

SUBJECT: PTO Installation Without External Engine Throttle Control for 2011 MY and After

Department: Service
Section: Body Builders Book
Model(s): All
Model Year(s): 2011 After
Effective Date: May 25, 2011
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Rev #: N/A
Supersedes: N/A

PURPOSE: To provide instructions for the PTO installation and RPM setting without the External Engine Throttle Control (EETC) on 2011 MY and after. NOTE: It is necessary to use the PTO switch, clutch limit switch and relays sourced through a UD Trucks dealer for the PTO to operate as described in this bulletin.

DESCRIPTION: An authorized UD Truck Dealer has the necessary computer software to program the PTO high idle setting in the Engine ECU.

PTO COMPONENT INSTALLATION:

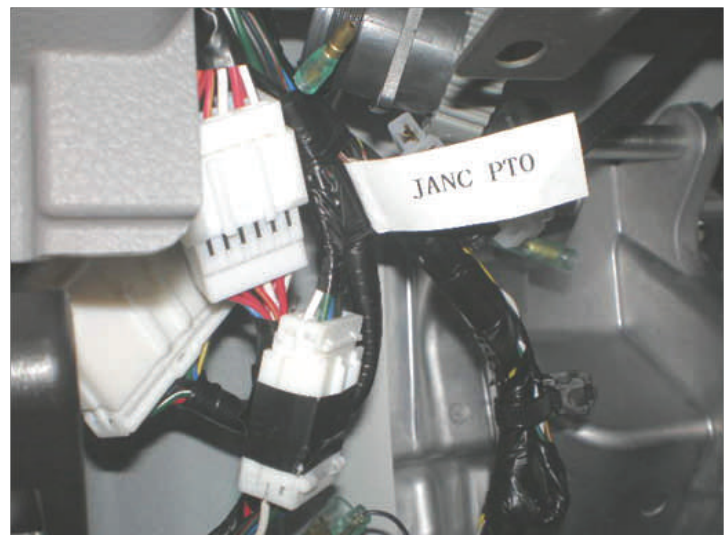
1. Install the PTO switch on the left side dash panel.

The PTO connector is taped to the instrument harness wiring loom.



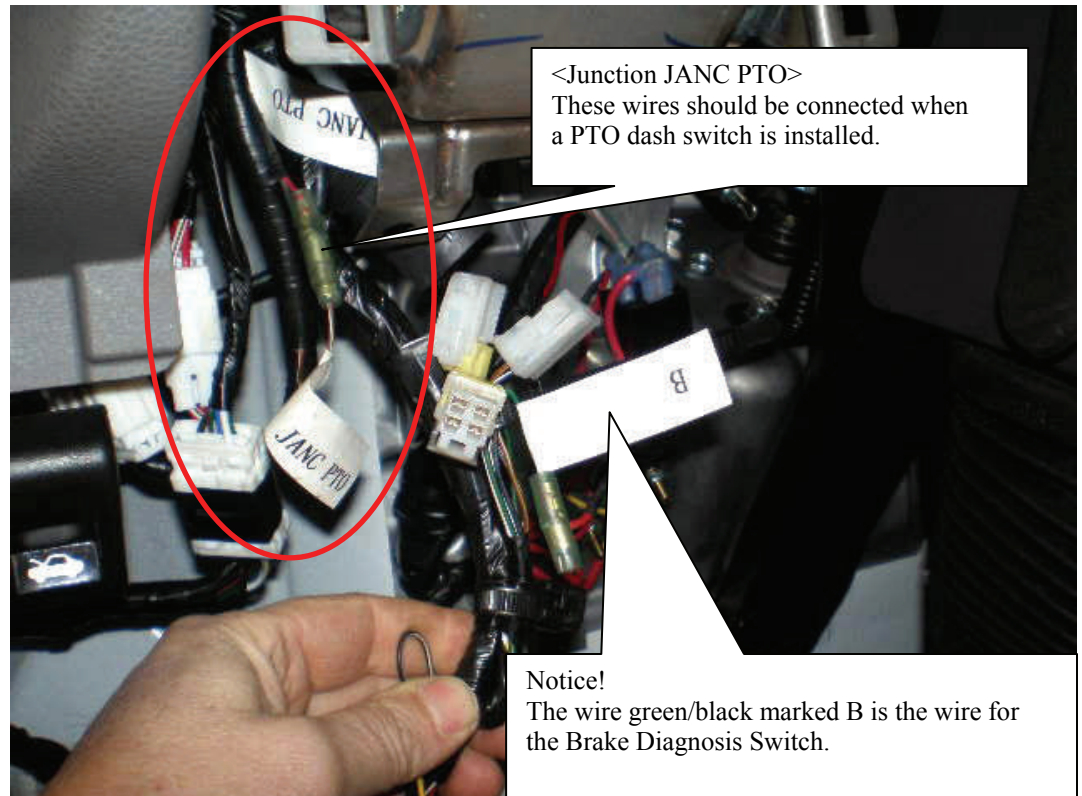
2. Connect the PTO terminals together.

A. The connectors are found on the left underside of the dash panel. See page 2 for additional information.

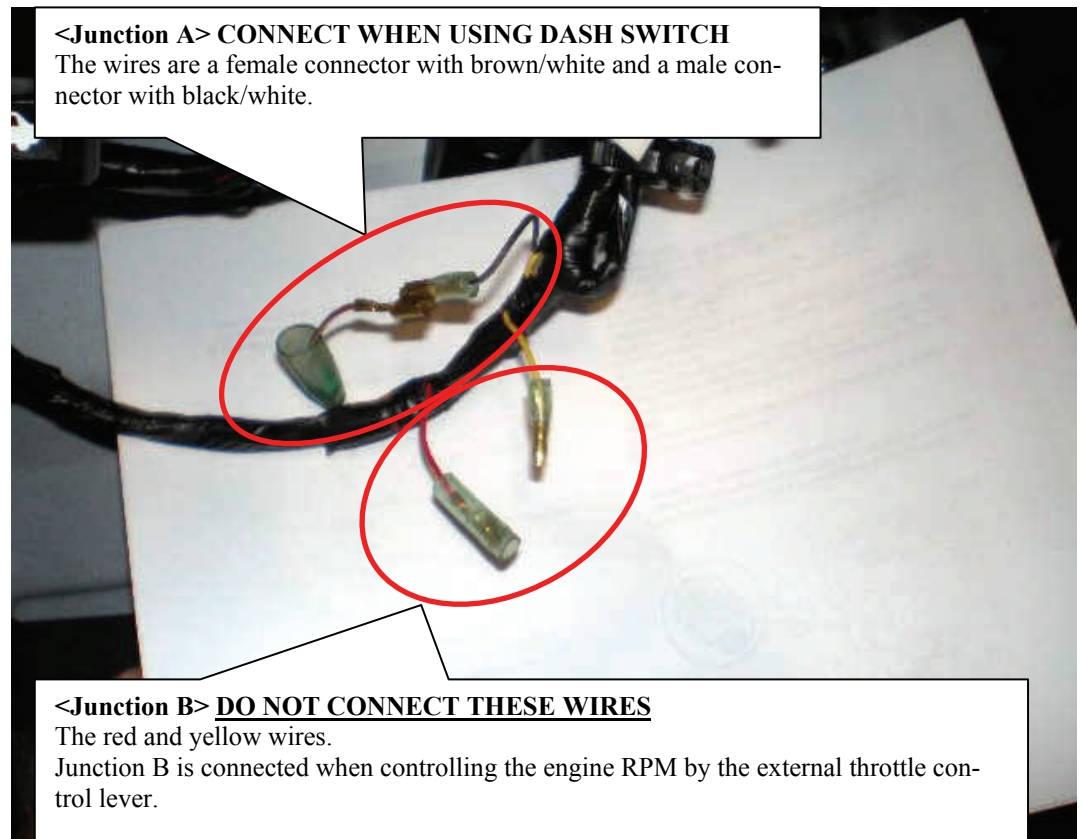


PTO COMPONENT INSTALLATION cont:

B. Connect the JANC PTO male and female connectors together.



C. Connect junction A wires female connector with brown/white wire and male connector with black/white wire.



PTO COMPONENT INSTALLATION cont:

3. Install PTO Relays in the relay junction block.

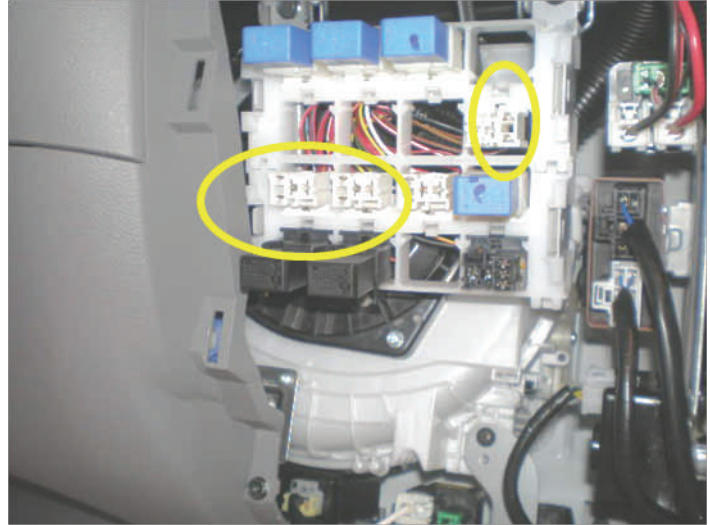
- MTM requires one relay - #8
- ATM requires 3 relays - #8, 9 & 10.

25224 34Z2A

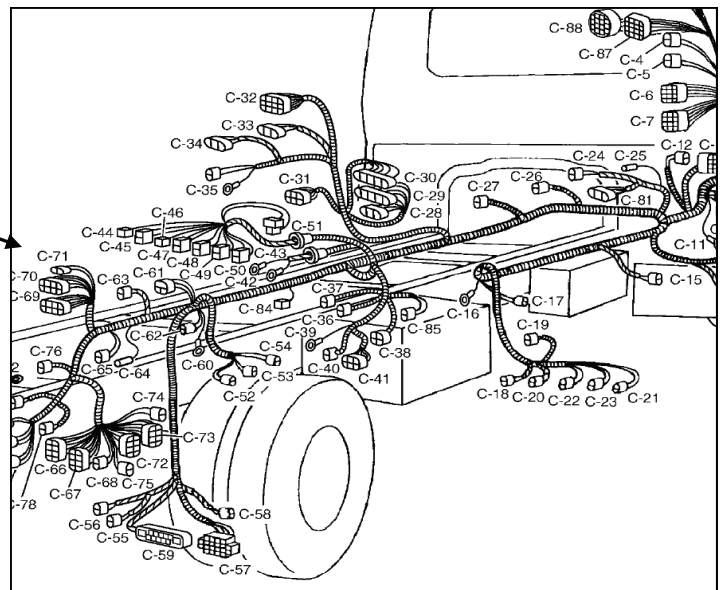
Instrument assist cover, back (all vehicles)

May not be installed, depending on specifications

Position	Name	Location where used
1	Vehicle ECU main relay	All vehicles
2	Engine main relay	All vehicles
3	Starter control relay	All vehicles
4	Vacant	
5	Vacant	
6	Vacant	
7	Air booster relay	AOH
8	PTO relay 1	All vehicles provided with power take-off (PTO)
9	PTO relay 2	Automatic transmission (ATM) with power take-off (PTO)
10	N&P relay	Automatic transmission (ATM) with power take-off (PTO)
11	Vacant	
12	Mirror heating relay	Mirror heater
13	Head lamp relay 2 (RH)	All vehicles
14	Head lamp relay 2 (LH)	All vehicles
15	ABS check relay	ABS AOH
16	Air suspension relay	Air suspension



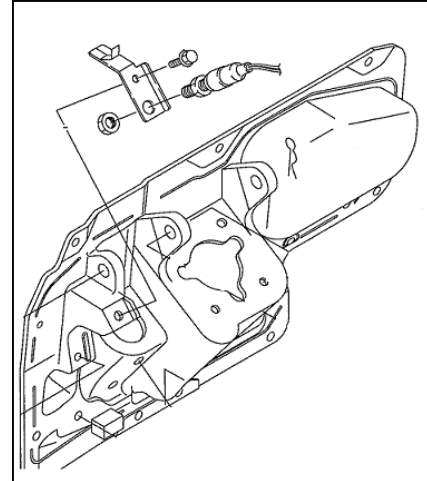
4. Connect the PTO magnetic valve to the chassis wiring harness connector C-71 located in the left frame rail near the transmission.



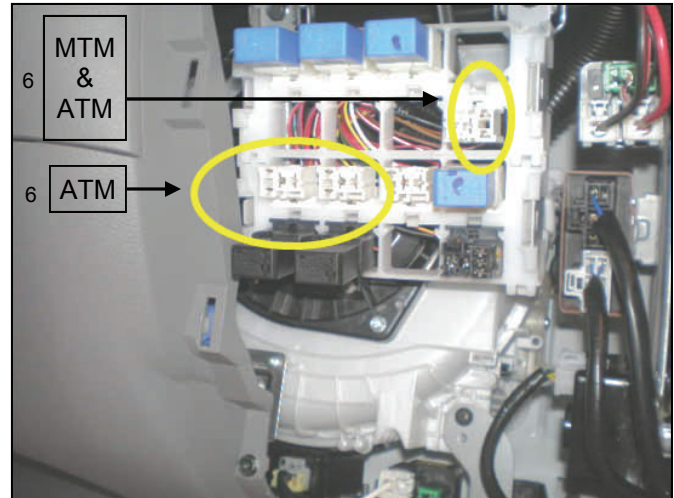
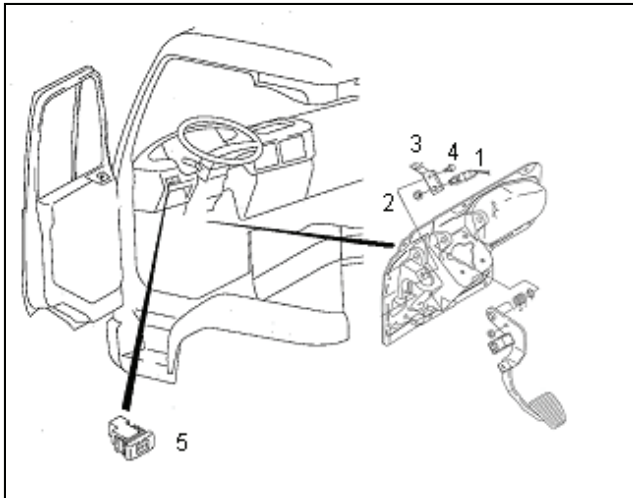
PTO COMPONENT INSTALLATION cont:

5. Manual Transmission Only - Install the clutch pedal switch parts as shown. The clutch switch connector is taped to the instrument harness wiring loom.

WARNING: Do not connect any other electrical components or accessories to the PTO switch wiring. Damage to the engine ECU can occur if other types of electrical devices are attached to these wires.



PTO COMPONENT LOCATION AND DESCRIPTION



ITEM	DESCRIPTION	PART NUMBER	QTY.
1	PTO CLUTCH SWITCH	2531200Z0A	1
2	NUT	089113421A	1
3	PTO CLUTCH SWITCH BRACKET	464723Z70A	1
4	BOLT	081A66122A	1
5	PTO DASH SWITCH	2516502Z00	1
6	PTO RELAY(S)	2523079917	1 (MTM) 3 (ATM)
AS REQUIRED	MAGNETIC VALVE	2633530Z0B	1

PTO COMPONENT INSTALLATION cont:

6. All Models - The Engine ECU can now be programmed for the desired high idle RPM by an authorized UD Truck Dealer using Premium Tech Tool (PTT).

PTO Settings:

VCADS Parameter related to PTO setting

1. Tech Tool
VCADS Pro
Regeneration
Parameter

DPF Regeneration Parameter related to PTO

ID	Name	Min	Value	Max	Unit
DN	Cust data, Fleet ID		188	55.0	55.9 mph
DP	Customer Road Speed Limit				
JAB	Enable Automatic Regen During PTO		0 = No		
JAC	Enable Manual Regen During PTO		0 = No		
JMTU	Enable parked regen (independent of soot load)		0 = No		
AIZ	Fuel consumption, calibration percent	-10		0	10 %
YA	Idle target engine speed		450	450	650 r/min
JVL	Injector cylinder 1, calibration E3 Glitch Trim				LN56TWDD1V31T
JVM	Injector cylinder 2, calibration E3 Glitch Trim				Z25FCDX9V31T
JVN	Injector cylinder 3, calibration E3 Glitch Trim				J86D2485V31T
JVO	Injector cylinder 4, calibration E3 Glitch Trim				G665AW85TV31T
JVP	Injector cylinder 5, calibration E3 Glitch Trim				MF16Y98V1V31T
JVQ	Injector cylinder 6, calibration E3 Glitch Trim				837CHJ8LV31T
AU	Max engine speed stationary	600		3200	2800 r/min
JXC	PTO Governor Type		0 = PI Control		

2. Tech Tool
VCADS Pro
Regeneration
Parameter cont.

DPF Regeneration Parameter related to PTO

ID	MEMO	Description	Min	Max	Resolution	Default	ID Level
JAB	Enable Automatic Regen During PTO	Enables or disables automatic start of regeneration during PTO operation.	0 = disable 1 = enable		N/A	0	3
JAC	Enable Manual Regen During PTO	Enables or disables manual start of regeneration during PTO operation.	0 = disable 1 = enable		N/A	0	3
JXC	PTO Governor Type	PI Control is suitable for most PTO speed control applications. PID control shall only be used when rapidly changing load results in excessive overshoot. Test and confirm acceptable operation before leaving the EMS in PID control. 0 = PI Control, 1 = PID Control	0 = PI Control 1 = PID Control		N/A	0	4

PTO Settings cont:

3. Tech Tool VCADS Pro RPM Settings.

RPM Setting Parameter related to PTO

ID	Name	Min	Value	Max	Unit
LXJ	Auto PTO Idle Speed	300	450	3000	r/min
BXJ	ES Control PTO1, Max ES	500	1200	3500	r/min
LVU	Ignore Accelerator Pedal when ESC Active		1 = Yes		
LXD	Max Knob Engine Speed when ESC Active	300	900	2400	r/min
LZJ	Max VS to enable External PTO lever	0.0	6.2	155.3	mph
LZI	Min VS to enable External PTO lever	0.0	7.5	155.3	mph
XM	Parking brake condition to activate PTO1		0 = No		
MG	Vehicle Speed Factor	4828.0	12401.6	105468.4	imp/mile

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4. Tech Tool VCADS Pro RPM Settings Chart.

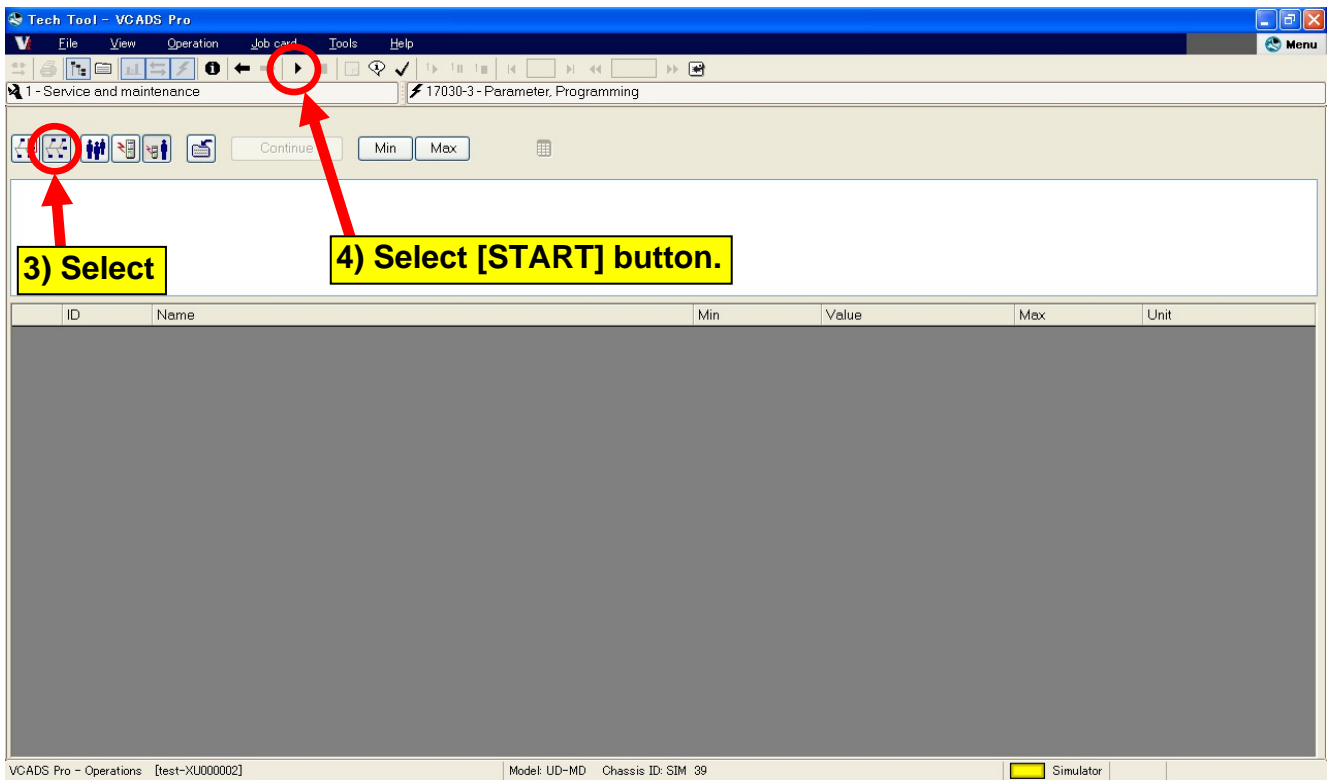
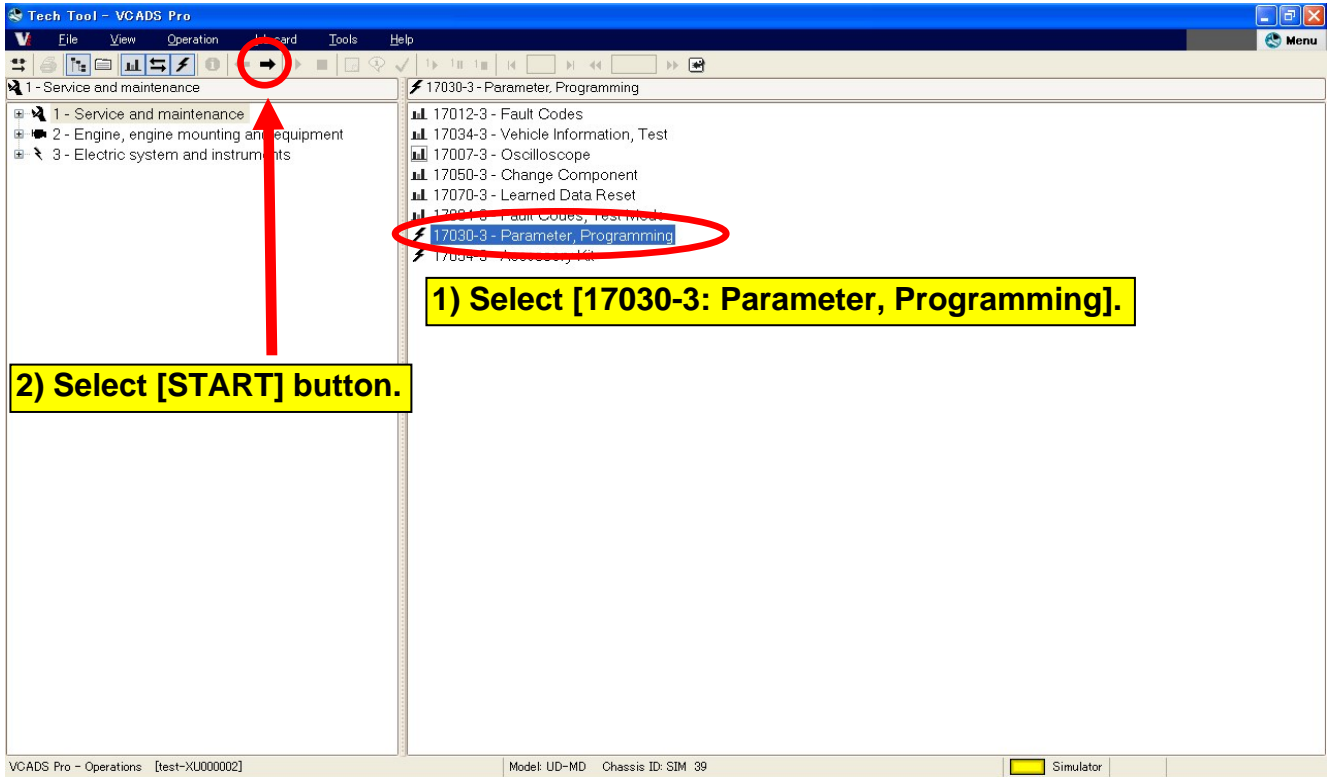
RPM Setting Parameter related to PTO

ID	MEMO	Description	Min	Max	Resolution	Default	ID Level
LXJ	Auto PTO Idle Speed	Idle engine speed should be at this value, when ESC is activated and idle knob is Auto position.	300 rpm	3,000 rpm	1 rpm	550 rpm	4
BXJ	ES Control PTO1, Max ES	Engine speed can't be controlled beyond this value by any inputs, while ESC is activated.	500 rpm	3,500 rpm	1 rpm	3,000 rpm	4
LVU	Ignore Accelerator Pedal when ESC Active	There are three types of input to take control of ES, after ESC is activated. These are Idle knob, Accelerator pedal and External PTO lever. However Accelerator pedal input can be canceled by this parameter.		0 = No 1 = Yes		1 = Yes	4
LXD	Max Knob Engine Speed when ESC Active	Engine speed can be controlled between idle engine speed and this value by the knob, while ESC is activated and idle knob is manual position.	300 rpm	2,400 rpm	1 rpm	980 rpm	4
LZJ	Max VS to enable External PTO level	PTO external lever can be activated when vehicle speed goes under this value.	0 mph (0 km/h)	155.3 mph (250 km/h)	1 mph (1 km/h)	6.2 mph (10 km/h)	4
LZI	Min VS to enable External PTO level	PTO external lever should be canceled when vehicle speed goes over this value.	0 mph (0 km/h)	155.3 mph (250 km/h)	1 mph (1 km/h)	7.5 mph (12 km/h)	4
XM	Parking brake condition to activate PTO1	This parameter can only affect when it has AMT gear box. (i.e. ESCOT)		0 = No 1 = Yes		0 = No	4

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5. Dash Switch PTO Speed Setting Procedure using PTT.

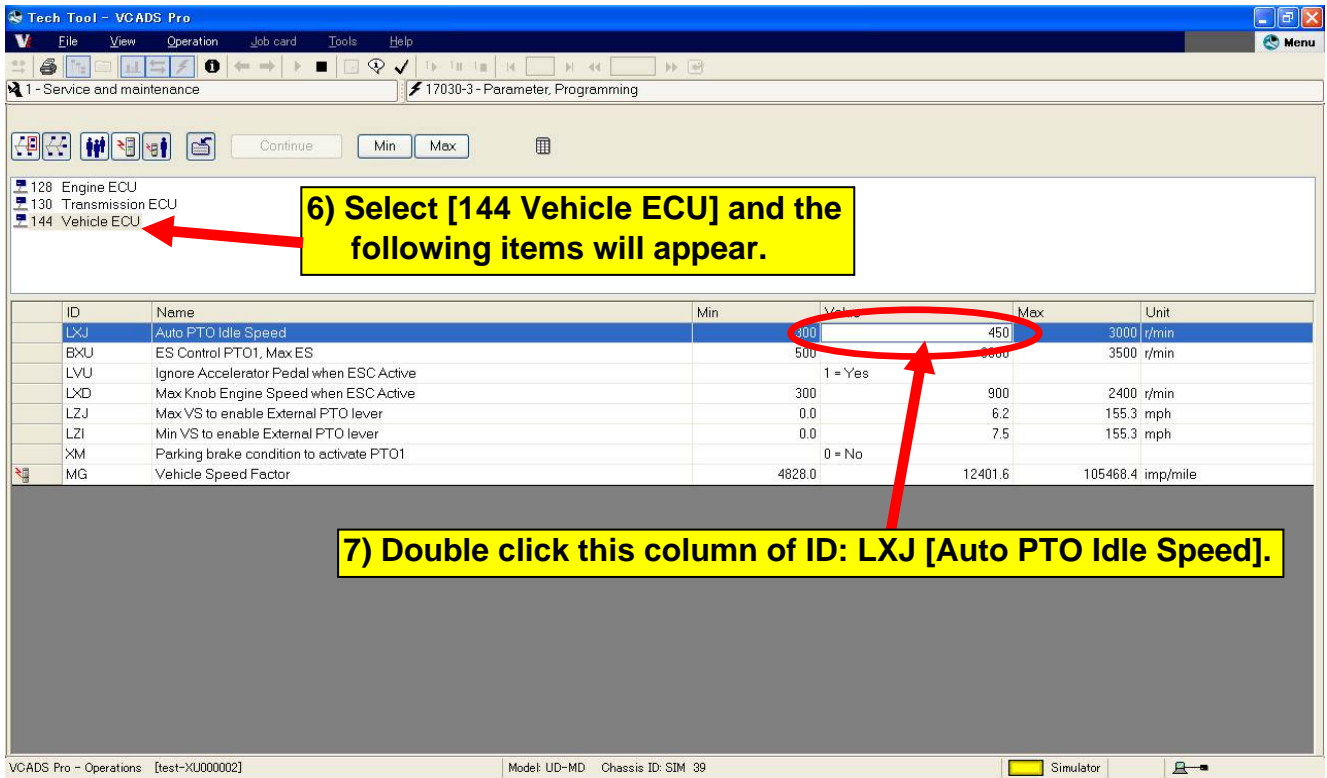
Dash Switch PTO Speed Setting Procedure



Dash Switch PTO Speed Setting Procedure

VCADS Pro - Operations [test-XU000002] Model: UD-MD Chassis ID: SIM 39 Simulator

5) Check each box



VCADS Pro - Operations [test-XU000002] Model: UD-MD Chassis ID: SIM 39 Simulator

6) Select [144 Vehicle ECU] and the following items will appear.

ID	Name	Min	Value	Max	Unit
LXJ	Auto PTO Idle Speed		300	450	3000 r/min
BXU	ES Control PTO1, Max ES		500	6000	3500 r/min
LVU	Ignore Accelerator Pedal when ESC Active		1 = Yes		
LXD	Max Knob Engine Speed when ESC Active	300		900	2400 r/min
LZJ	Max VS to enable External PTO lever	0.0		6.2	155.3 mph
LZI	Min VS to enable External PTO lever	0.0		7.5	155.3 mph
XM	Parking brake condition to activate PTO1		0 = No		
MG	Vehicle Speed Factor	4828.0		12401.6	105468.4 imp/mile

7) Double click this column of ID: LXJ [Auto PTO Idle Speed].

Dash Switch PTO Speed Setting Procedure

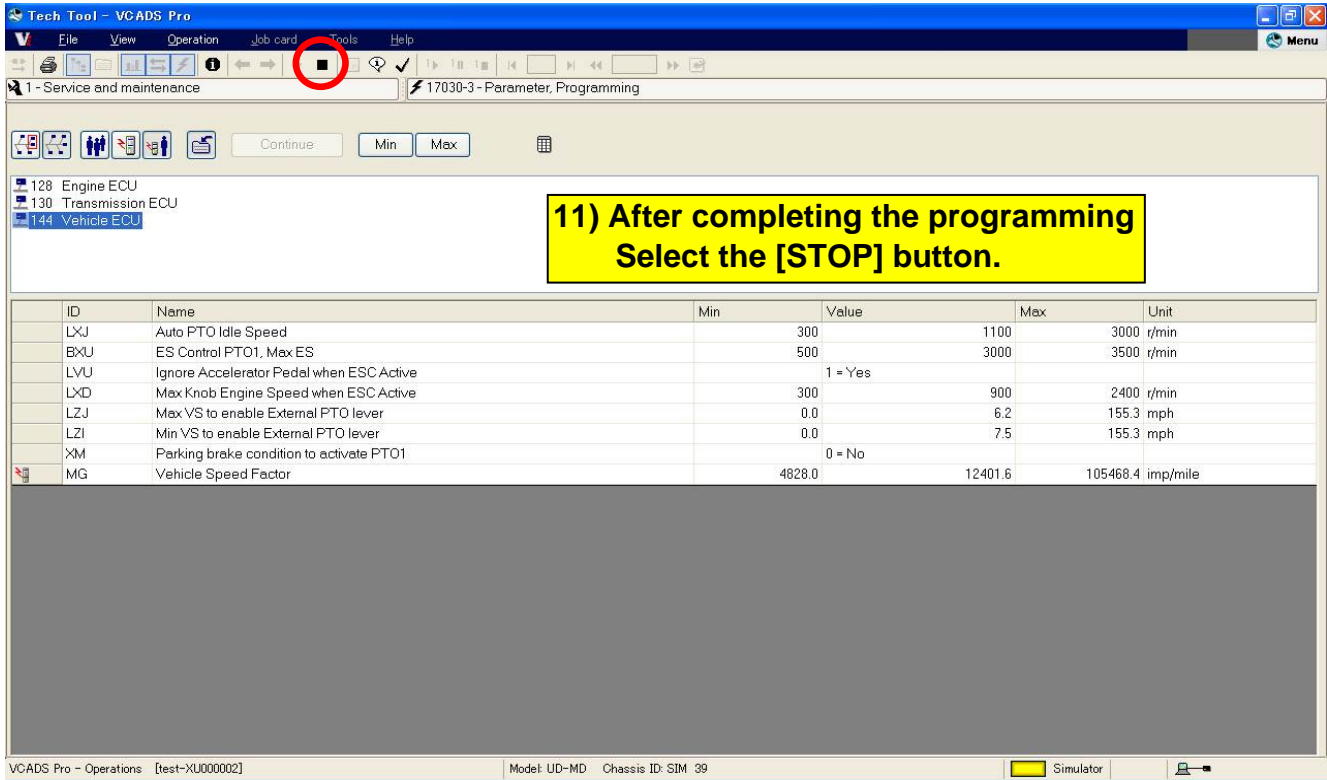
VCADS Pro - Operations [test-XU000002] Model: UD-MD Chassis ID: SIM 39 Simulator

ID	Name	Min	Value	Max	Unit
LXJ	Auto PTO Idle Speed	500	450	1100	3000 r/min
BXU	ES Control PTO1, Max ES		500	3500	3500 r/min
LVU	Ignore Accelerator Pedal when ESC Active		1 = Yes		
LXD	Max Knob Engine Speed when ESC Active	300		900	2400 r/min
LZJ	Max VS to enable External PTO lever	0.0		6.2	155.3 mph
LZI	Min VS to enable External PTO lever	0.0		7.5	155.3 mph
XM	Parking brake condition to activate PTO1		0 = No		

VCADS Pro - Operations [test-XU000002] Model: UD-MD Chassis ID: SIM 39 Simulator

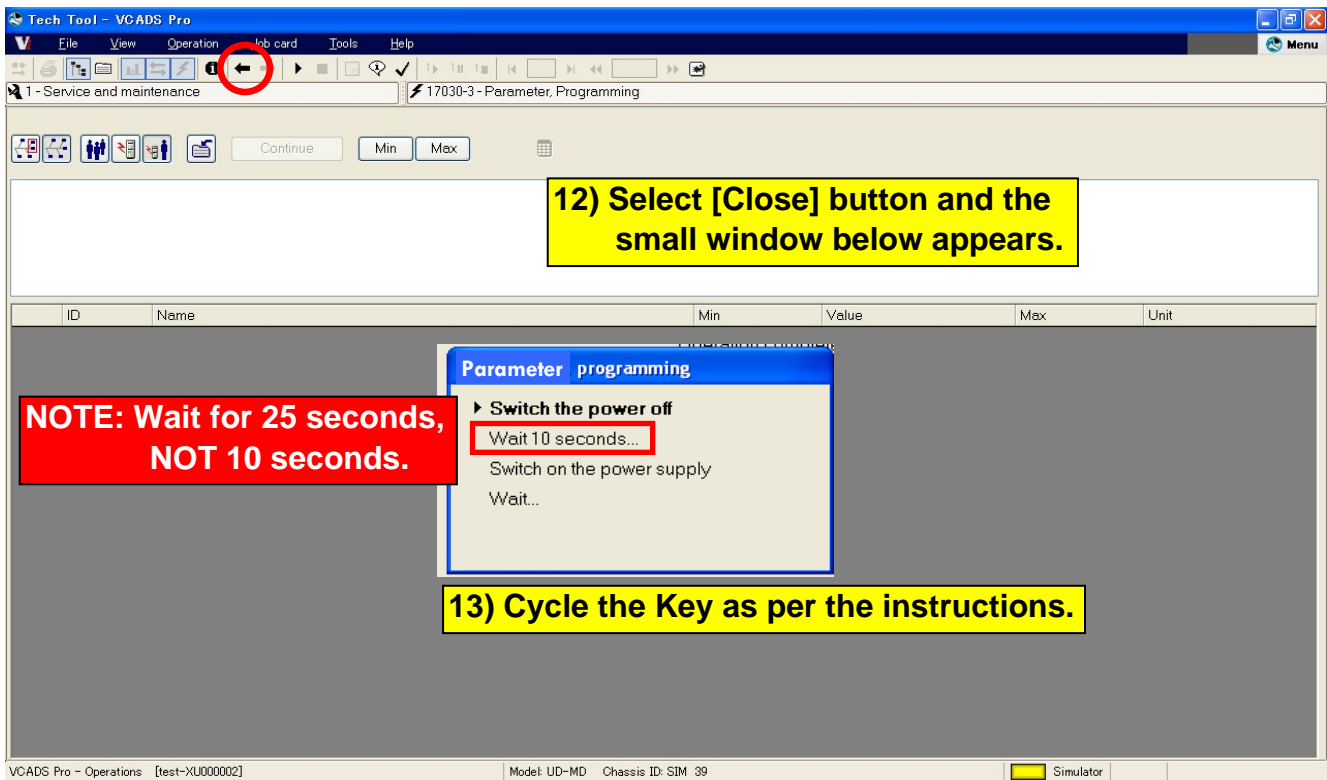
ID	Name	Old	New	Unit
LXJ	Auto PTO Idle Speed	450	1100	r/min

Dash Switch PTO Speed Setting Procedure



11) After completing the programming Select the [STOP] button.

ID	Name	Min	Value	Max	Unit
LXJ	Auto PTO Idle Speed		300	1100	3000 r/min
BXU	ES Control PTO1, Max ES		500	3000	3500 r/min
LVU	Ignore Accelerator Pedal when ESC Active		1 = Yes		
LXD	Max Knob Engine Speed when ESC Active		300	900	2400 r/min
LZJ	Max VS to enable External PTO lever		0.0	6.2	155.3 mph
LZI	Min VS to enable External PTO lever		0.0	7.5	155.3 mph
XM	Parking brake condition to activate PTO1		0 = No		
MG	Vehicle Speed Factor	4828.0		12401.6	105468.4 imp/mile



12) Select [Close] button and the small window below appears.

ID	Name	Min	Value	Max	Unit
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Parameter programming

- ▶ Switch the power off
- Wait 10 seconds...
- Switch on the power supply
- Wait...

NOTE: Wait for 25 seconds, NOT 10 seconds.

13) Cycle the Key as per the instructions.

Dash Switch PTO Speed Setting Procedure

14) Select here

15) After 14), this window appears. Select [Yes], then [OK] button.

VCADS Pro - Operations [test-XU000002] Model: UD-MD Chassis ID: SIM 39 Simulator

THE INFORMATION CONTAINED IN THIS BULLETIN SHOULD NOT BE INTERPRETED AS THE BASIS FOR WARRANTY CLAIMS UNLESS SO DESIGNATED