ECM Details – Reading and Evaluation

- The first 30 lines of the download are shown
- Specific areas of importance are highlighted

========== 4G ECM Information ==========	
Download Date	04/15/2025
Download Time	08:33:52
ECI H/W P/N	E2492305D
ECI H/W S/N	27065
ECI Manufacture Date	01/15/2025
ECI S/W P/N	E8100086E
ECI Mot XLS Rev	618
Software Revision:	
Current Version	618
Version - 1	478
Version - 2	0
SVN Revision	87395
SVN compile status	1
SVN compile date	15:53:28 on 07-01-2024
ECI Initial Cal P/N	E9999999X
ECI Initial Cal Date	06/24/2024
ECI Current Cal P/N	E9999999X
ECI Current Cal Date	06/24/2024
Customer H/W P/N	"53000090"
Customer S/W P/N	"58200197-2"
Engine P/N	"59007017"
Engine S/N	"3025A000082"
Hour meter	0.9
Cumulative Starts	4
Emissions Calibration Checksum	"$FE4E6678"
Total Calibration Checksum	"$35F24B3B"
Calibration Checksum:	
Current Version	"$35F24B3B"
Version - 1	"$768045DF"
Version - 2	"$0"

ECM Hardware Part Number from ECM MFG

ECM Hardware Part number (PSI Part Number) – “Unprogrammed ECM”

PSI Calibration and revision currently installed in ECM.

ECM Hour Meter at time of ECM download

Total Starts (useful to understand how the engine is used)

ECM Details – Histogram Section

========== 4G Histograms ==========

Speed/Load Histogram

		16.05078	20.92969	25.64844	25.66016	28.08984
Engine Speed	715	0.004222	0.000028	0	0	0
	1485	0.001194	0	0	0	0
	1492	0.000042	0	0	0	0
	1500	0.000014	0	0	0	0
	1508	0.000014	0	0	0	0
	1515	0.000597	0	0	0	0
	1785	0.002069	0.000222	0	0	0
	1792	0.001944	0.000167	0	0	0
	1800	0.222833	0.065944	0.000014	0	0
	1808	0.002653	0.000139	0.000014	0	0
	1815	0.001639	0.000222	0	0	0
	2585	0	0	0	0	0

Speed/Load Histogram Section
Cumulative engine run time (in Hours) based on RPM and Load (MAP)

Knock Histogram

		16.05078	20.92969	25.80078	25.51172	28.08984
Engine Speed	1477	0	0	0	0	0
	1500	0	0	0	0	0
	1523	0	0	0	0	0
	1777	0	0	0	0	0
	1800	0	0	0	0	0
	1823	0	0	0	0	0

Knock Histogram Section
Cumulative time in which the engine had excessive knock activity - (Shown in Seconds)

ECT Histogram

	ECT (deg F)
	110
	130
	170
	190
	200
	210
	220
	230

ECT Histogram Section
Cumulative engine run time (in hours) based on engine coolant temperature (ECT)

Note: *Intake Backfire Histogram not shown*

ECM Details – Distributor and Adaptive Learn Tables

========== Distributor Alignment ==========

Cam Position	0
Cam Position Desired	0

Distributor Alignment
For distributor-based engines (3.0L, 4.3L, 5.7L)
Value is “Crank Angle Degrees” (CAD)

========== Adaptive Learn Tables ==========

LPG Adaptive Table

		7	11	15	18	21	24	27
Speed (rpm)	600	0	0	0	0	0	0	0
	1000	0	0	0	0	0	0	0
	1500	0	0	0	0	0	0	0
	1800	0	0	0	0	0	0	0
	2150	0	0	0	0	0	0	0

A_BM (%)

LPG Adaptive Learn
Shows the long-term fuel trim (AL) based on engine RPM and Load (MAP) while operating on Propane Fuel
Shown in % (-35 to +35)

NG Adaptive Table

		7	11	15	18	21	24	27
Speed (rpm)	600	0	0	0	0	0	0	0
	1000	0	0	0	0	0	0	0
	1500	0	0	0	0	0	0	0
	1800	0	0	0	0	0	0	0
	2000	0	0	0	0	0	0	0

A_BM (%)

NG Adaptive Learn
Shows the long-term fuel trim (AL) based on engine RPM and Load (MAP) while operating on NG Fuel
Shown in % (-35 to +35)

ECM Details – Fault Snap Shot

Fault Snap Shot Data
DTC 341: CAM input signal noise
Fault did not occur during this key cycle
Fault did not cause an engine shutdown
Starts since fault was active: 1
Occurrence count: 2
Initial occurrence: 35.5169 eng hours
Last occurrence: 35.5303 eng hours
Went previously active: 0 eng hours
MIL countdown: 0 cycles

DTC Code and Name

Useful information on what occurred at the time of the fault and when it occurred

rpm	836.0
BP	12.6
Vbat	14.3
EGO1_volts	0.8
EGO2_volts	0.0
TPS_pct	0.6
CL_BM1	1.5
A_BM1	-3.9
TRIM_DC	0.0
run_tmr_sec	401.0
rMAP	5.7
rECT	153.6
rIAT	82.1
OILP_press	100.0
MJ_P_act	0.0
MJ_P_cmd	0.0
fuel_type_u16	0.0
HM_hours	35.0
spk_adv	10.8
PW_avg	3.1
FPP_pct	0.0
FPP_cmd_pct	0.0
fuel_ctl_mode	2.0
RS_speed	0.0
rpmd_gov	850.0
VE5a_FB_raw	4.5

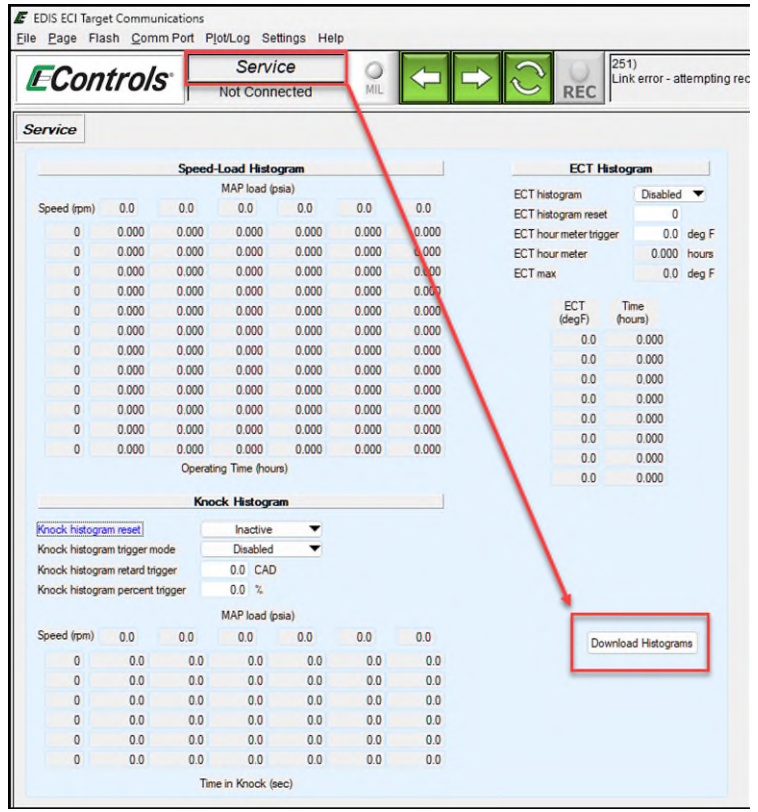
Run timer (Seconds)
Shows how long the engine was running at the time of the fault.
In this example the DTC set when the engine was running for 0.11 Hours

Manifold Absolute Pressure (MAP)
Very helpful to understand what load (MAP) the engine was at the time the fault set

MegaJector Pressure Actual (MJ_P_act) and Command (MJ_P_cmd)
Fuel Pressure when running a EPR engine (LP or NG)
Helpful to understand fuel pressure condition at the time of the fault

Fuel Type
0 = Gasoline, 1 = Propane, 2 = Natural Gas

Histogram Data Download



How to Read the Speed vs Load Histogram

- **Y-Axis = Engine Speed (RPM)**
- **X-Axis = Manifold Pressure (Load)** in PSIA
- **Cell Values = Time (in hours)** spent operating at each speed/load combination

========== 4G Histograms ==========

Speed/Load Histogram							
		Manifold Pressure					
		1	16	21	26	26	28
Engine Speed	715	0.5	0.2	0.0	0.0	0.0	0.0
	1485	0.2	0.0	0.0	0.0	0.0	0.0
	1492	0.0	0.0	0.0	0.0	0.0	0.0
	1500	0.0	0.0	0.0	0.0	0.0	0.0
	1508	0.0	0.0	0.0	0.0	0.0	0.0
	1515	0.1	0.0	0.0	0.0	0.0	0.0
	1785	0.0	0.0	0.0	0.0	0.0	0.0
	1792	1.8	0.0	0.0	0.0	0.0	0.0
	1800	5.3	1553.0	125.0	35.0	14.0	0.1
	1808	0.8	0.0	0.0	0.0	0.0	0.0
	1815	0.1	0.0	0.0	0.0	0.0	0.0
	2585	0.0	0.0	0.0	0.0	0.0	0.0

- **High values** indicate frequently used operating zones
- Useful for identifying:
  - ✓ Primary operating conditions
  - ✓ Over/under-loaded conditions
  - ✓ When/where knock or temperature limits may occur