



Auto Regen OPTIMIZER

INSTALLATION MANUAL



ENGINES



ARO PROGRAMMING GUIDE DETROIT ENGINES

Trucks that have a factory multiplex regen switch in the dash will need the CPC to be programmed to allow the ARO to control the regen switch. If the truck does not have a multiplex Regen Switch, you will not need to program the CPC. To check to see if the CPC is set up for a multiplex Regen Switch, connect using the DDL Detroit software. Once you are connected, go to Parameters, then go to the INPUT tab.

Step:1 Check to see if “DPF J1939 Regen SW Enable” is Disable or Enable.

If disabled, then continue to Step 3. If enabled, then you will have to change it to disable.

46	DPF J1939 Regen Sw Enable	0 = Not Active 1 = Active	0 = Not Active	VEPS or DiagnosticLink Professional
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Step: 2 If you disable the “DPF J1939 Regen SW” then you will have to turn on the hard-wired input for the “DPF Regeneration Switch” as shown below.

13	4 17 DI Selection	0 = Disable 1 = Two-Clutch Switch 2 = DPF Regeneration Switch 3 = PTO2stat	2 = DPF Regeneration Switch	VEPS or DiagnosticLink Professional
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Step:3 Determine whether that the truck has a working J1939 PTO switch. To check this, go to the “Input Tab” and check to see what “2 09 DI Selection” is programmed too. If it was set to “Disable”, the truck does not have a working J1939 PTO switch, program it to “J1939 PTO” continue to Step 4. If it was set to “J1939 PTO” then that tells you that it is has a multiplex PTO switch and continue to Step 4.

Configuring The Remote PTO Switch					
Parameter Group	Parameter	Required Setting	Options	Default	Access
13	2 09 DI Selection	—	0 = Disable 1 = Hardwired PTO 2 = J1939 PTO	0 = Disabled	VEPS, DiagnosticLink

Step 4: Go to “TSC1 PTO Parameters” and program the “PTO TSC1 Source Address SAE J1939” to source address 231, “Enable PTO Control Via TSC1” also.

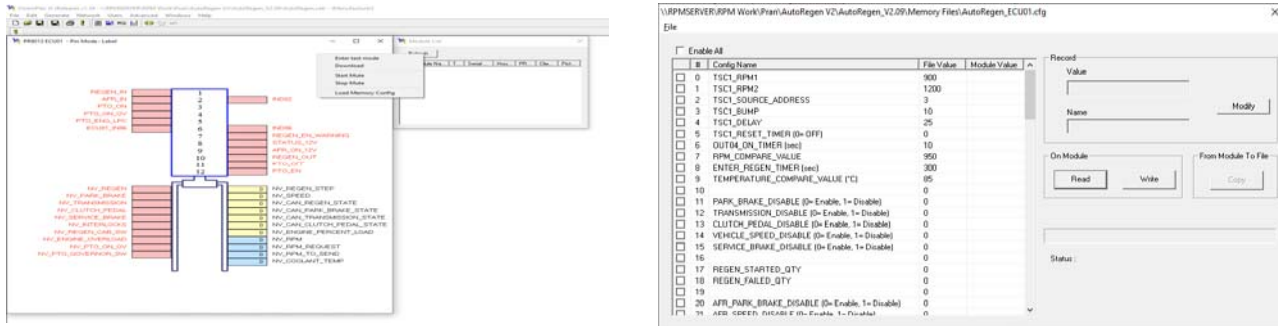
TSC1 PTO Parameters					
Parameter Group	Parameter	Description	Options	Recommended/ Required Setting	Access
1	PTO TSC1 Source Address SAE J1939	SAE J1939 Source Address for TSC1 PTO control	1 - 255	231	VEPS
7	Enable PTO control via TSC1	Conditions to enable PTO control via TSC1	0 = disabled 1 = enabled 2 = enabled if neutral 3 = enabled if neutral and park brake 4 = enabled if park brake	1 = enabled 2 = enabled if neutral* 3 = enabled if neutral and park brake* 4 = enabled if park brake*	VEPS, DiagnosticLink Professional
7	Maximum engine speed for PTO via TSC1	Maximum engine speed allowed for PTO via TSC1	0 - 3,000 rpm	2,200 rpm	VEPS, DiagnosticLink Professional
7	Maximum torque for PTO via TSC1	Maximum engine torque allowed for PTO via TSC1	0 - 5,000 Nm (3688 lb·ft)	5,000 Nm (3688 lb·ft)	VEPS

Then refer to the ARO programming Guide to match up the source address to this setting. The CPC is now set up, proceed to the ARO Programming Guide.

Configuration Review: By setting up the parameters this way the ARO will capture the dash Regen Enable switch state (On/Off) if multiplexed and rebroadcast its states through a hardwire output. It will also capture the dash PTO Switch state (On/Off) if multiplexed and rebroadcast the states using a J1939 message to S/A 231.

PROGRAMMING THE ARO WITH THE VISIONPLEX SOFTWARE DETROIT ENGINE

The ARO can be programmed either on the bench or when installed in the truck. If the ARO is connected to the truck, you will not be able to program it if it is connected to the 500k communication (Green Connector - C & D) of the truck. You will have to disconnect the J1939 ITF connector from the truck J1939 while you are connected with Visionplex.



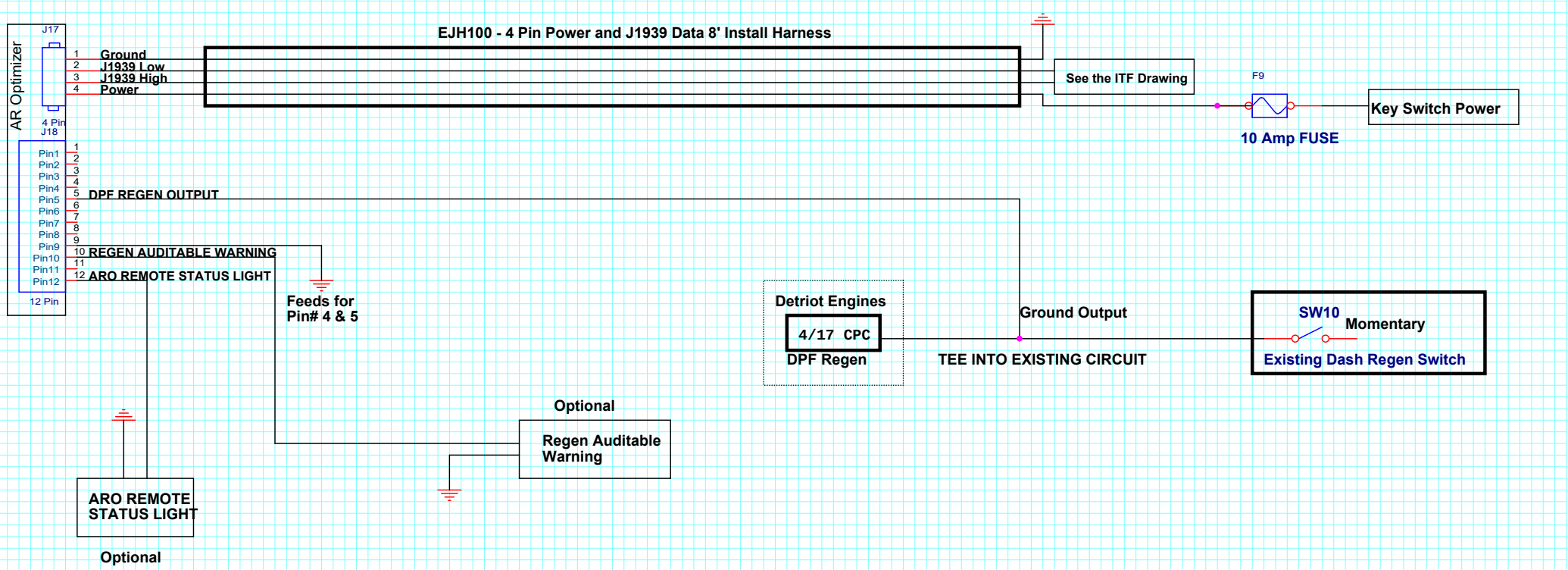
How to change the ARO source address to 231 for a Detroit engine:

- 1) Click on the Visionplex icon on your desktop.
- 2) Click on the yellow "1" to open up the "Pin Mode: Label" box
- 3) Click on "Windows" in the menu bar and scroll down to "Module List"
- 4) Click the connect icon on the menu bar, in the "Connection Select" box, click on the Connect icon. Once you are connected properly, the Pin Mode box should change from a dull red to a bright red.
- 5) Right Click on the "Pin Mode" Box, a menu will come up and select "Load Memory Config"
- 6) Click on the "Read" button.
- 7) On line #2 the "Module Value" side it should read 231, if it does not read 231 then it will have to be changed
- 8) To change it to 231, click on line # 2, it should become highlighted. In the Value box section, change the number to a 231, then click modify. Check the box that is beside the # 2 and click on the "Write" button, when it is finished writing, click on the "Read" button, line # 2 should read 231 in both value columns.

Turn on DDEC_2_9_PTO if the CPC 2/9 is set up for "J1939 PTO".

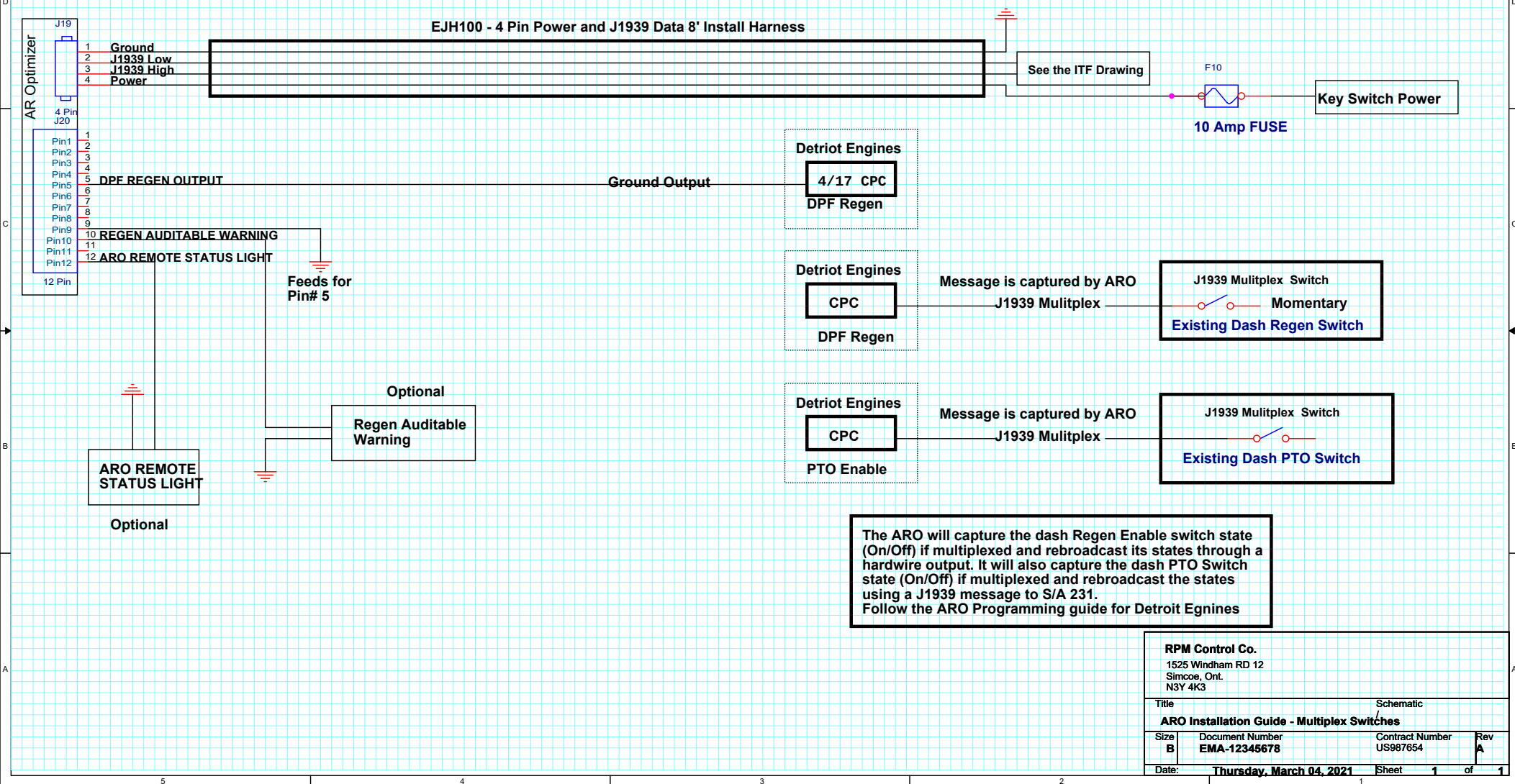
- 9) Click on line# 33, change the value from 0 to 1, click on the Modify button, check the box on line # 33, click the Write button, then click on the Read button, the Module Value to read 1,
- 10) Click on line# 37, the module value should read 231. If it does not, you will need to make the change.
- 11) Close program and test the ARO for proper operation.

ARO WITH A HARD WIRED REGEN DASH SWITCH
INSTALLATION DRAWING DETROIT ENGINES

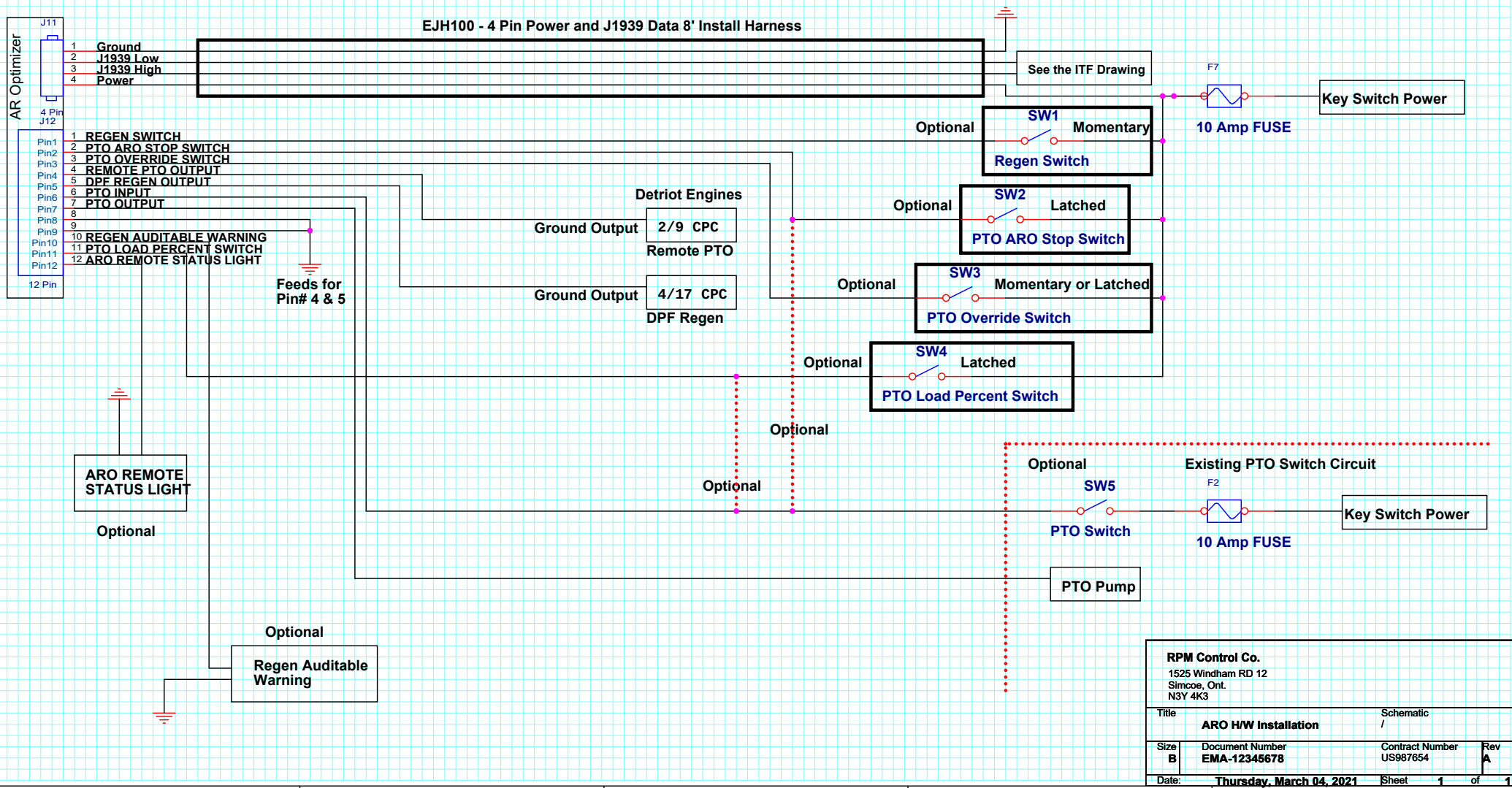


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Title		Schematic	
ARO H/W Regen Dash Switch		/	
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ARO WITH MULTIPLEXED REGEN DASH SWITCH AND PTO DASH SWITCH INSTALLATION DRAWING DETROIT ENGINES



AUTO REGEN OPTIMIZER
DETROIT INSTALL H/W
WITH PTO OPTIONS



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Title ARO H/W Installation		Schematic /	
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