## **MotoHawk:Calibration with INCA**

## From MotoTron Wiki

This page describes how to achieve access to a MotoHawk ECM using ETAS INCA, the calibration tool.

To configure the MotoHawk application for operation with INCA, refer to CAN Calibration Protocol

## Procedure

1. Start with a clean database in INCA. To do this, in INCA, select Database  $\rightarrow$  New and enter a database name in the "New database" dialog:

I New database	
Enter a database name	
MotoHawk	
<u>O</u> K <u>C</u> ancel	

2. Add a workspace. To do this, select Edit → Add → Workspace and accept the default name. The Items tree should now look like this:



- 3. Add the ASAP2 file which was generated during the MotoHawk build of your Simulink project by selecting Edit  $\rightarrow$  Add  $\rightarrow$  ECU Project (A2L).
- 4. Browse to the ASAP2 file, in this case CCP\_Test\_022.a2l located in the TDB subdirectory of the build directory:

Read ASAM-2	MC from:				? 🛛
Look jn:	🚞 TDB		•	🗢 🗈 💣 📰	•
My Recent Documents Docktop	CCP_Test_	022.a2l			
My Documents					
My Computer					
My Network Places	File <u>n</u> ame: Files of <u>type</u> :	CCP_Test_022.a2l ASAM-2MC(*.a2l)		•	<u>O</u> pen Cancel

5. When the "Select data file" dialog is requesting the controller .hex file, just click on the **Cancel** button:

Select data fi	e					? 🛛
Look in:	🗁 Demo		•	+ 🗈 💣		
My Recent Documents Desktop	⊠0400.hex ⊠Demo03.hex					
(Documents)						
My Computer						
					_	
My Network Places	File <u>n</u> ame:			•	_	<u>O</u> pen
	Files of type: Intel(*.)	nex)		•		Cancel

6. Add an experiment to the Items tree by selecting Edit → Add → Experiment. The Items tree should now look like:



7. Configure the hardware. To do this, select the circuit board button in the Hardware portion of the workspace:



8. Add a CAN-Link CCP Device by selecting Device  $\rightarrow$  Insert in the hardware manager:



9. Select the only possible project when the "Select project and working data for CCP:1" dialog is automatically displayed:

Select project and working data for CCP:1						
<u>E</u> dit <u>V</u> iew Data <u>s</u> et						
<u>1</u> Items	Add	4 Items	ок			
	<u>_</u>	Root				
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	~					
Project - CCP_Test_022						
3 Item comment		6 Item comment				
ASAM-2MC file: C:\Program Fi	les\MATLAB' 🔼	<u>^</u>				
PB0./FCT NAME: Project						
Theorem in the second sec	<b>N</b>	× ×				
			I			

10. From the Hardware Manager window, click on the **Experiment** button (circled):

📷 Hardware: >Workspace< Experiment: >Default<						
File Hardware Device Channels View	v <u>?</u>					
🗚 🖸 🐲 🗊   🖃 📢 🔯 🚱 🦉 🚟	▶ ■					
1 Hardware devices ☐ HWK Workspace ☐ CAN-Link:1 ☐ CCP:1	2 Parameters 3 Info CCP Option Name Meas. failure behavior Time stamp quantization Connection behavior	Value CCP:1 Abort after failure Off Reinitialize automatically				
	Project working data Reference data Differences (bytes) Log out behavior	DEFAULT\CCP_Test_022 				
	Project CAN baud rate Name of the device	250000				
<ul> <li>Device not connected</li> <li>Device connected</li> <li>No init. or no access</li> </ul>		Add <u>i</u> tiona				

11. You may receive an error message stating "Calibration not possible.." as below, but this is because INCA needs an opportunity to upload the calibrations:

Error	
⊗	Calibration is not possible for the following devices: CCP:1
	OK

12. On the Manage Memory Pages dialog, which should have been automatically displayed, click on the **2 Enhanced** tab, and click on the **Do it** button. This will upload the calibration from the controller:

Memory pages CCP:1 [Working page]	×
Data <u>s</u> et <u>U</u> tilities	
1 Standard 2 Enhanced	<u>D</u> o it
Action From To	<u>C</u> lose
Upload <u>CU</u> Working page	
Calibration access	
$\begin{array}{c c} & & & \\ & & \\ & & \\ \hline \\ & &$	
RAM [Working page]	
ECU	
Checksum Datasets ECU	
Working page ?? ??	
EPROM ID ASAP2: (not available)	
EPROM ID DS: (not available) EPROM ID ECU: (not available)	

13. INCA uploads the calibration:

Upload progress
Reading data from ECU, please wait Elapsed time: 5.5
41%

14. Close the Manage Memory Pages dialog. The Experiment window is now ready to be configured to start data acquisition, or make calibration changes. In the image below, the MotoHawkModelSecondsInUse is shown configured to be displayed as a measurement; the calibration PsuedoRPM was changed to 1000:

8	Experin	nent: >Nev	v experiment<	Hardware:	>Workspa	ice<			
Eile	e <u>V</u> iew	Va <u>r</u> iables	Measurement	<u>H</u> ardware	Data <u>s</u> et	<u>C</u> omponents	<u>W</u> indow	2	
CC	CCP:1::CCP_Test_022								
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	Moto⊦	lawkModel	SecondsInUse	e		252 []			
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50 50 111	Pse	udoRPN	и 1000	)		: 0			
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•	Visualiz	ation on / Re	cording Stopped			M	lax. buffer le	evel: 0%	

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