.

The three factory speeds are:

- 1. 900 RPM occurs with press and release of the PTO switch
- 2. 1200 RPM occurs with press and release of the Cruise SET switch [if PTO is ON]
- 3. 1900 RPM occurs with press and release of the Cruise Resume Switch [if PTO is ON]

IMPORTANT: On a new unit before anything is connected, start the truck in park with the park brake set, and the Cruise Control Switch OFF. Press and release the PTO in cab Switch. You should be able to achieve the 3-speed operation described above. If not, have the dealer fix it before you proceed! When proper idle up operation is confirmed THEN connect your components.

Primary PTO Operating Modes:

Preset [Stationary]

- In-cab control standard. Remote control available.
- In cab engage with remote control available

Variable [Stationary]

- In-cab control standard. Remote control available.
- In cab engage with remote control

Mobile

• In-cab control only

OSIM (Operator Selectable In-Cab Mode) [Stationary or Mobile]

• Requires additional programing.

Refer to the Integration Guide at

http://bodybuilder.navistar.com/General/Documents/PDFs/ESIG_CV.pdf_ for wiring and other CV PTO information.

6. Using GSD2 Software and MDI2 Interface to Change PTO Settings:

This guide will address 6 areas:

- 1. Connecting to truck and entering diagnostic (programming) mode
- 2. Restoring Factory Settings.
- 3. Enabling interior PTO switch control and set modes of operation.
- 4. Enabling Remote PTO mode control and selecting parameters
- 5. Transferring PTOM settings to a replacement PTOM.
- 6. Changing the Personalization settings to allow configuration of PTO speed and timeout options, from the Information Display Vehicle Setting Menu.

6.1 Connecting to the Truck and Accessing the Configuration/Reset Menu:

Start the program and click on Diagnostics



Select the interface cable and detect the vehicle

🚳 GDS 2								-	
					Vehicle Selection				
Device:	No Device Selected		Select Device	Disc	nnect Navigate Without Device				
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VIN:			12534 DPA 5	Dearb	Device is not supported by GM. In ca	se 04.04	Selection	Copy VIN	
			DrewLinQ	Drew T	Device is not supported by GM. In ca	se 04.04			
41/7//70/04/7//10	VIN		TVIT	Drew T	Device is not supported by GM. In ca	se 04.04		Timestamp	
1HTKSSWK9KH8	16932 2019		NEXIQ US	NEXIO	Device is not supported by GM. In ca	se 04.04		Feb 25, 2019 11:12:53 AM	
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NOVIN190215142	200 2019		NEXIQ US	NEXIQ	Device is not supported by GM. In ca	se 04.04		Feb 15, 2019 2:22:55 PM	
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HTKTSWK8KH1	130393	2019		International			CV515	JN 17, 2		17, 2019 2:03:51 PM	
HTKTSWM4KH	267025	2019		International			CV515		Jul 10, 2019	1:53:52 PM	~
5	Back	Conta	act Us	1	Home	me 🖏 Vehicle Menu				🤿 Enter	
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🚱 GDS 2					- 0 ×						
	Please ma	ke a selection		Selected	Vehicle	1					
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Select Vehicle and click on Enter

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Select Power Take Off Control Module

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			Selected Vehicle					
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Chassis Control Module - Auxilian/			Model Year		2019	VIN		î
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Glow Plug Control Module			Model		CV515	VIN		~
Transmission Control Module			Selected	Vehicle Configuration				
Power Take-Off Control Module			Prop	erty	Value		Value Source	
Transfer Case Control Module			1. Select PT	TO Control N	/lodule			
Electronic Brake Control Module								
Body Control Module								
🐚 Serial Data Gateway Module								
inflatable Restraint Sensing and Diagnos	stic Module							
instrument Cluster								
Radio Controls					Navigation Path			
HVAC Controls			Module Diagno	ostics				
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🍋 Back 🔀 Co	ntact Us	Ho	me		Vehicle Menu		🦰 Enter	
GDS 2 v.20.3.05100 Navistar v2019.1.0 VIN: 1HTKTSWK7KH6861	28 🔵 2019, Internation	al,CV515,Module Diagnostics	i			MDI 2: 88754256	🗲 13.3 V 🙀 🎈	ৎ
🖷 📕 🤌 🥌 🦉 🎂							^	11:15 AM 2/20/2019

GDS 2 Menu for PTO Settings

Step through the screens below to get to PTO Operation Mode



6.2 Select Configuration Reset Functions:

Programming this option will restore the PTO settings to the factory defaults.

<u>PTO – Restore Factory Settings Video</u> This video leaves out the Key Cycle: in Section 6.3.3. Do not forget it.

			6					_		
			Selected Vehicle							
😪 Reset PTO Inhibit and Dis	sengage History		Property		Value		Value Source			
Restore Festers Settings			Model Year		2020	User		Î		
Restore Factory Settings			Make International User							
🔛 Personalization			Model		CV515	User		~		
SPTO Operation Mode				Selected V	/ehicle Configuration					
			Prope	erty	Value		Value Source			
		\searrow	Engine Identif	ier	6.6L (L5D)	User				
			Sel	ect Restore	Factory Settings					
					Navigation Path					
			Module Diagno	stics				Ê		
			Power Take-Of	f Control Mod	lule			~		
Rack	Contact Us	He He	ome	Ĩ	Vehicle Menu		🤿 Enter			
GDS 2 v.21.2.08800	(IN: NOVIN200221074957 🔘 2020, International,	CV515,Module Diagnostics,	Power Take-Off Contro	Module,Configura	ation/Reset N	No Device Selected	👳 🔍	ৃ		

The screen below is displayed, after selecting Restore Factory Settings. It provides a list of the current parameter settings. Clicking on Reset will restore the factory defaults and display the results.

6 GDS 2			X
Restore Factory Settings			🚯 Add Bookmark
Diagnostic Data Display Graphical Data Display Line Graph			
Vehicle Status Data			*
			1 🔒 🗢 🄝
Parameter Name	Value	Unit	Control Module
Option Configuration	Vehicle Stationary, Prese		Power Take-Off Control Module
PTO Control	Interior PTO Switch		Power Take-Off Control Module
Maximum Engine Speed for PTO Engagement	1000	RPM	Power Take-Off Control Module
Engine Speed During PTO Standby	900	RPM	Power Take-Off Control Module
PTO Set2 Speed	1900	RPM	Power Take-Off Control Module
PTO Set 1 Speed	4000	0011	Deverting Off October 141-1412
PTO Maximum Engine Speed		Click	on RESET to restore Factory Default
Engine Speed Ramp Rate			programming
Engine Speed Change per Tap Up/Down			
Maximum Vehicle Speed for PTO Operation	94	km/h	Power Take-Off Control Module
Maximum Time Accelerator Pedal Can be Apolied Before PTO is Disabled	600	s	Power Take-Off Control Module
Restore Factory Settings			
Commanded State Uncommanded			Release Control
Reset			
Eack Contact Us	Ve	hicle Menu	🤧 Enter
GDS 2 v.21.2.08800 Navistar v2020.1.0 VIN: 1HTKTSWK4KH536493 2019,International,CV515,Module Diagnostics,Power Take-Off	Control Module,Configuration	/Reset	MDI 2: 88754620 乡 13.3 V 🐖 🎈 🍳

6.3 **Programming Routine:**

6.3.1 Programming Prerequisites:

- Ensure the truck battery has a full charge.
- Ensure the service tool battery has sufficient charge.
- Ensure the truck key is on.
- Ensure the truck has plenty of fuel.
- Ensure the truck does not require a regen.
- Ensure the truck is not low on oil.
- Ensure the truck hood and all doors are closed.

Note: It is also beneficial to ensure that the Body Controller and Engine Control Module have the latest software. This must be programmed using the SPS software.

6.3.2 Programming Steps:

Example of Programming Steps:



6.3.3 Key Cycle:

Any time "Write Options" has been selected and you are done making changes, the following steps must be followed to lock in the changes.

Programming Key Sequence

Any time programming changes have been made, the system must be allowed to learn the new configuration.

- Turn off the key, release the park brake, then open and close the door.
- After the Dome Light goes out, set the park brake, and turn the key on.

Note: Technicians have reported that they must allow additional time, after the dome light goes out, before turning the key back on. Some make it a habit to allow up to 10 minutes to ensure that the changes stick.

• Verify that the vehicle operates as desired.

6.4 Enable Interior PTO Switch Control and Set Modes of Operation:

Select PTO Operation Mode. This starts the selection for programming Interior PTO Switch and remote PTO control.

🚳 GDS 2						~	×
				Selected Vehicle			
Reset PTO Inhibit and Disengage History		Property		Value	Value Source		
		Model Year		2019	VIN		Â
Restore Factory Settings		Make		International	VIN		
S Personalization		Model		CV515	VIN		~
C PTO Operation Mode			Selected V	/ehicle Configuration			
		Prope	erty	Value		Value Source	
		1.5	elect PTO C	Operation Mode]		
				Navigation Path			
		Module Diagno	stics				Â
		Power Take-Of	f Control Mod	tule			~
Back Contact Us	Hor	me		Vehicle Menu		🤿 Enter	
GDS 2 v.20.3.05100 Navistar v2019.1.0 VIN: 1HTKTSWK7KH686128 2019,International,CV51	15,Module Diagnostics,	Power Take-Off Cont	rol Module,Config	uration/Reset	MDI 2: 88754256	🗲 13.4 V 🐖 🎈	Q
# 🛤 <u>@</u> 🦧 📕 🦉 😳 🐵						へ 画 涙 如) 2	11:16 AM 2/20/2019

First Select Interior PTO Switch operation.

3 GDS 2					-	
TO Operation Mode					🕔 Add Bool	kmark
Parameter	Name	Control Module	Vehicle Settings			
10 Control	P	1 . Select Interior PTO Switch	P10 Remot	e Mode Switch	2 . Click on Continue, when finished programming , to move to the next screen	
Refr	esh Parameters		Write Options		Continue	
PTO Control fin: Current Value:				PTO Remote Mode Sv	Clear Chan	ges
Aax:	Please make a selection Please make a selection Interior PTO Switch				Save Chan	ges
Eack Back	PTO Remote Mode Switch			-0		ar.

When the PTO mode is set to Interior PTO Switch, the screen below is shown, after hitting Continue. Use the screen below to select the desired mode of operation <u>PTO – Stationary Preset</u> <u>Speed Mode Video</u> <u>PTO – Stationary – Variable Speed Mode Video</u> <u>PTO – Variable Speed – Mobile Mode Video</u>.

🏟 GDS 2			- 0 X
PTO Operation Mode			🕔 Add Bookmark
Parameter Name	Control Module	Vehicle Settings	Setting Changes
Option Configuration	Power Take-Off Co	Vehicle Stationary, Preset PTO Speed	
Refresh Param	eters	Write Options	Continue
Option Configuration			
Current Value:		Vehicle Stationary, Preset PTO Speed	Clear Changes
New Value:	Disabled		
Max:	Please make a selection		Save Changes
	Disabled		
Back	Vehicle Stationary, Preset PTO Speed		Enter
- Dack	Vehicle Stationary, Variable PTO Speed		Line
GDS 2 v.21.2.07800 Medium Dut	Vehicle Moving, Variable PTO Speed		DI 2: 88757055 乡 12.0 V 💯 🔍 🍳

These videos leave out the Key Cycle: in Section 6.3.3. Do not forget it.

After making the desired selection , click on Write Options and Continue.

Any time programming changes have been made, the system must be allowed to learn the new configuration. Refer to Key Cycle: in Section 6.3.3 of this manual.

6.4.1 OSIM – Activate Stationary Operation or Activate Moving Operation of the PTO with the Set and Resume Switches :

After the PTO mode has been set, and a compatible mode was selected, the screen below is shown after hitting Continue.

PTO Operation Mode Parameter Name Control Module Vehicle Settings Setting Changes PTO Control from Passenger Compartment, when Stationary Or Moving Power Take-Off Control Module Enabled When Interior PTO Switch is enabled, and a compatible mode was selected, this	w 0052			– 🗆 ×
Parameter Name Control Module Vehicle Settings Setting Changes PTO Control from Passenger Compartment when Stationary Or Moving Power Take-Off Control Module Enabled	PTO Operation Mode			👎 Add Bookmark
PTO Control from Passenger Compartment when Stationary Or Moving Power Take-Off Control Module Enabled When Interior PTO Switch is enabled, and a compatible mode was selected, this	Parameter Name	Control Module	Vehicle Settings	Setting Changes
When Interior PTO Switch is enabled, and a compatible mode was selected, this	PTO Control from Passenger Compartment when Stationary C	r Moving Power Take-Off Control Module	Enabled	
Refeesh Parameters Note: The CV model does not have an option that will allow the PTO to remain engaged while transitioning from stationary to moving. Confinue PTO Control from Passenger Compartment when Stationary Note: The CV model does not have an option that will allow the PTO to remain engaged while transitioning from stationary to moving. Confinue	Refresh Parameters PTO Control from Passenger Compartment when Stationary (Min: Current Value: New Value: New Value: Max Back	When Interior PTO Switch is enabled, selection allows you to enable or disa operation of the PTO with the Set and 1. When this feature is disabled the P conditions are correct, pressing the PP indicator in the cluster. 2. When this feature is enabled and c activated, the PTO indicator in the clu a. For stationary operation pressi the PTO. b. Pressing the Resume button wi will only work in the, forward, low gea Note: The CV model does not have an engaged while transitioning from stat	and a compatible mode was selected, this ble the ability to select Stationary or Movin I Resume switches. PTO can only be used while stationary. Whe TO switch will engage the PTO and light the conditions are correct, when the PTO switch ister will flash. Ing the Set button while stationary will turn ill enable the PTO to operate while moving, ars. In option that will allow the PTO to remain tionary to moving.	g n is on This Continue Clear Changes Save Changes
GDS 2 v 21.1.07700 Navistar v 2019.10.0 VIN: 1HTKSSWM8KH193756 2019.International.CV515.Module Diagnostics.Power Take-Off Control Module, Configuration/Reset MDI 2:88736068 11.6 V	GDS 2 v.21.1.07700 Navistar v2019.10.0 VIN: 1HTKS	WM8KH193756 2019, International, CV515, Module Diagr	nostics,Power Take-Off Control Module,Configuration/Reset	MDI 2: 88736068 🖌 11.6 V 🖾 🔍 🍳

The screen above is used to configure the OSIM Stationary / Moving option.

<u>PTO – Stationary Preset – OSIM enabled</u> This video leaves out the Key Cycle: in Section 6.3.3. Do not forget it.

When the interior PTO Switch is enabled, this selection allows you to enable or disable the ability to activate stationary operation or activate moving operation of the PTO with the Set and Resume switches.

1. When this feature is disabled the PTO can only be used while stationary. When conditions are correct, pressing the PTO switch will engage the PTO and light the indicator in the cluster.

2. When this feature is enabled and conditions are correct and the PTO switch is activated, the PTO indicator in the cluster will flash.

a. For stationary operation pressing the Set button while stationary will turn on the PTO.

b. Pressing the Resume button will enable the PTO to operate while moving. This will only work in the, forward, low gears.

Note: The CV model does not have an option that will allow the PTO to remain engaged while transitioning from stationary to moving.

After processing the OSIM Stationary / Moving screen, this summary, shown below will be displayed after hitting Continue. This is Part 1 of 2

🚳 GDS 2					x
PTO Operation Mode					🚯 Add Bookmark
Parameter Name	Control Module	Vehicle Settings			Setting Changes
Maximum Engine Speed for PTO Engagement	Power Take-Off Control Module		1500		ŕ
Minimum Engine Speed for PTO Engagement	Power Take-Off Control Module	500			
Engine Speed During PTO Standby	Power Take-Off Control Module		900		
PTO Set 1 Speed	Power Take-Off Control Module		1200		
PTO Set 2 Speed	Power Take-Off Control Module		1900		
PTO Maximum Engine Speed	Power Take-Off Control Module		2100		
Engine Speed Ramp Rate	Power Take-Off Control Module		148		
Accelerator Pedal Disabled	Power Take-Off Control Module		Yes		
Maximum Time Accelerator Pedal Can be Applied Before PTO is Disabled	Power Take-Off Control Module		600		
Low Fuel Level Warning Threshold Before Engine Stop	Power Take-Off Control Module	15			
Time Before Engine Stop	Power Take-Off Control Module	420			
Time Before Engine Stop	Power Take-Off Control Module	Enabled			
PTO Relay.	Power Take-Off Control Module		Enabled		L
PTO Load Feedback	Power Take-Off Control Module		Disabled		
PTO Relay On in Standby	Power Take-Off Control Module		Enabled		
Refresh Parameters	Wri	te Options		(Continue
PTO Set 1 Speed Min: Current Value:				1100 RPM 1200 RPM	Clear Changes
New Value: Mac:				1200 2900 RPM	Save Changes
Ken Back Conta	nct Us	Home	Vehicle Menu		Enter
GDS 2 v 21.1.07700 Navistar v 2019.10.0 VIN: 1HTKSSWM8KH19375	56	anostics Power Take-Off Control Module Cont	figuration/Reset	ME	N 2: 88736068 🍝 11.6 V 🖾 🔍 🔮

Interior PTO Switch, continued. Part 2 of 2 Bottom part of screen.

TO Operation Mode					Add Bookmark
Parameter Name	Control Module	Vehicle Settings		Se	tting Changes
PTO Set 1 Speed	Power Take-Off Control Module		1200		
PTO Set 2 Speed	Power Take-Off Control Module		1900		
PTO Maximum Engine Speed	Power Take-Off Control Module		2100		
ingine Speed Ramp Rate	Power Take-Off Control Module		148		
ccelerator Pedal Disabled	Power Take-Off Control Module		Yes		
Aximum Time Accelerator Pedal Can be Applied Before PTO is Disabled	Power Take-Off Control Module		600		
ow Fuel Level Warning Threshold Before Engine Stop	Power Take-Off Control Module		15		
ime Before Engine Stop	Power Take-Off Control Module	Power Take-Off Control Module 420			
ime Before Engine Stop	Power Take-Off Control Module	Power Take-Off Control Module Enabled			
PTO Relay.	Power Take-Off Control Module	Enabled			
PTO Load Feedback	Power Take-Off Control Module		Disabled		
PTO Relay On in Standby	Power Take-Off Control Module		Enabled		
Default Engine Speed After PTO On	Power Take-Off Control Module		Standby Speed		
Maximum Vehicle Speed for PTO Operation	Power Take-Off Control Module		94		
TO Enabled When Driver Door is Open	Power Take-Off Control Module		No		
Refresh Parameters	w	rite Options		Contin	ue
PTO Set 1 Speed	*			Í	
Min:				1100 RPM	Clear Changes
Jurrent Value:				1200 KPM	
And a second sec				2900 RPM	Caus Changes
nun.				200010 11	Save Changes
Resk Cost	actile	Nome	Vabicle Menu		Enter
	actos	Thomas and the second s	-13 venicie menu		 Enter

Any time programming changes have been made, the system must be allowed to learn the new configuration. Refer to the Key Cycle: in section 6.3.3 of this manual.

6.5 Enable PTO Remote Mode Switch Control and Set Modes of Operation:

This starts the selection for programming remote PTO control. Select PTO Operation Mode <u>PTO –</u> <u>Stationary Preset – Remote Operation Video</u> This video leaves out the Key Cycle: in Section 6.3.3. Do not forget it.



Select PTO Remote Mode Switch control

Note: An additional Interior PTO Switch control can be added later in the programming. Note: Setting this to PTO Remote Mode Switch will also enable the remote start/stop function.

GDS 2				- • ×
PTO Operation Mode				🚯 Add Bookmark
Parameter Name	Control Module	Vehicle Setting		Setting Changes
PTO Control	Power Take-Off Control Module	F		
	1. Selec Remote Switch.	t PTO Mode	2 . Click on Continue when finished programming , to move to the next screen	
Refresh Parameters		Write Options		Continue
PTO Control Min: Current Value:			PTO Remote I	Clear Changes
New Value: Please make a selection				*
Max: Please make a selection Interior PTO Switch				Save Changes
Back PTO Remote Mode Switch	1			
GDS 2 v.20.3.05100 Navistar v2019.2.0 VIN: 1HTKTSWK	7KH686128 • 2019, International, CV515, Module	e Diagnostics,Power Take-Off Control Mo	dule,Configuration/Reset	MDI 2: 88754256 🔌 12.9 V 🖼 🔍 🔇

The menu below will only be available if the PTO Operation Mode is set to the remote option. Other menu options may be disabled.



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The parameters below are displayed for **Remote PTO** – Part 1

Some options may not be available depending on what was selected in previous screens. Set these as desired.

O Operation Mode							Add Bookmark
Parameter Name		Control Module	1	Ahicle Settinge			ettino Channes
finimum Engine Speed for PTO Engagement	Power Take-Off	Control Module		Chick Settings	500		ching on angles
aximum Engine Speed for PTO Engagement	Power Take-Off	Control Module			1500		
ngine Speed During PTO Standby	Power Take-Off	Control Module		900			
TO Set 1 Speed	Power Take-Off	Control Module		1200			
TO Set 2 Speed	Power Take-Off	Control Module			1900		
TO Maximum Engine Speed	Power Take-Off	Control Module			2100		
ngine Speed Ramp Rate	Power Take-Off	Control Module			148		
ccelerator Pedal Disabled	Power Take-Off	Control Module			Yes		
laximum Time Accelerator Pedal Can be Applied Before PTO	Power Take-Off	Control Module			600		
ow Fuel Level Warning Threshold Before Engine Stop	Power Take-Off	Control Module		15		15	
ime Before Engine Stop	Power Take-Off	Control Module		Enabled			
ime Before Engine Stop	Power Take-Off Control Module			420			
TO Relay.	Power Take-Off Control Module			Enabled			
TO Load Feedback	Power Take-Off	swer Take-Off Control Module		Disabled			
'TO Relay On in Standby	Power Take-Off	Control Module	Enabled				
Refresh Parameters			Write Options			Co	ntinue
linimum Engine Speed for PTO Engagement lin: urrent Value:						500 RPM 500 RPM	Clear Changes
lew Value:						500 1000 RPM	Save Changes
	-				Nabirla Ma		Contract Sectors

The parameters below are displayed for **Remote PTO** – Part 2. The last parameter can be set to enable the in-cab PTO switch. Follow the programming steps after making your last change.

6 GDS 2								- D >
PTO Operation Mode								🕔 Add Bookmark
Parameter Name	Co	ontrol Module		Vehicle S	ettings			Setting Changes
PTO Maximum Engine Speed	Power Take-Off C	Control Module				2100		
Engine Speed Ramp Rate	Power Take-Off C	Control Module				148		
Accelerator Pedal Disabled	Power Take-Off C	Control Module				Yes		Set Remote switch
Maximum Time Accelerator Pedal Can be Applied Before PTO	Power Take-Off C	Control Module				600		Mode. Setting to
Low Fuel Level Warning Threshold Before Engine Stop	Power Take-Off C	Control Module				15		Momentary will
Time Before Engine Stop	Power Take-Off C	Control Module				Enabled		prevent the next
Time Before Engine Stop	Power Take-Off C	Control Module				420		page of parameters
PTO Relay.	Power Take-Off C	Control Module				Enabled		from being
PTO Load Feedback	Power Take-Off C	Control Module				Disabled		displayed.
PTO Relay On in Standby	Power Take-Off C	Control Module				Enabled		
Default Engine Speed After PTO On	Power Take-Off C	Control Module			Sta	ndby Speed		
Default Engine Speed After Brake Event	Power Take-Off C	Control Module				Idle Speed		
Horn Chirps During a Remote Engine Start Event	Power Take-Off C	er Take-Off Control Module Enabled			Set to "enable Interior PTO			
PTO Remote Mode Switch Type	Power Take-Off Control Module				Momentary		Switch" to allow cab PTO	
PTO Remote Control from Passenger Compartment	Power Take-Off C	Control Module				Disabled		engagement and remote engir
Refresh Parameters				Write Options				speed control. When this is selected, the engine must be
Minimum Engine Speed for PTO Engagement 1 Min: 500 Current Value: 500 New Value: 500 Max: 1000							500 500 1000	running, the truck must have transitioned from in gear to park and the park brake must have changed from released t set.
Back GDS 2 v.20.3.05100	Contact Us)19,Internationa	al,CV515,Moo	Home Hole Diagnostics,Power Take-Off Co	ntrol Module,Confi	Vehicle Me	nu	MDI 2: 88754256 🗲 13.3 V 🐺 🔍 🍳
# 🛤 🤗 🧠 🗷 🦛 😯	15							へ 回 <i>信</i> (4)) 11:17, 2/20/2

The additional parameter page below is displayed, when "Latched" is selected under PTO Remote Mode Switch Type.

Note: Be aware that the Latched switch configuration is hard to make stick. The software likes to revert to Momentary and it happens with no warning. Any time you re-read the module it automatically switches and is programmed.

GDS 2				- 🗆 X
PTO Operation Mode				🚯 Add Bookmark
Parameter Name	Control Module	Vehicle Settings		Setting Changes
Default Input Signal Definition of Remote Mode Switch	Power Take-Off Control Module		Standby Speed	
Low Input Signal Definition of Remote Mode Switch	Power Take-Off Control Module		Set 1 Speed	
High Input Signal Definition of Remote Mode Switch	Power Take-Off Control Module		Set 2 Speed	
	16		1	
Refresh Parameters		Write Options		Continue
Min: Current Value:			Lat	Clear Changes
New Value: Please make a select	ion			~
Max:				Save Changes

This summary below is shown, after hitting continue.

					>
PTO Operation Mode				🚺 Add Bi	pokmark
Procedure Complete					
Parar	neter Name	Control Module	Value	Unit	05
Option Configuration		Power Take-Off Control Module	Vehicle Stationary, Preset PT.		<u>^</u>
PTO Control		Power Take-Off Control Module	PTO Remote Mode Switch		11
PTO Control from Passenger Compartment when	Stationary Or Moving	Power Take-Off Control Module	Disabled		
Minimum Engine Speed for PTO Engagement		Power Take-Off Control Module	500	RPM	-
Maximum Engine Speed for PTO Engagement		Power Take-Off Control Module	1500	RPM	
Engine Speed During PTO Standby		Power Take-Off Control Module	900	RPM	
Engine Speed During PTO Standby PTO Set 1 Speed		Power Take-Off Control Module Power Take-Off Control Module	900 1200	RPM RPM	
Engine Speed During PTO Standby PTO Set 1 Speed PTO Set 2 Speed		Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module	900 1200 1900	RPM RPM RPM	
Engine Speed During PTO Standby PTO Set1 Speed PTO Set2 Speed PTO Maximum Engine Speed		Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module	900 1200 1900 2100	RPM RPM RPM RPM	<u>i</u>
Engine Speed During PTO Standby PTO Set 1 Speed PTO Set 2 Speed PTO Maximum Engine Speed		Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module	900 1200 1900 2100	RPM RPM RPM RPM	
Engine Speed During PTO Standby PTO Set 1 Speed PTO Set 2 Speed PTO Maximum Engine Speed		Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module	900 1200 1900 2100	RPM RPM RPM RPM Conti	v li li nue
Engine Speed During PTO Standby PTO Set 1 Speed PTO Set 2 Speed PTO Maximum Engine Speed		Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module Power Take-Off Control Module	900 1200 1900 2100 2100	RPM RPM RPM RPM Conti	↓ ↓

Returns to main screen when you hit Continue.

Any time programming changes have been made, the system must be allowed to learn the new configuration. Refer to Key Cycle: in section 6.3.3 of this manual.

6.5 Transferring PTOM Settings to a Replacement PTOM:

The Copy and Restore menu allows you to save the savings, from a PTOM that is going to be replaced, so the settings can be programmed into the replacement PTOM. <u>PTO - Copy and</u> <u>Restore Module Configuration Settings Video</u> This video leaves out the Key Cycle: in Section 6.3.3. Do not forget it.

This is the first screen displayed, after clicking on Copy and Restore. Click on Continue to proceed.

GDS 2				- 🗆 ×
Copy and Restore Data				S Add Bookmark
Copy and I This procedure copi module and restores log for this Vehicle 1. Use this procedu 2. Install the new m 3. Use this procedu	Restore Power ies the Power Take-os s them into the repla Identification Numbure to copy the inform nodule. ure to restore the info	er Take-Off Off Operation Mo- cement module. T ber. mation from the or ormation into the r	f Operation N de Data selections fro he information is saw riginal module. new module.	Iode Data om an existing yed in the session
				Continue

The screen below is displayed next. Ensure the ignition is ON, click on OK to continue. A progress bar will be displayed.

🕲 GDS 2			- 🗆 X				
Copy and Restore Data			🕔 Add Bookmark				
Ready to read information from the old mo	dule.						
Turn the ignition ON with the engine OFF.							
	Cancel		OKK				

After the progress bar finishes, this page will be displayed. This concludes the copy portion of this process. Click on Continue to exit.

ODS 2	- 🗆 X
Copy and Restore Data	🕔 Add Bookmark
The required information was successfully read from the module.	
	Continue

Return to the Copy and Restore screen to start the Restore portion of the process. Click on Copy and Restore. Follow all the menu items just as you did for the Copy portion.

@ GDS 2		Note: Power Tak Settings, (New S	e-Off Operation Mo election) will display	de y what	- 0	×	
So Power Take-Off Operation Mode Settings NEW			settings.		Value Source		
			2020	l	Jser		
PIO Operation Mode		Make Chevrol		t User			
🕼 Copy and Restore Data 🛛 🕬 📃 🔨	Model	Model Silverado		5500 User			
		Select	Selected Vehicle Configuration				
	\sim	Property	llue	Value Source	e		
		Engine I	6.6L (L5D)		User		
	The PTO Operation Mode, (original) used to set the PTO system up.	s					
			Navigat	ion Path			
		Module Dia	gnostics			Î	
		Power Take	-Off Control Mod	dule		1	
		Configuration	on/Reset Functio	ns		1	
		PTO Operat	tion Mode			-	
Back Contact Us	Home	R Ve	hicle Menu		🤿 Enter		

When there is copied data stored for this VIN, the menu below will pop. Selecting "Yes" will write the data to the module. Follow the menus that show up next.

@ GDS 2			- 🗆 ×				
Copy and Restore Data			🚯 Add Bookmark				
Power Take-Off Information for this Vehicle Identification Number is available in the session log.							
Do you want to write the data from the session log into a new module? Select [Yes] to continue.							
If you do not want to use the previously copied information, install the module that has the information to be read, and select [No].							
	No		Yes				
Eack Contact Us	Home	🥄 Vehicle Menu	Ther				

When the restore is complete, the screen below will be displayed. Select Continue to exit the procedure.

60 GDS 2				- 🗆 X
Copy and Restore Data				🖪 Add Bookmark
The information w	as successfully writ	ten to the module.		
				Continue
E Back	Contact Us	Home	💦 Vehicle Menu	🤿 Enter

Any time programming changes have been made, the system must be allowed to learn the new configuration. Refer to Key Cycle: in section of this manual.

6.6 Change the Personalization settings to control PTO options in the Information Display Vehicle Setting Menu:

The Change the Personalization settings menu allows you to configure the option to have PTO options in the Information Display.

<u>PTO – Vehicle Personalization Enable Video</u> This video leaves out the Key Cycle: in Section 6.3.3. Do not forget it.

GDS 2			- 0 ×			
		Selected Vehicle				
Reset PTO Inhibit and Disengage History	Prop	Property Value Value Source				
Restore Factory Settings		2019	Û			
		International				
Service Personalization	Model	CV515	VIN ~			
S PTO Operation Mode		Selected Vehicle Configuration				
	Prop	erty Value	Value Source			
	1.5	elect Personalization to change display PTO options	the interior			
		Navigation Pat	h			
	Power Take-C	ff Control Module				
)[) •			
F Back Contact Us	Home	🖏 Vehicle Menu	🤧 Enter			
GDS 2 v.20.3.05100 Navistar v2019.1.0 VIN: 1HTKTSWK7KH688128 2019,Internation	al,CV515,Module Diagnostics,Power Take-Off Cor	trol Module,Configuration/Reset	MDI 2: 88754256 🗲 13.4 V 🐺 🔍 🍳			
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The screen displayed, below, shows the option to configure Personalization.

The screens below shows the steps to enable Personalization.

Enabling parameters for Preset PTO to populate in the Information Display, will allow operators to make changes beyond the factory settings.		Reset PT	Reset PTO Inhibit and Disengage History Restore Factory Settings Personalization PTO Operation Mode		Personalization m enabled for option appear on the Info Display		on must be options to e Information		
Personalization			-40 .						Add Bookmark
Parameter N	ame	Co	ntrol Module		Vehicle Settings			Setting Changes	
Personalization Status		Power Take-Off Control M	odule				Enabled		
Set 1 Speed Adjustment		Power Take-Off Control Me	odule				Enabled		
Set 2 Speed Adjustment		Power Take-Off Control Mo	odule				Enabled		
Standby Speed Adjustment		Power Take-Off Control Mi	odule				Disabled		
Automatic Engine Stop Time Adjustment	1	Power Take-Off Control Mo	odule				Disabled		
1. Select the par to enable	ameter 2. Sele dropdd	ect from the own "Enable". 3. Adjust a want enal before mo	all parameters you bled or disabled oving on.		5 . Select "Writ to write (prog changes to the Module. Software not provide ar notification th programming successful.	ite Option" ram) the e PTO vare does by lat the was	after selecting ea parameter. If Save greyed out. Selec other options the desired option ag Save Change is er	ch 2 Changes is t one of the in select the ain, until habled.	Continue, when finished programming, to move to the next screen
Refr	esh Parameters			Write Options	/			Continue	
Standby Speed Adjustment Min: Current Value: New Value: Max:	Enabled Please make a selection Disabled						Disablec •	Sa Sa	er Changes
Back	Enabled								Enter
				-941 ×					



Any time programming changes have been made, the system must be allowed to learn the new configuration. Refer to Key Cycle: in Section 6.3.3 of this manual.

Below are examples of what is available on the Information Display after Personalization is enabled.



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