



SR Hall Sensor Kit – 10300

Thank you for your recent purchase of our hall sensor kit. This kit is designed to replace your factory cam angle sensor or distributor to provide a more precise digital signal. This can only be used in conjunction with a aftermarket ecu system like AEM, Motec. A multi-channel ignition box and individual ignition coils is highly recommended when using this setup also. We recommend using a M&W Ignition box and Denso/Honda CBR Pencil Coils. If you have any questions regarding the installation and setup with this kit, please feel free to contact our technical department tech@mazworx.com or 407-281-1223.

Thank you very much.

Staff @ Mazworx

Parts included:

Mazworx Cam Wheel w/ rare earth magnets installed

Hall Sensor

Hall Sensor Harness

Mazworx Cam Angle Sensor/Distributor block off plug.

Dowel Pin

***** PLEASE MAKE SURE YOU FOLLOW THESE INSTRUCTIONS WHEN INSTALLING AND SETUP. WE WILL NOT BE RESPONSIBLE FOR ANY DAMAGES INCURRED FOR IMPROPER INSTALLATION AND SETUP. SEEK A PROFESSIONAL INSTALLER AND TUNER IF YOU DON'T FEEL CONFIDENT WITH THE INSTALLATION AND SETUP****

**** Please note, that you will need to clearance your valve cover as shown in the picture below. The tab is located closest to the exhaust cam gear side on the inside of the valve cover ****

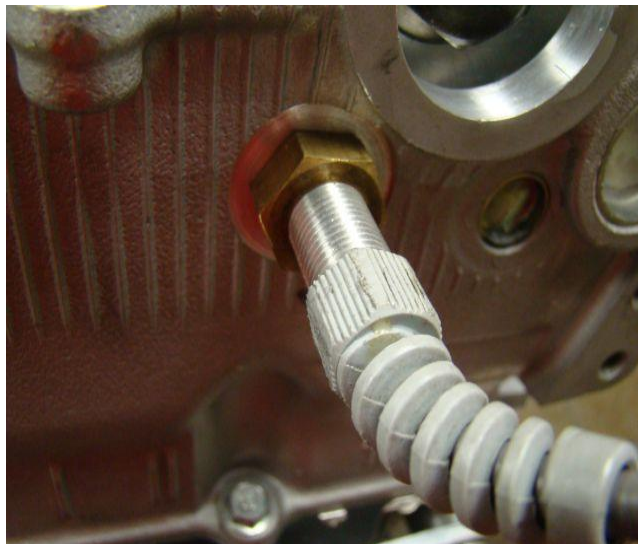


**** Included settings is for AEM Series 1 EMS only! Any other ecu's will need to be configured at tuners own discretion****

**** Update note : One additional setting-go to setup/sensors/cam crank sensor/advanced cam crank/options-sync strategies/ and deselect Nissan**

Ignition sync. In the instructions, it tells you to set it at .43. If you do that, it puts the cam 180 deg out. Change this to 6.43 **

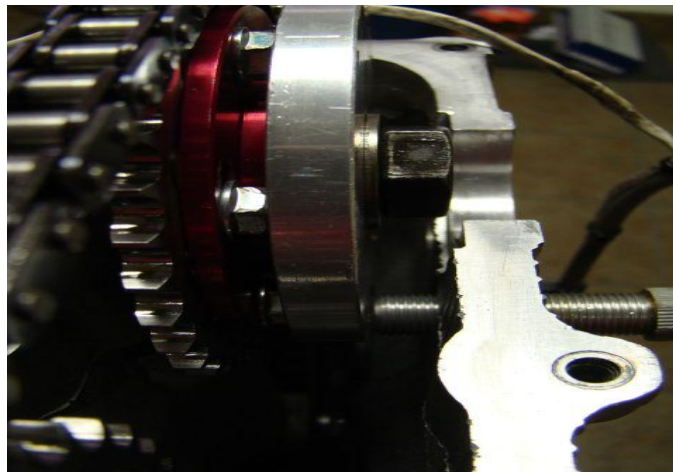
- 1) *Drill out the area on the cylinder head as shown in the picture using a ½-20 bit and tap. Or you can use the supplied drawing and a machine shop can do it on a mill.*



- 2) *Install the cam gear wheel in conjunction with the existing cam gear as shown. Stock cam gear bolt should work. Use a thinner washer or no washer at all.*



- 3) *Check the clearance of the sensor air gap to the cam gear wheel. You should have a clearance of .060". To check it properly, you can use a feeler gauge for exact clearance measurement.*



4) Install the supplied cam angle sensor block-off plug as shown in the picture below.

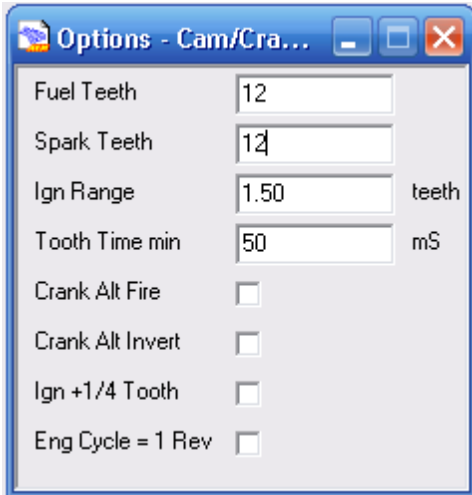


You are now done with the installation part. You will now need to wire the harness and properly setup your ecu. Please review ecu wiring diagram on the last page of instruction manual.

ECU INITIAL SETUP

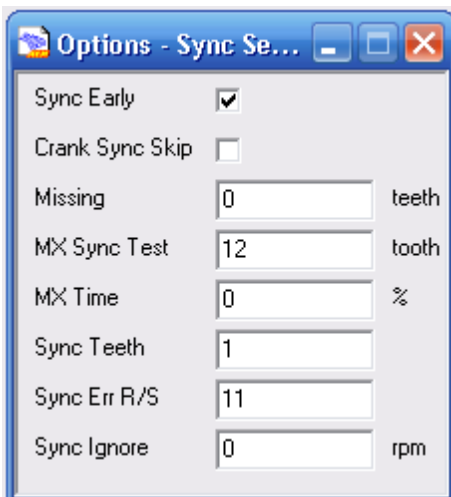
AEM Series 1 EMS Configuration

- 1) Open the AEM calibration file
- 2) Go to **SETUP >> Sensors >> Cam/Crank Sensor >> Options Cam/Crank Setup**
- 3) Enter these settings when using a 4-channel ignition box



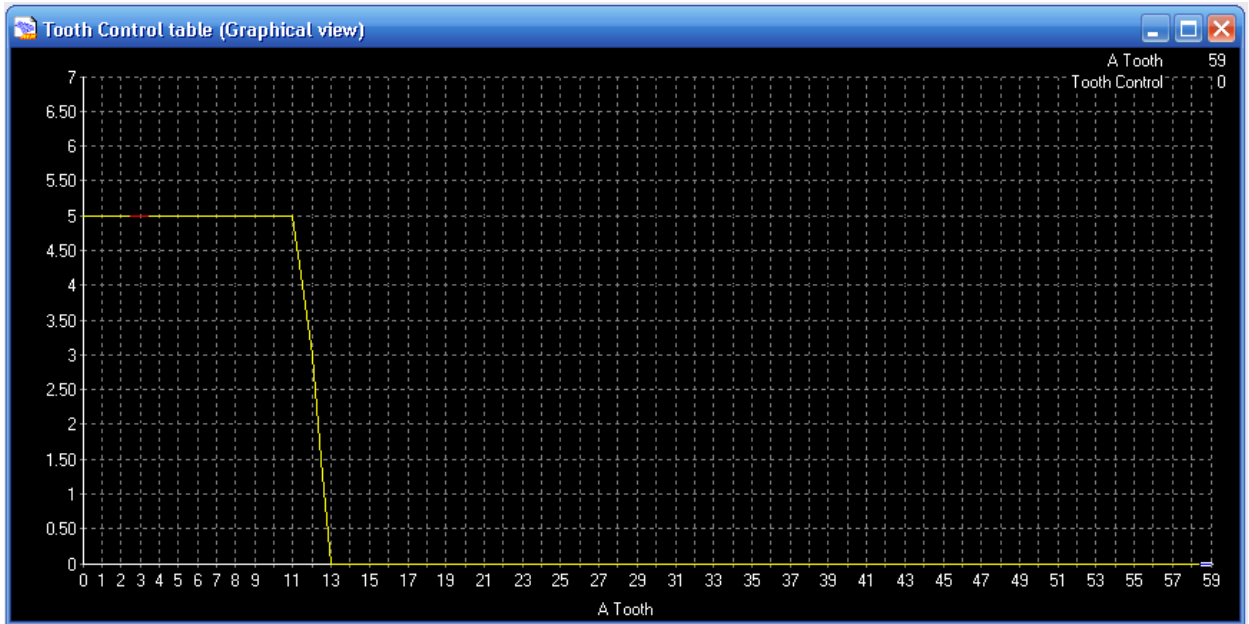
Fuel Teeth	12	
Spark Teeth	12	
Ign Range	1.50	teeth
Tooth Time min	50	mS
Crank Alt Fire	<input type="checkbox"/>	
Crank Alt Invert	<input type="checkbox"/>	
Ign +1/4 Tooth	<input type="checkbox"/>	
Eng Cycle = 1 Rev	<input type="checkbox"/>	

- 4) Go to **Setup >> Cam/Crank Sensor >> Advanced Cam/Crank >> Options – Sync Setup** & enter the following as shown



Sync Early	<input checked="" type="checkbox"/>	
Crank Sync Skip	<input type="checkbox"/>	
Missing	0	teeth
MX Sync Test	12	tooth
MX Time	0	%
Sync Teeth	1	
Sync Err R/S	11	
Sync Ignore	0	rpm

- 5) Go to Setup >> Sensors >> Cam/Crank Sensor >> Advanced Cam/Crank Setup >> Tooth Control Table. Set tooth control at 5 from position 0-11, 3 on position 12, and 0 for the remaining table.



- 6) Go to Fuel >> Advanced Fuel >> Injector Phasing >> Options – Injection Phasing and make input the changes as shown.

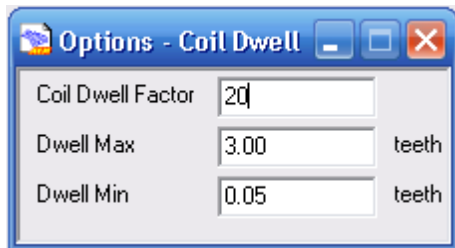
Parameter	Value	Unit
Injector Phase	7.00	teeth
Inject Tooth #01	6.00	teeth
Inject Tooth #02	3.00	teeth
Inject Tooth #03	9.00	teeth
Inject Tooth #04	0.00	teeth
Inject Tooth #05	0.00	teeth
Inject Tooth #06	0.00	teeth
Inject Tooth #07	0.00	teeth
Inject Tooth #08	0.00	teeth
Inject Tooth #09	0.00	teeth
Inject Tooth #10	0.00	teeth

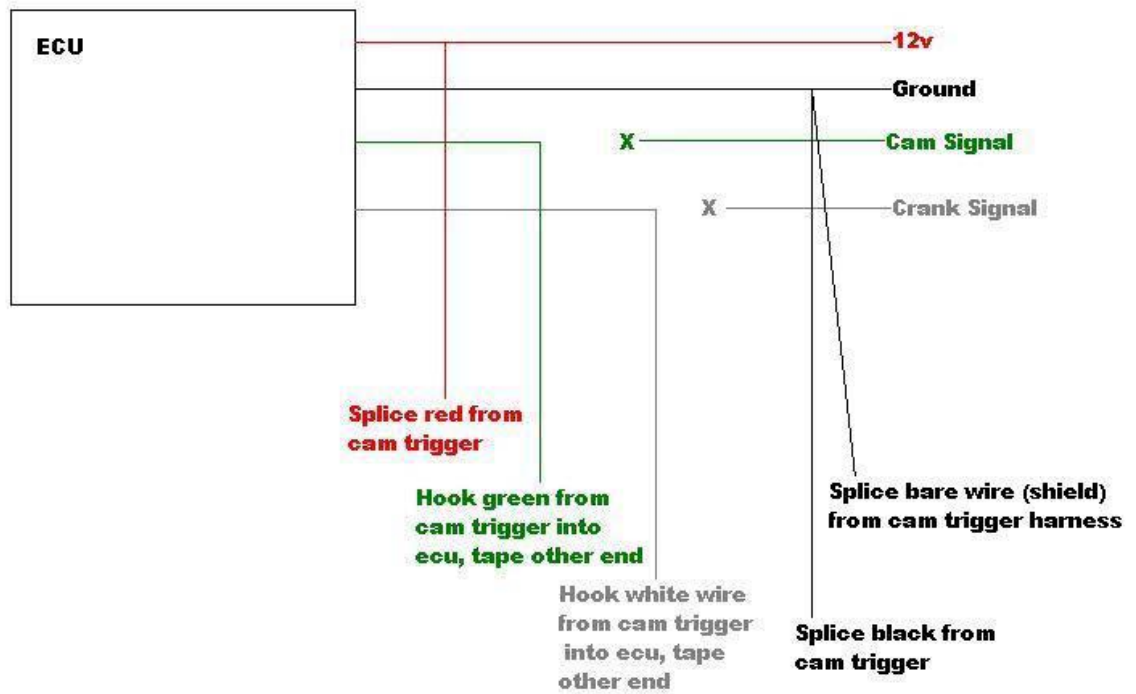
7)Go to Ignition >> Advance Ignition >> Ign. Phasing >> Options – Ign. Phasing and input the changes as shown. * Change 0.43 to 6.43*

Parameter	Value	Unit
Ignition Sync	0.43	teeth
Pickup Delay Comp	150.00	uSec
Ign Tooth #01	6.00	teeth
Ign Tooth #02	3.00	teeth
Ign Tooth #03	9.00	teeth
Ign Tooth #04	0.00	teeth
Ign Tooth #05	0.00	teeth
Ign Tooth #06	0.00	teeth
Ign Tooth #07	0.00	teeth
Ign Tooth #08	0.00	teeth
Ign Tooth #09	0.00	teeth
Ign Tooth #10	0.00	teeth

**** DISCLAIMER! The ignition sync may change when you calibrate the base ignition timing ****

- 7) Now configure the EMS with the ignition box you are using. Go to Ignition >> Advanced Ignition >> Coil Dwell Setup >> Coil Dwell Wizard. For any aftermarket ignition system, enter "ALL CDI Systems"
- 8) Go to Ignition >> Advanced Ignition >> Coil Dwell Setup >> Options – Coil Dwell and input the following changes.





T1 Hall Effect Cam Sensor

Sensor Termination

DTM4S

1 Black	Ground
2 White	Cam
3 Yellow	Crank
4 Red	12V power



Sensor air gap = .060"

Lead Length - 12"

Loom with DR25 shrink

Seal with W5DL at sensor transition to wire

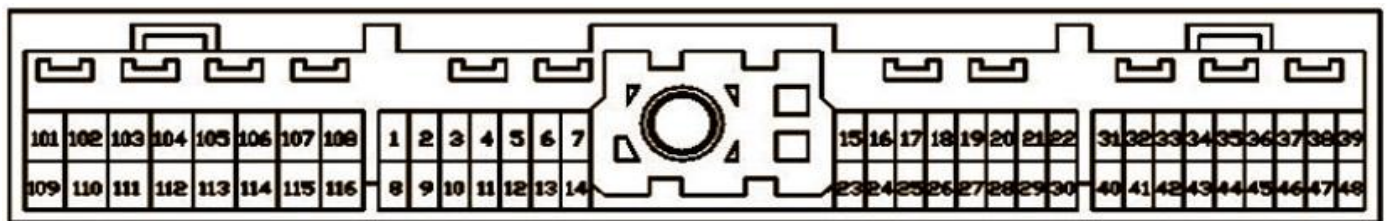
Seal DTM4S with ATUM

Mating connector

DTM4P

1 Black	Ground
2 Green	Cam
3 White	Crank
4 Red	12V power

S13 SR20DET ECU



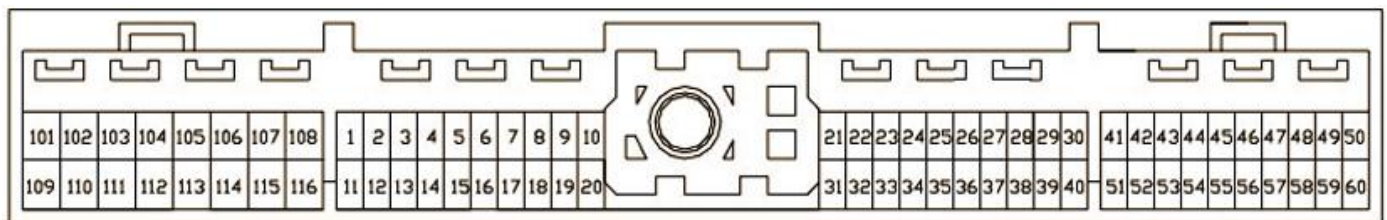
Harness Red – 12v Switched, ECU/Black/White (ECU Pinout either 38 or 47) Tap into the wire

Harness Black – Ground, ECU/Black (ECU Pinout 39 or 48) Tap into the wire

Harness Green – Cam Trigger, ECU/White(ECU Pinout 22 & 30, Both wires will be used)

Harness White- Crank Trigger,ECU/Black (ECU Pinout 31 & 40, Both wires will be used)

S14 SR20DET ECU (Non-Euro)



Harness Red – 12v Switched, ECU/Black/White (ECU Pinout either 49, 59 or 109) Tap into the wire

Harness Black – Ground, ECU/Black (ECU Pinout 50 or 60) Tap into the wire

Harness Green – Cam Trigger, ECU/White(ECU Pinout 41 & 51 Both wires will be used)

Harness White- Crank Trigger,ECU/Black (ECU Pinout 41 & 52 Both wires will be used)

ECU INITIAL SETUP

Haltech Platinum

ECU Manager - iach_e12_methanol
Main Setup - Platinum Sport 2000 1.13

Basic
Advanced
Outputs
Inputs
Devices
Data Logging

Main Trigger Fuel Ignition

Trigger Type: Multitooth General

Trigger Angle: 35.0 °
 Variable Trigger Angle

Tooth Offset: 1

Trigger Edge: Falling

Home Edge: Falling

Trigger Sensor Type: Hall Effect

Home Sensor Type: Hall Effect

Trigger Pull Up: Enabled

Home Pull Up: Enabled

Home Window: 24

Number Of Teeth: 12

Trigger Filter Level: None

Home Filter Level: None

Trigger -ve GND
 Home -ve GND