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POWER GRID

THE PINNACLE OF PROGRAMMABLE POWER!

- New modules coming throughout the year
- Ultimate ignition control
- USB Connection to your PC for programming
- MSD View offers easy-to-run software
- Micro-SD for unparalleled data acquisition
- Expandable with modular units



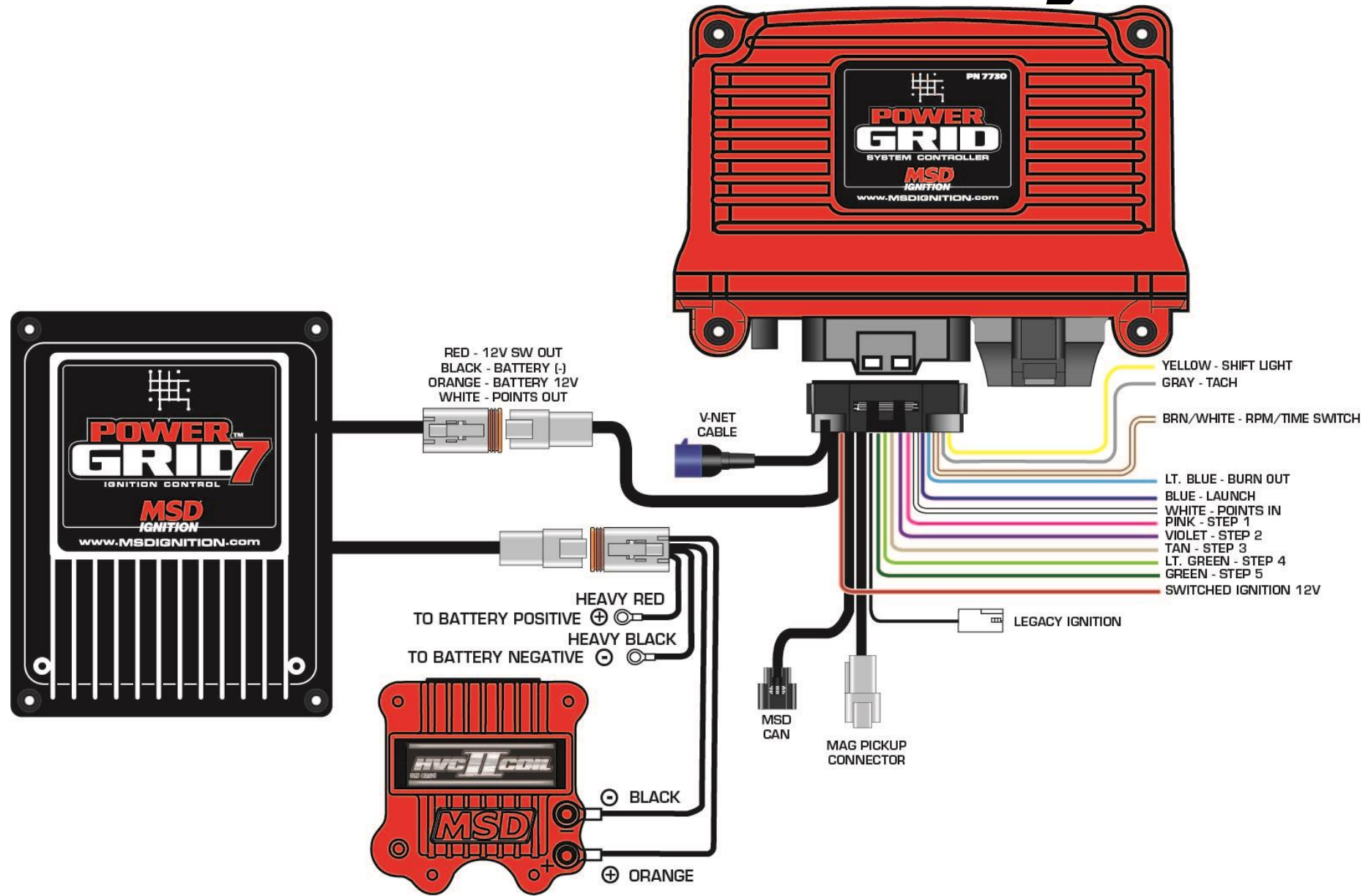
MSD has been the most recognized name in performance ignition systems for more than four decades. Now, MSD is leading the industry in vehicle performance integration systems for street and racing use. We strive to serve the automotive performance industry with the best products and support. **MSD gives you the Fire to Drive.**

Power Grid



- USB connection for ease of programming
- Timing based on engine rpm, gear and time
- Individual cylinder timing based on gear and time
- Five retard stages for nitrous
- Four rpm limits for Max Rev, Launch, burnout and spool
- Output switch configured by rpm, time or both
- Shift light settings for each gear
- High speed data acquisition records 19 ignition channels
(Sample rate 100/per second or 10 ms. (1000/per sec on Launch wire))
- Racepak V-Net connection
-
- Adaptable to older MSD Ignitions and Pro Mags

MSD Power Grid CAN Bus System



Setting Timing

Set Maximum Timing normally same as crank trigger pickup setting

Set Start Retard

Set Individual Cylinder Timing

Set Gear Retards

Set Launch Retard (Timing By Time)

Set Step Retards for NOS, (*make sure to add Off Delay*)

Set Shift Retard

Setting Maximum Timing

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

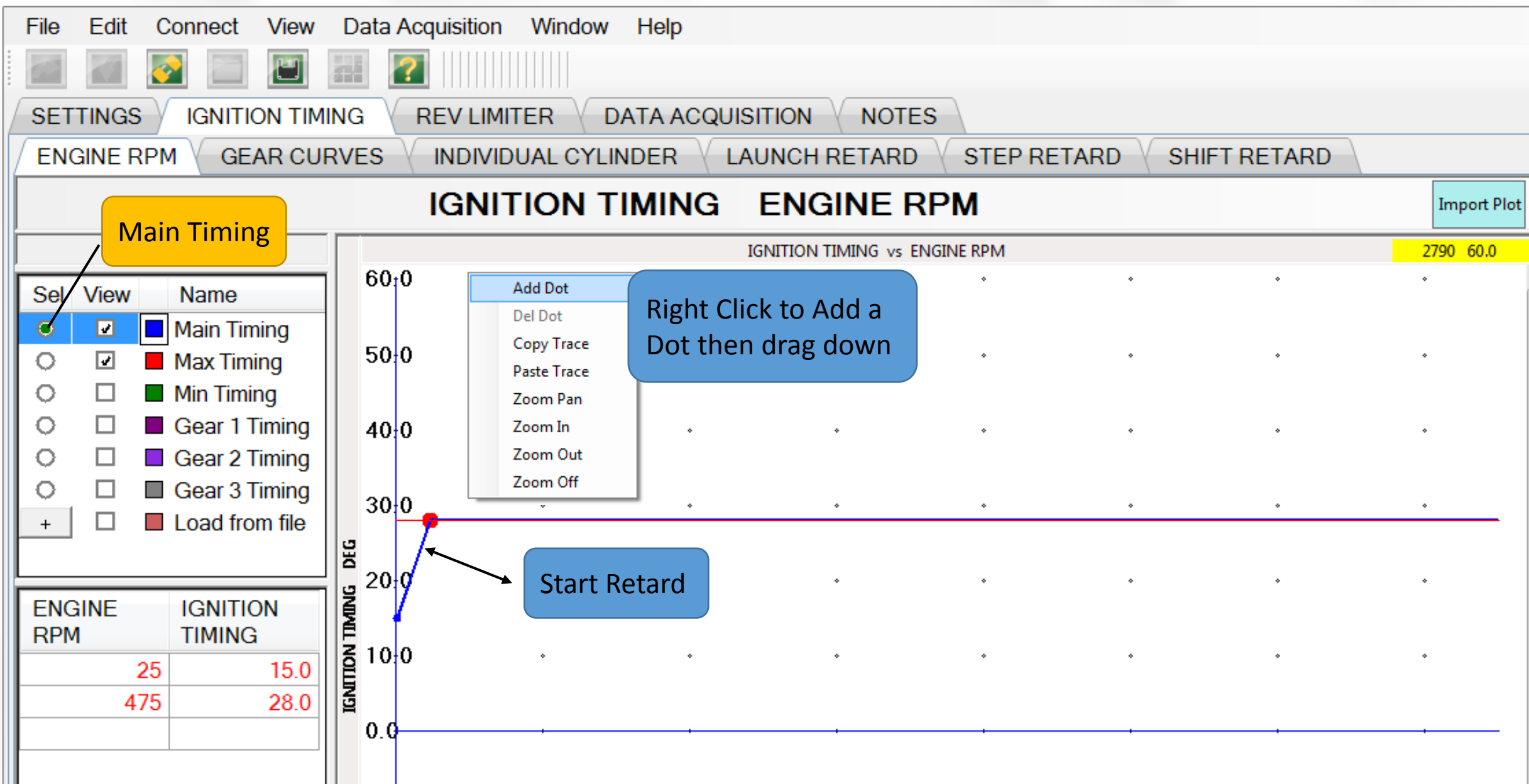
GENERAL GEAR SHIFT SHIFT LIGHT OUTPUT SWITCH

SETTINGS GENERAL

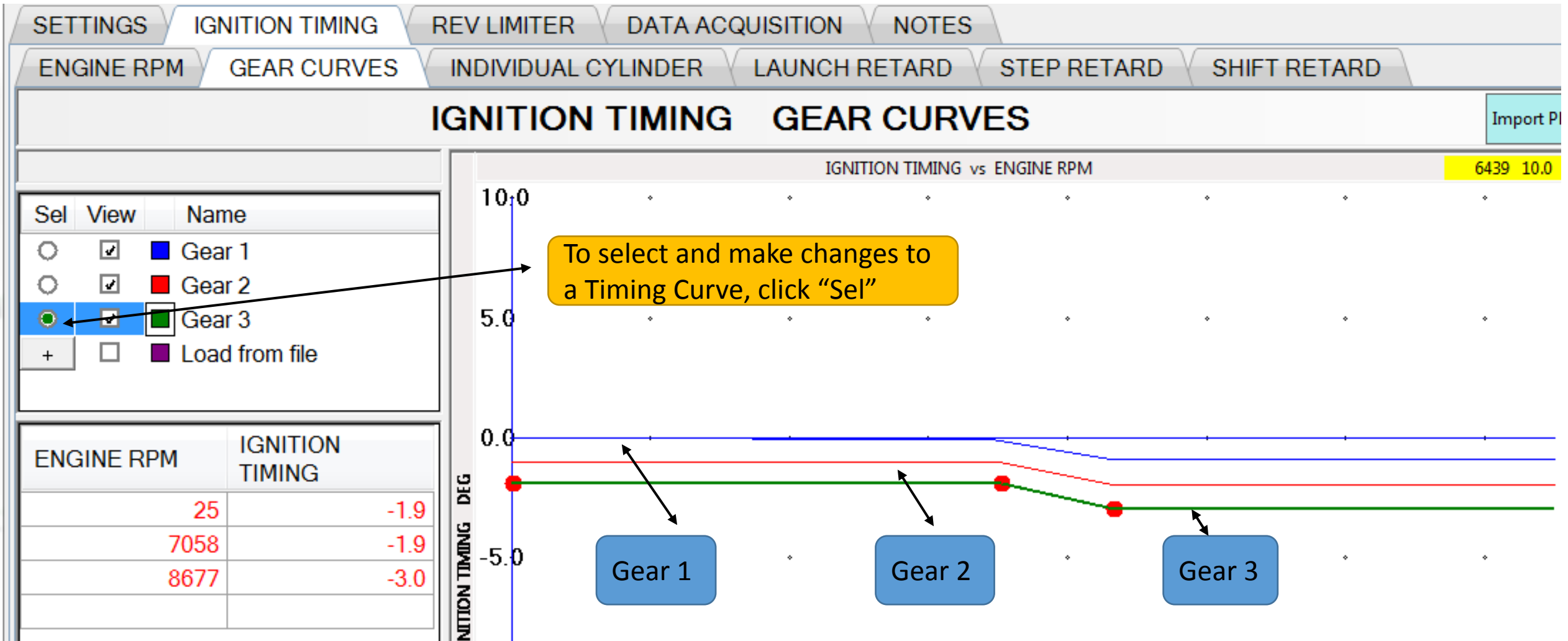
Import Settings

Function	Value	Units
Number of Cylinders	8	Cylinders
Maximum Timing Reference	28	DEG
Maximum Total Retard	30.0	DEG
Number of Gears	3	Count
Ignition Type	Network Ignition	Select
Tach Output Sync	Crank Input	Select
Spark Output	Enabled	Select

MsdView 7730 Power Grid Controller



Setting Gear Retards



Setting Individual Cylinder Timing

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

ENGINE RPM GEAR CURVES INDIVIDUAL CYLINDER LAUNCH RETARD STEP RETARD SHIFT RETARD

FIRING ORDER RULE 1 RULE 2 RULE 3 RULE 4 RULE 5 RULE 6 RULE 7 RULE 8 RULE 9 RULE 10 RULE 11

IGNITION TIMING INDIVIDUAL CYLINDER RULE 1 [Import Settings](#)

Function	Value	Units
Cylinder	Seq 4 Cyl 3	
Retard/Advance	Retard	Select
Timing Change	1.5	DEG
From Gear	2	
Delay	0.30	Seconds
Ramp Time	0.00	Seconds

Set Cylinder # 3 to retard 1.5 Degrees starting in 2 gear at 0.3 seconds

FIRING ORDER RULE 1

Function	Value	Units
Sequence 1	1	Cylinder
Sequence 2	8	Cylinder
Sequence 3	4	Cylinder
Sequence 4	3	Cylinder
Sequence 5	6	Cylinder
Sequence 6	5	Cylinder
Sequence 7	7	Cylinder
Sequence 8	8	Cylinder

Set Firing Order

Setting Individual Cylinder Timing

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

ENGINE RPM GEAR CURVES INDIVIDUAL CYLINDER LAUNCH RETARD STEP RETARD SHIFT RETARD

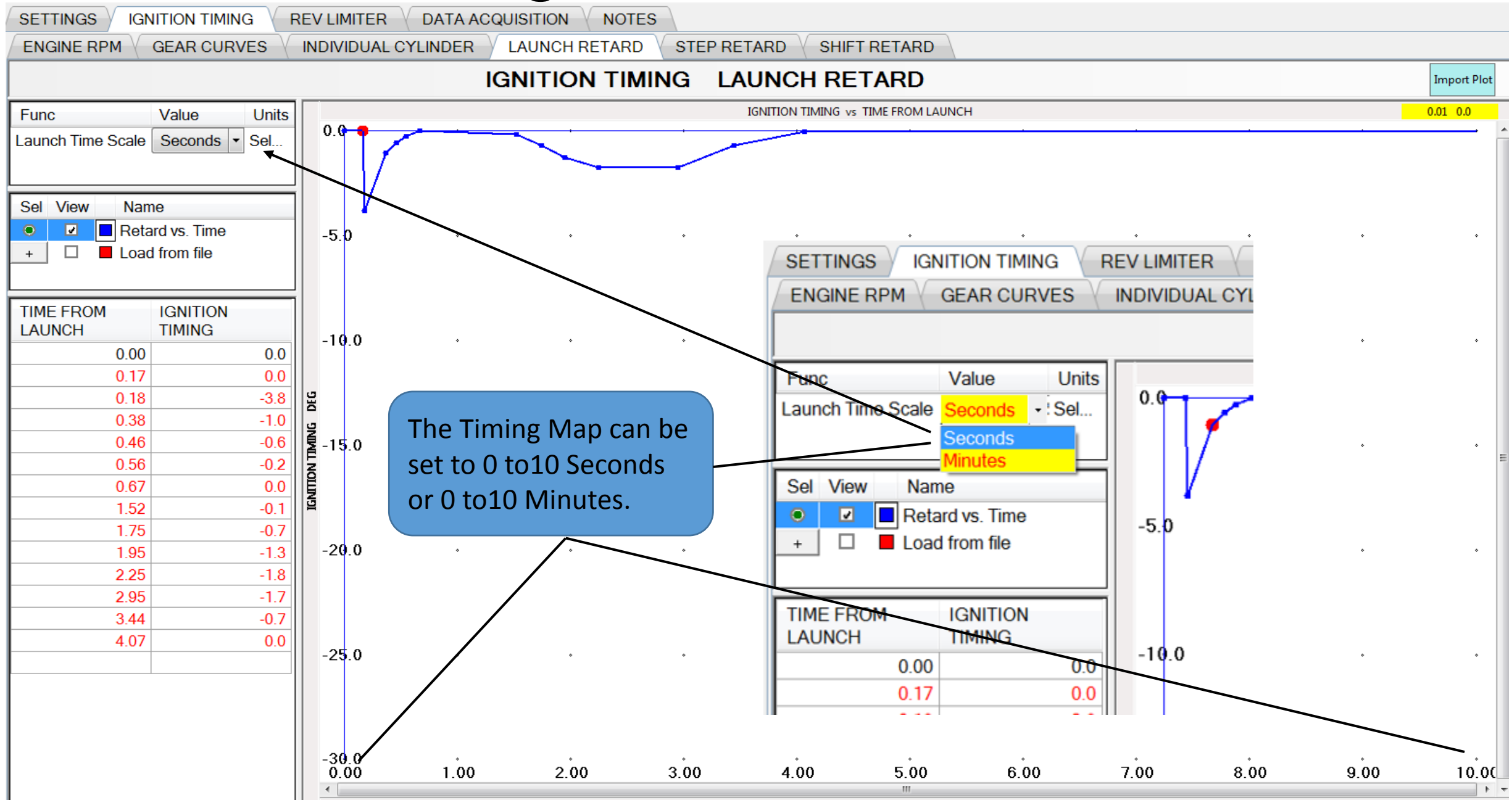
FIRING ORDER RULE 1 RULE 2 RULE 3 RULE 4 RULE 5 RULE 6 RULE 7 RULE 8 RULE 9 RULE 10 RULE 11

IGNITION TIMING INDIVIDUAL CYLINDER RULE 2 [Import Settings](#)

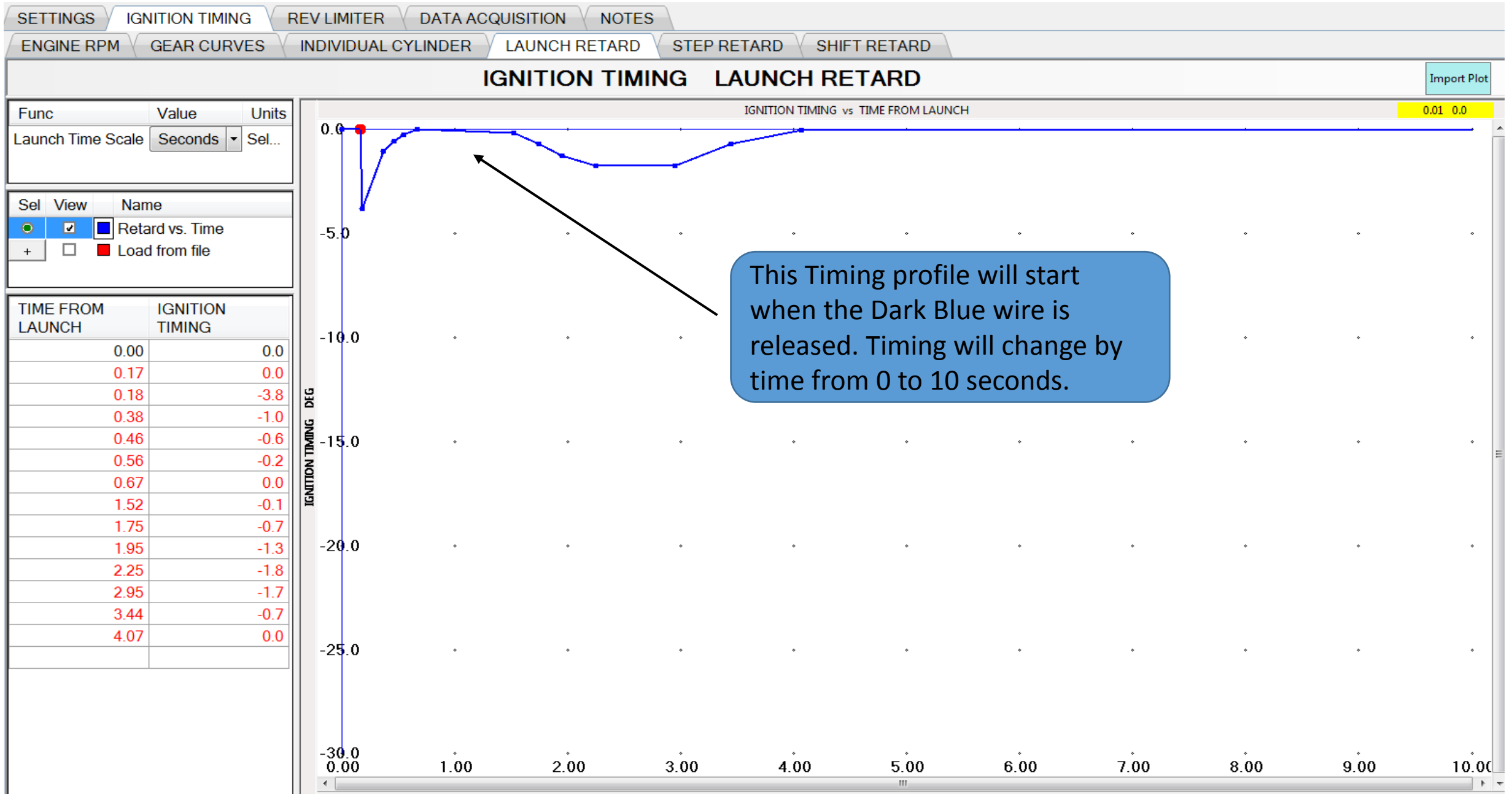
Function	Value	Units
Cylinder	Seq 4 Cyl 3	
Retard/Advance	Advance	Select
Timing Change	0.5	DEG
From Gear	2	
Delay	0.80	Seconds
Ramp Time	0.00	Seconds

.5 Degrees advanced at 0.80 seconds, resulting in a 1 degree retard in 2 gear.

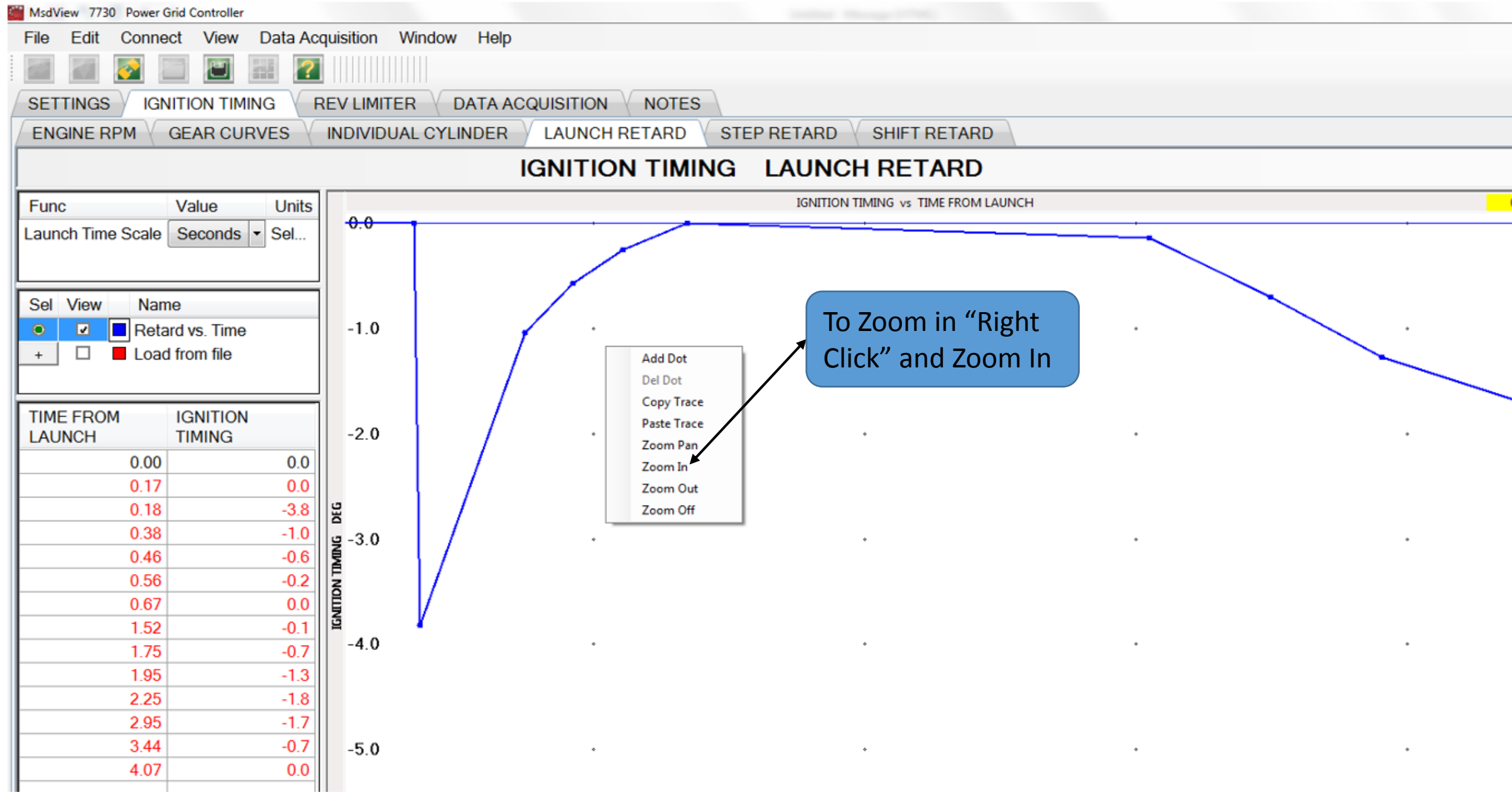
Setting Launch Retard Time



Setting Launch Retard



Setting Launch Retard with Zoom



Setting Step Retards With an Off Delay

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

ENGINE RPM GEAR CURVES INDIVIDUAL CYLINDER LAUNCH RETARD STEP RETARD SHIFT RETARD

1 2 3 4 5

IGNITION TIMING STEP RETARD

Import Settings

Function	Value	Units
Timing Retard	11.0	DEG
Engine RPM	4000	RPM
On Ramp Time	0.05	Seconds
Off Delay	2.00	Seconds
Off Ramp Time	0.00	Seconds

There are five Step Retards

Special Note for Step 5

Active when 12 volts is applied to either:
1. Step 5 wire
or
2. Both the Launch wire and the Burnout wire.
This value sets an engine speed threshold to disable Ignition spark when the ENGINE RPM exceeds this value.

The "Off Delay" will act as a safety for WOT step off. This will allow the 11 degrees to remain "ON" during a peddle. The NOS will turn off just not the Timing.

Setting Shift Retards

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

ENGINE RPM GEAR CURVES INDIVIDUAL CYLINDER LAUNCH RETARD STEP RETARD SHIFT RETARD

IGNITION TIMING SHIFT RETARD

GENERAL GEAR SHIFT S

Import Settings

Function	Value	Units
Shift 1->2 Retard	2.0	DEG
Shift 1->2 Ramp Off	0.07	SEC
Shift 2->3 Retard	2.0	DEG
Shift 2->3 Ramp Off	0.07	SEC

"Shift Retard" is determined by "RPM Drop" from the peak of the shift. As the RPM drops, at 400 it will Retard 2 degrees for 0.07 seconds.

GENERAL GEAR SHIFT SH

Function	Value	Units
Launch Delay	0.5	SEC
Shift Delay	0.5	SEC
1->2 Shift	400	RPM Drop
2->3 Shift	400	RPM Drop

The RPM Drop can be adjusted on the pull down tab

GENERAL GEAR SHIFT S

Function	Value	Units
Launch Delay	0.5	SEC
Shift Delay	0.5	SEC
1->2 Shift	400	RPM Drop
2->3 Shift	400	RPM Drop

200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
Step 2

Caution: Setting the "RPM Drop" too tight can activate on a bump on the track

Setting Rev Limiters

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING **REV LIMITER** DATA ACQUISITION NOTES

SETTINGS

REV LIMITER SETTINGS

Import Settings

Function	Value	Units
Burn Out Rev Limiter	7000	RPM
Launch Rev Limiter	7000	RPM
Latched	Enabled ▼	Select
Maximum Rev Limiter	7000	RPM
Spool/Step 5 Rev Limiter	12000	RPM
Safety Run-Time	9.0	SEC
Safety Rev Limiter	2000	RPM
Safety Start RPM	6000	RPM

Burn out Rev Limiter is controlled by the Light Blue wire.
Launch Rev Limiter is controlled by the Dark Blue wire.

Maximum Rev Limiter will also over ride all limiters.

Spool / Step 5 Rev Limiter is controlled by both Light and Dark blue wires powered at the same time.

Safety Rev Limiter starts when Launch and Rev Limiter are released.

Safety Start RPM is when the Launch and Start RPM are released and RPM is met.

Setting Rev Limiters

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING **REV LIMITER** DATA ACQUISITION NOTES

SETTINGS

REV LIMITER SETTINGS

Import Settings

Function	Value	Units
Burn Out Rev Limiter	7000	RPM
Launch Rev Limiter	7000	RPM
Latched	Enabled	Select
Maximum Rev Limiter	7000	RPM
Spool/Step 5 Rev Limiter	12000	RPM
Safety Run-Time	9.0	SEC
Safety Rev Limiter	2000	RPM
Safety Start RPM	6000	RPM

Latched

Enable: Prevents the Launch Rev Limiter from reactivating during a run.
Engine RPM must be below 7/8 of Launch Rev Limit while 12 Volts is applied to the Launch wire for the Launch RPM Rev Limiter to activate.

Disabled: Launch Rev Limiter is always active while 12 Volts is applied to the Launch wire.

Setting Data Acquisition

SETTINGS CHANNELS START RECO		
Function	Value	Units
Engine RPM	Enabled	Select
Engine Timing	Enabled	Select
Launch Input	Enabled	Select
Burn Out Input	Enabled	Select
Gear	Enabled	Select
Step 1	Enabled	Select
Step 2	Enabled	Select
Step 3	Enabled	Select
Step 4	Enabled	Select
Step 5	Enabled	Select
Shift Light	Enabled	Select
Output Switch	Enabled	Select
Ignition In	Enabled	Select
Ignition Out	Enabled	Select
Rev Limit Active	Enabled	Select
Rev Limit RPM	Enabled	Select
CAM Sync	Disabled	Select
External Timing Retard	Disabled	Select
Battery Voltage	Enabled	Select

These are the channels that
the Power Grid will record,
19 Channels

Setting Data Acquisition to Start and Stop Recording

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

SETTINGS CHANNELS START RECORDING STOP RECORDING RACEPAK

DATA ACQUISITION START RECORDING

Function	Value	Units
Engine RPM Above	3000	RPM
AND	Launch Input	SEL
State	On	SEL

The Stop Recording Settings are:

SETTINGS CHANNELS START RECORDING STOP RECORDING

DATA ACQUISITION STOP RECORDING

Function	Value	Units
Engine RPM Below	1500	RPM
OR	None	SEL
Post-Trigger Time	1	SEC
Max Recording Time	300	SEC

These are the factory default settings

Setting Data Acquisition to Trouble Shooting

MsdView 7730 Power Grid Controller

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

SETTINGS CHANNELS START RECORDING STOP RECORDING RACEPAK

DATA ACQUISITION START RECORDING

Function	Value	Units
Engine RPM Above	1000	RPM
AND	Launch Input	SEL
State	Launch Input	SEL
	Burn Out Input	
	Step 1	
	Step 2	
	Step 3	
	Step 4	
	Step 5	
	None	

Set the Stop Recording to 800 RPM

SETTINGS CHANNELS START RECORDING STOP RECORDING

DATA ACQU

Function	Value	Units
Engine RPM Below	800	RPM
OR	None	SEL
Post-Trigger Time	1	SEC
Max Recording Time	300	SEC

To use the data logger to help trouble shooting adjust to "None". Now it will start recording once the engine RPM is above 1000 RPM.

Setting RacePak Channels

File Edit Connect View Data Acquisition Window Help

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

SETTINGS CHANNELS START RECORDING STOP RECORDING RACEPAK

DATA ACQUISITION RACEPAK

Function	Value	Units
Communication Type	VNET	Select
Engine RPM	Enabled	Select
Engine Timing	Enabled	Select
Launch Input	Enabled	Select
Burn Out Input	Enabled	Select
Gear	Enabled	Select
Step 1	Enabled	Select
Step 2	Enabled	Select
Step 3	Enabled	Select
Step 4	Enabled	Select
Step 5	Enabled	Select
Shift Light	Enabled	Select
Output Switch	Enabled	Select
Rev Limit RPM	Enabled	Select

Using a V-Net T cable connected to the Power Gird, these channels will be sent to the Racepak data logger. Each will count as a Channel to Racepak. Make sure they are available in the Racepak, if not Enable what's important

DataLinkII
File Edit Telemetry Runlog Track Map View Settings Security Help

Graph
V3St.080610Q2

Engine RPM	7110	Clutch Slip	1.00	RF Shock Pos	2.494	Avg. EGT	1440	Cyl #2	1533	Brake Press 1	-1	Pan Vac	12.9	MSD MAP	1518	MSD Step 2	1
DS RPM	5791	Clutch % Slip	0.4	LF Shock Pos	3.021	Cyl #1	1426	Cyl #4	1466	Bottle 1	958	Oil Press	84.3	MSD Launch	0	MSD Step 3	1
Clutch RPM	7084	Trans Slip	1.22	Accel G	1.85	Cyl #3	1316	Cyl #6	1555	Bottle 2	988	VideoFrame	106	MSD Burn-Out	0	MSD Step 4	0
Record Button	0	RR Shock Pos	3.508	Lateral G	0.06	Cyl #5	1362	Cyl #8	1449	Fuel Press	0.1	MSD Engine RP	7216	MSD Gear	4	MSD Shift Light	0
Engine/DS Ratio	1.23	LR Shock Pos	4.016	Logger Volts	15.1	Cyl #7	1415	Water Temp	295	Pump Press	6.2	MSD Engine Tir	750	MSD Step 1	1	MSD Output Sw 1	0

Dflt
Write



Live Dashboard



Starting the Engine and Setting Timing

SETTINGSIGNITION TIMINGREV LIMITERDATA ACQUISITIONNOTES



GENERALGEAR SHIFTSHIFT LIGHTOUTPUT SWITCH

SETTINGSGENERAL

Import Settings

Function	Value	Units
Number of Cylinders	8	Cylinders
Maximum Timing Reference	28.0	DEG
Maximum Total Retard	30.0	DEG
Number of Gears	3	Count
Ignition Type	Network Ignition	Select
Tach Output Sync	Crank Input	Select
Spark Output	Enabled	Select

MonitorGauge 1Gauge 2



0

GEAR

LAUNCH INPUT OFF

SelectedName

<input type="checkbox"/>	ENGINE RPM
<input checked="" type="checkbox"/>	IGNITION TIMING
<input checked="" type="checkbox"/>	GEAR
<input checked="" type="checkbox"/>	BATTERY
<input type="checkbox"/>	CAM SYNC
<input checked="" type="checkbox"/>	LAUNCH INPUT

Set the dash with these gauges, Once the engine is running bump the transbreak or clutch and "Gear" should read 1, Timing Retard should also read 0. Check Timing with a timing light and adjust to desired timing. That number should be entered to Max and Main Timing.*

**Max and Main Timing should match if Timing will never go beyond Max Timing. Main Timing can be changed in fine increments without changing crank trigger pickup setting. Or if timing will advance, Example: Max timing 30 and Main timing running at 28 and advancing up to 30 at different RPM.*

How To Download a Recording

MSD View

File Edit Connect View Data Acquisition Help

Recordings F7
MSD ReView F8

SETTINGS IGNITION TIMING REV LIMITER DATA ACQUISITION NOTES

SETTINGS CHANNELS START RECORDING STOP RECORDING RACEPAK

DATA ACQUISITION: SETTINGS

Function	Value	Units
Data Acquisition Status	ON	Select
If SD Card Full	Overwrite	

To open a recording click on "Recordings" or "F7" on the keyboard

7730_2505_0012 366 208.dqi

7730_1765_0106.dqi

7730_1765_0109.dqi

Data Acquisition Recordings

Recording Name	Size	Transfer	Delete
7730_3839_0003.daq	53 KB	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7730_3839_0002.daq	98 KB	<input type="checkbox"/>	<input type="checkbox"/>
7730_3839_0001.daq	86 KB	<input type="checkbox"/>	<input type="checkbox"/>
7730_3839_0000.daq	114 KB	<input type="checkbox"/>	<input type="checkbox"/>

Free Space: 3878432 KB

Apply Cancel

Programmable 3
Stage Timer
PN 7760



- 3 individual channels
- Programmed by Time
- Configure On to Off or Off to On
- Switches Ground

ARC Module
PN 7761



- 2 Timing Curves to control engine power
- 1 Rev Limit Curve
- Controls timing based on driveshaft speed and/or engine RPM
- High speed data acquisition

Boost Retard
Module
PN 7762



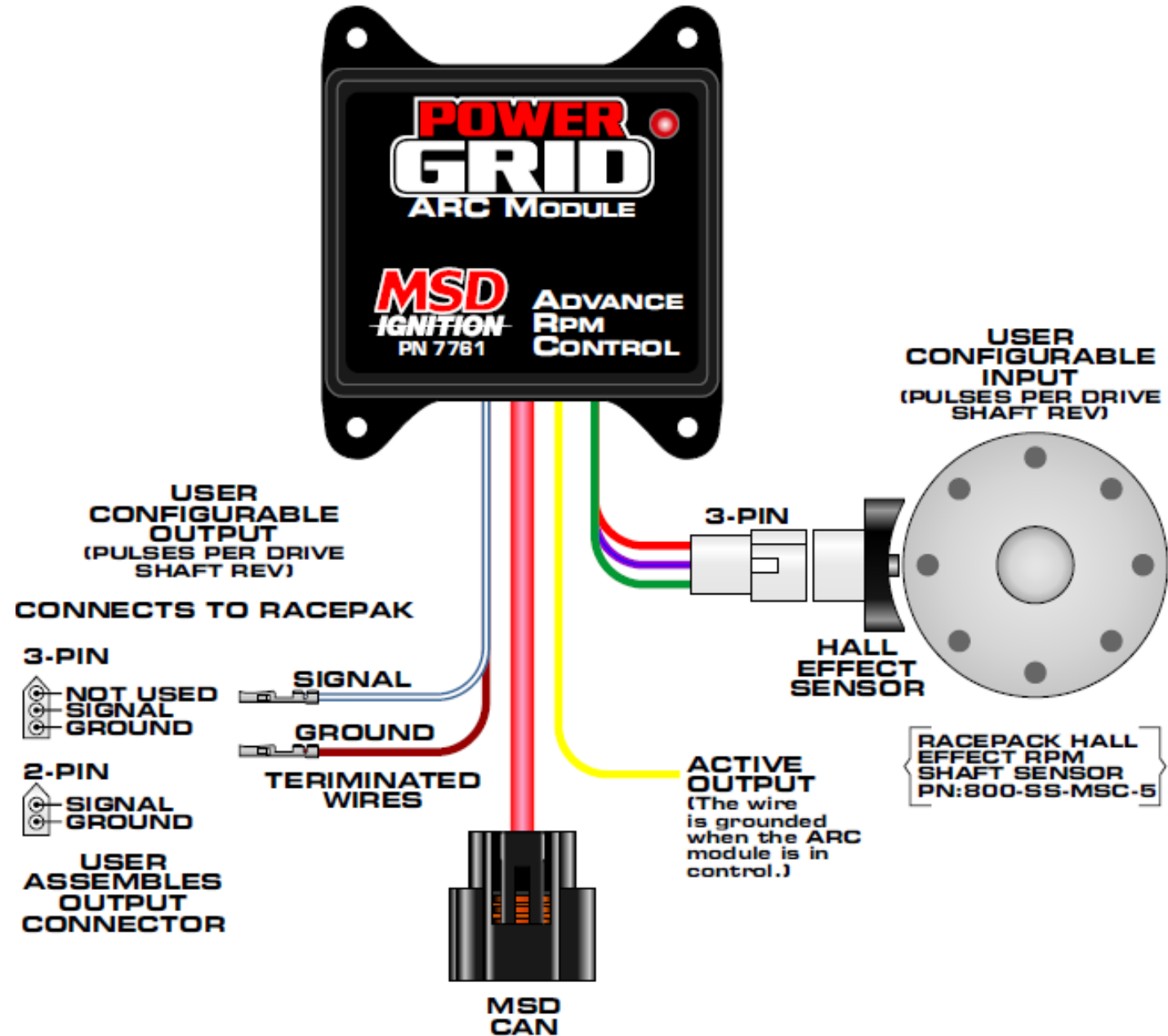
- Retards Timing Curve based on Boost Pressure

Boost Controller
Module
PN 7763/ PN
77631*



- 2 Selectable Boost Curves
 - Over boost shut down
 - Pressure switch
 - 2 Solenoids Supplied
- 4 Bar up to 43.5 PSI
- * PN 77631 6 bar up to 75 PSI

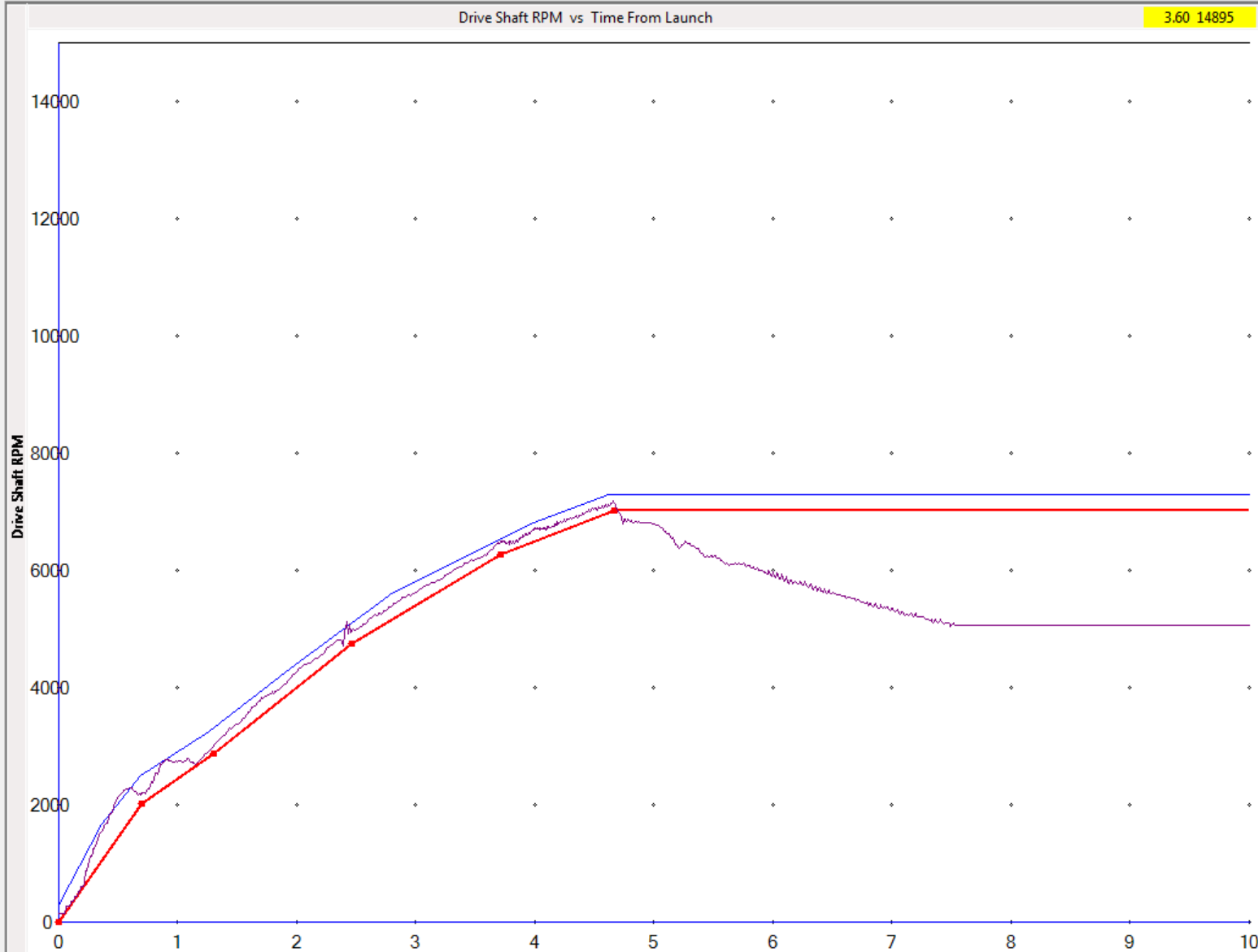
7761 ARC Module



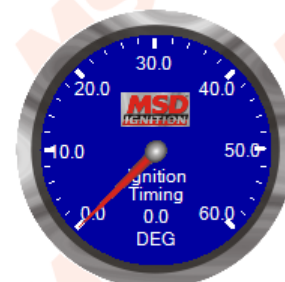
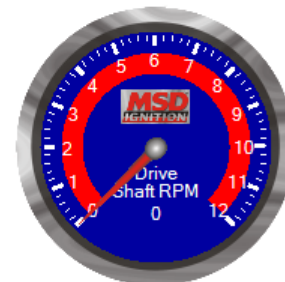


Drive Shaft: Curves

Trace	Edit	View	Color
Rev Limit Curve	<input type="radio"/>	<input checked="" type="checkbox"/>	Black
Retard Curve A	<input type="radio"/>	<input checked="" type="checkbox"/>	Blue
Retard Curve B	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>	Red
Driveshaft RPM-33	Load	<input type="checkbox"/>	Green
Driveshaft RPM-33	Load	<input checked="" type="checkbox"/>	Purple
Load trace from file	Load	<input type="checkbox"/>	Purple



Time From Launch	Drive Shaft RPM
0.01	0
0.70	2041
1.30	2895
2.46	4770
3.72	6291
4.68	7041



0 SEC
Time From Launch

0
Gear

- 7730_131_0086-SGMP-4.4
- Engine RPM
- Engine Timing
- Launch
- Burn Out
- Gear
- Shift Light
- Output Switch
- Ignition In
- Ignition Out
- Rev Limit Active
- Rev Limit RPM
- Driveshaft RPM-33

Page1 Page2 Page3 Page4 Page5

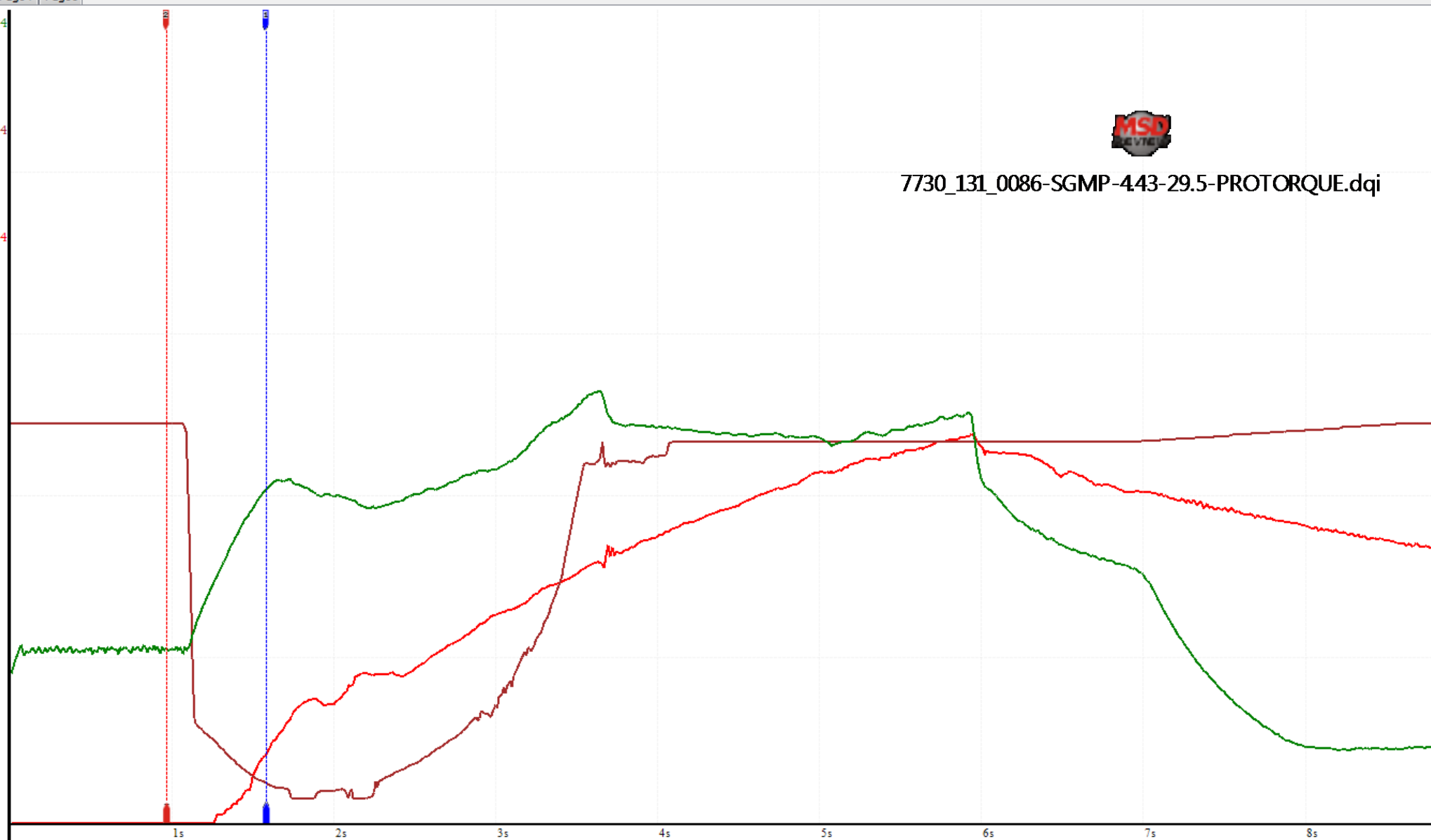
7730_131_0086-SGMP-4
Engine RPM
Cur1: 6156.212
Cur2: 3248.939
 ΔY : 2907.273
Slew: 4724.62
Margin: 22.63%

7730_131_0086-SGMP-4
Engine Timing
Cur1: 3.252
Cur2: 32.000
 ΔY : 28.748

7730_131_0086-SGMP-4
Driveshaft RPM-33
Cur1: 1287.018
Cur2: 0.000
 ΔY : 1287.018



7730_131_0086-SGMP-443-29.5-PROTORQUE.dqi



CURSOR 1	CURSOR 2	Time Difference
1.504750	0.000000	0.015625



Manual Launch Control PN 7751



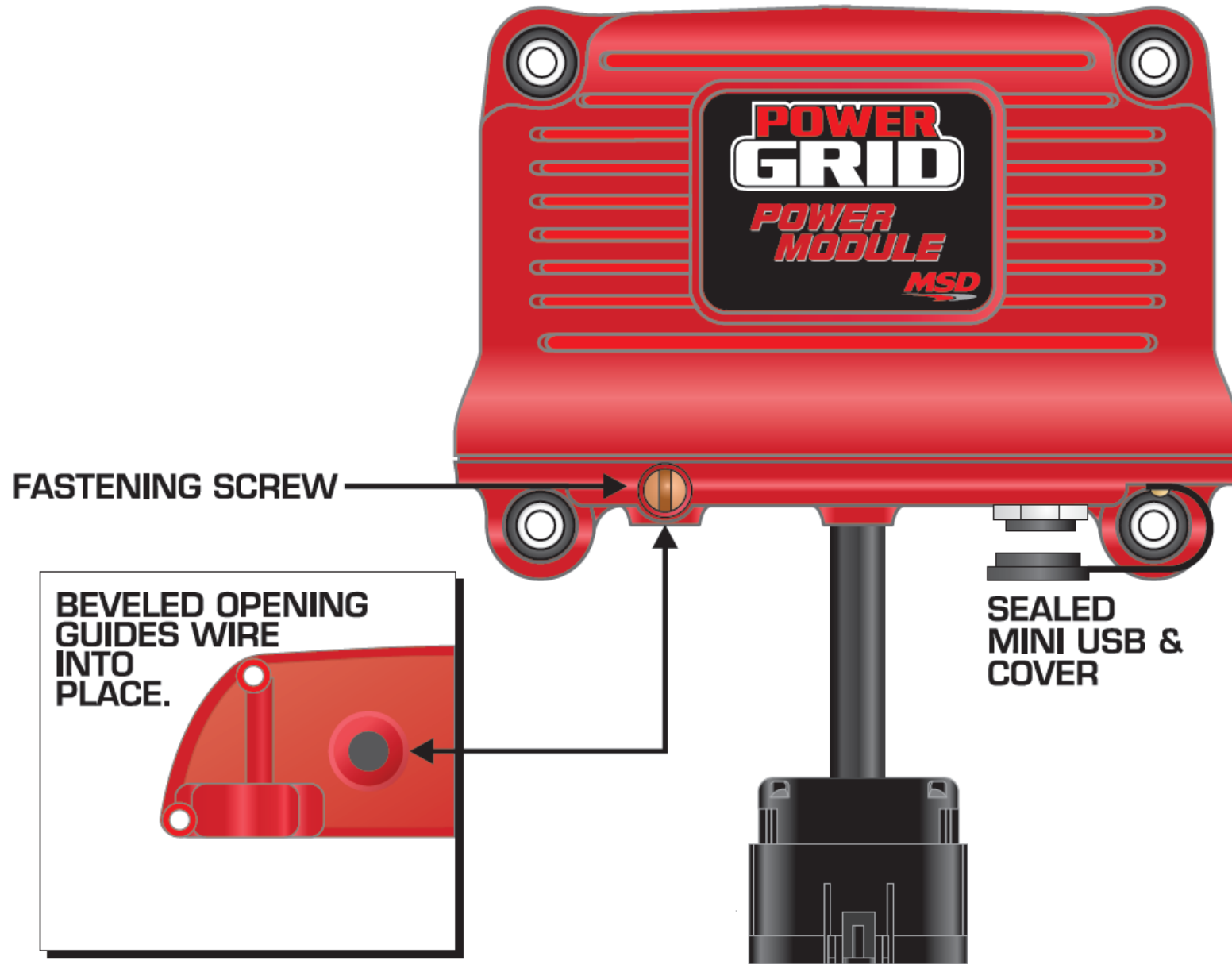
- Change Launch RPM without Laptop
- Displays Engine RPM
- Adjust Shift Light brightness
- Allows last minute global timing changes

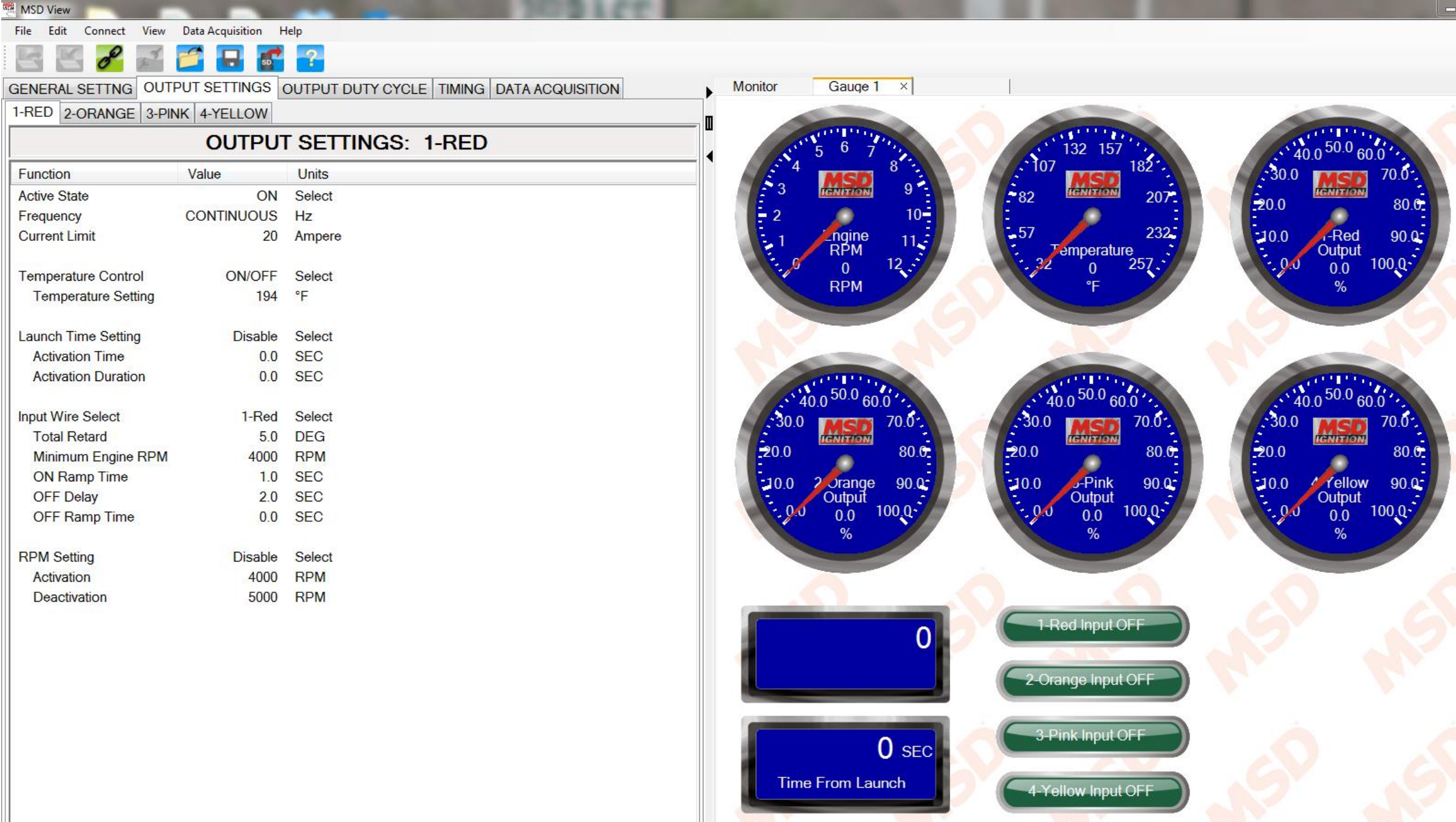
4 –Connector Hub PN 7740



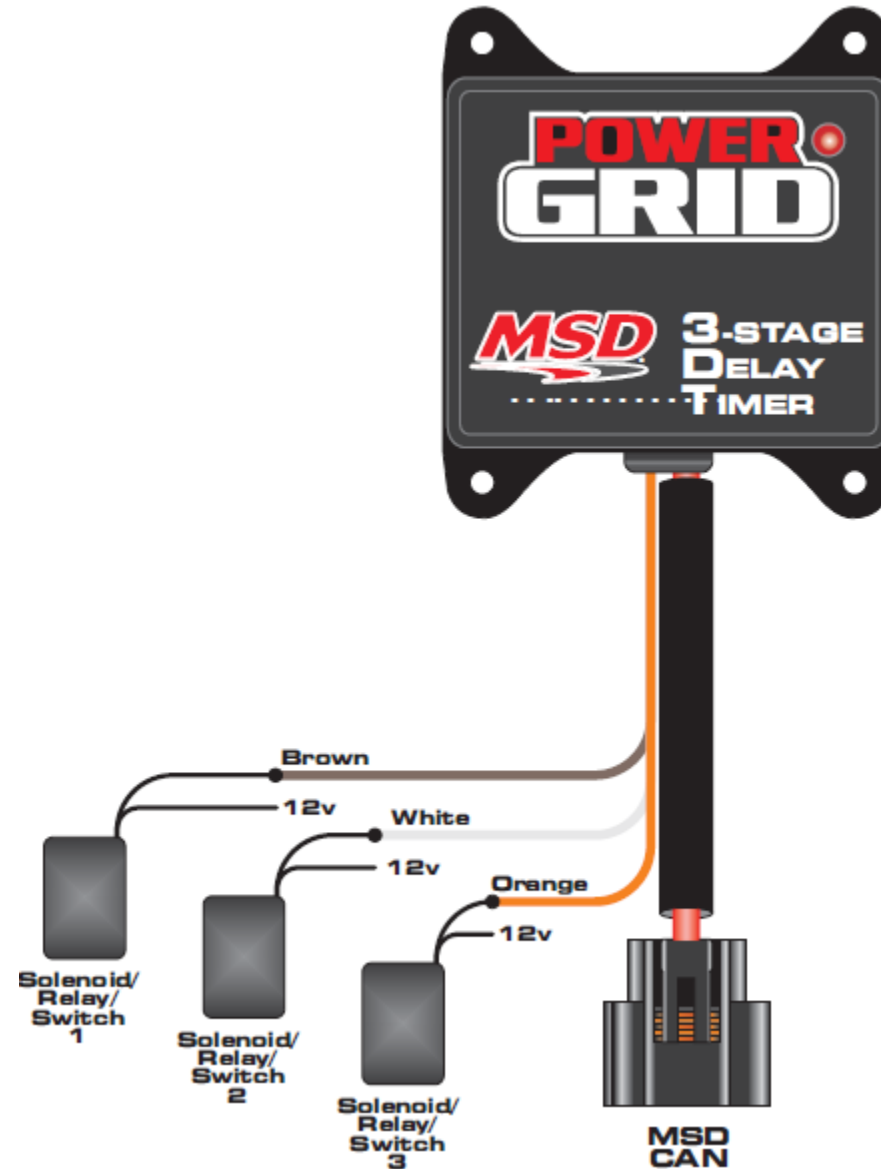
- Allows to plug in up to 3 additional Modules

7764 Programmable Power Module





7760 Programmable 3-Stage Delay Timer



MSD View

FileEditConnectViewData AcquisitionHelp

OUTPUT SWITCH

123

OUTPUT SWITCH: 1

Function	Value	Units
RPM Switch	Enabled	Select
RPM ON	0	
RPM OFF	0	
Time Switch	Disabled	Select
Activation Point	0.00	SEC
Duration	0.00	SEC
Data Acquisition	Enable	Select

Monitor

Gauge 1 x

SWITCH_1 OFF

SWITCH_2 OFF

SWITCH_3 OFF

LAUNCH INPUT OFF

AllName

☒SWITCH_1

☒SWITCH_2

☒SWITCH_3

☒LAUNCH INPUT

Multi Accessory CAN-Bus Connection

