



PRO-10

SINGLE CHANNEL

CAPACITOR DISCHARGE

IGNITION

PLEASE REPORT ANY OMISSIONS OR
ERRORS TO SALES@MWIGNITIONS.COM

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CAUTION

**THIS WIRING DIAGRAM IS
APPLICABLE ONLY TO IGNITION
SYSTEMS WITH THE SERIAL
NUMBER PREFIX STARTING**

42xxxx

**USE OF INCORRECT DIAGRAM
WILL VOID WARRANTY AND
MAY DAMAGE UNIT**

INSTALLATION NOTES

MOUNTING

Do not mount the unit where it will be exposed to water or other liquids and ensure the bottom drain slots are unobstructed. Select a location away from excessive heat and provide a cooling air supply if required. Use soft rubber (40 duro) mounts on all four corners to isolate from strong vibration.

IGNITION LEADS & SPARKPLUGS

Straight metal wire ignition leads radiate electrical interference which may cause erratic operation of nearby electronic devices including the CDI. Carbon suppressed ignition leads are not capable of conducting the CDI energy without becoming damaged.

For best performance use spiral wound inductively suppressed metal core ignition leads such as those produced by Magnecor[®]. Where possible use non resistor spark plugs to reduce energy loss.

WIRING & POWER SUPPLY

FAILURE TO INSTALL THE RECOMMENDED SIZE FUSE WILL VOID WARRANTY

Trigger input & coil output numbers indicate ignition sequence not cylinder number.

250mJ and larger Pro-Drag CDI systems must not be operated below 13V.

Voltage boosters may limit CDI operation and ignition performance will not increase when operated above 13.8V

Connect the CDI directly to the battery with the recommended gauge wire. All coil negative wires must be joined at or in the connector.

Use twisted pair wire for all power and coil connections. To comply with Australian EMC 'C Tick' standards and for ultimate noise suppression use shielded twisted pair wire.

TRIGGERING

(NOT APPLICABLE TO RELUCTOR TRIGGER IGNITIONS)

All M&W CDI systems are edge triggered and default to falling edge ignition, to select rising edge ignition connect the 'Trigger Edge' pin to the 'Signal Ground' pin. Dwell or duty cycle settings do not effect the CDI operation or performance.

Where the ecu contains an in built igniter or there is an igniter between the ECU and CDI it may be necessary to select rising edge ignition.

For Autronic® multiplex ignitions set the ecu for –VE Edge (Pulse).

THE TRIGGER EDGE ON THE CDI MUST BE SET THE SAME AS THAT IN THE ECU.

LED INDICATOR

After initially applying power to the CDI the LED will illuminate for 1 second to indicate normal operation then extinguish. The LED will then flash briefly with each consecutive trigger event received.

A repeated double flash of the LED indicates a possible faulty ignition coil, faulty wiring, low supply voltage or damage to the CDI.

TESTING

The CDI may be tested by momentarily grounding the inputs (with the exception of Reluctor trigger cdi's where the input must go below ground to trigger the unit), this will cause the corresponding ignition coil to spark. Do not conduct this test without a grounded sparkplug installed.

CAUTION

TO PREVENT IGNITION COIL DAMAGE DO NOT FIRE THE CDI WITHOUT A GROUNDED SPARK PLUG AND DO NOT MAKE THE SPARK JUMP AN EXCESSIVE GAP

CHECK IGNITION TIMING AFTER COMPLETION

IGNITION COILS

COP COILS

COP (coil on plug) coils with built in drivers are not suitable for use with CDI ignitions. Small COP ignition coils may overheat when used in direct fire cdi applications. Inductive COP coils must be wired reverse polarity.

COIL SELECTION

Most inductive ignition coils will work with CDI systems. For best performance they should have very low primary resistance and inductance and a turns ration between 75 and 100 to 1.

For ultimate CDI ignition power use a CDI specific ignition coil such as our CDI COP pencil coils or Ferrite CDI coils.

FERRITE CDI COILS

Be aware when buying ferrite CDI coils from other suppliers who do not have the knowledge or experience to correctly prepare them for automotive use. Due to their fragile nature and poor quality control during manufacture it is easy to experience premature ignition coil failure and engine misfiring unless correctly assembled. All coils prepared by M&W are individually tested before sale.

Note! Ferrite CDI coils are for direct fire ignition only. For high performance distributor applications use either the Crane[®] PS92 or MSD[®] HVC2 coils.

COIL POLARITY

For correct operation inductive ignition coils should be wired with their primary polarity reversed.

CAUTION!

DAMAGE TO IGNITION COILS MAY OCCUR IF OPERATED WITH AN EXCESSIVE SPARK GAP.

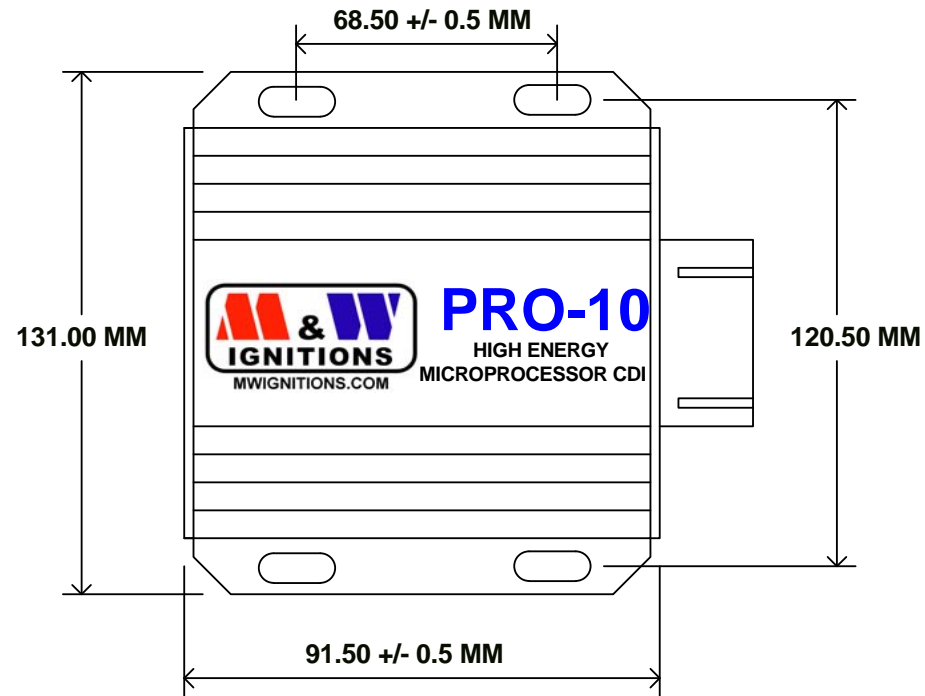
**CAUTION!
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE
WORKING ON UNIT**

M & W IGNITIONS

Performance & Quality since 1996



Slot dimensions - 5mm * 10mm

Title				MOUNTING DIMENSIONS	
Size	Number	Revision			
A4	PRO-10 SERIES 3	1.0			
Date:	4-Mar-2009	Sheet 1 of	1		
File:	E:\M&W\Pro10_S3_Mounting dimensions	Drawn By:	M&W		



DISCONNECT POWER BEFORE WORKING ON UNIT

VIEWED FROM BACK OF CONNECTOR



FAILURE TO INSTALL FUSE WILL VOID WARRANTY

POWER LEVEL & TWO SPARK

Leave power level switch disconnected for 105mJ mode or connected to Pin 10 for 150mJ mode.

Leave twin spark switch disconnected for single spark 1kHz mode or connected to Pin 10 for twin spark 400Hz mode.

Note! It is not possible to have both high power and twin spark active at the same time.

SPECIFICATIONS

Supply voltage = 13.8V DC negative ground
 Operating voltage = +6V to +15V (restrictions apply)
 Maximum supply current = 6.0A
 Standby current < 650uA (pin 16 open)
 Maximum ignition frequency = 1kHz (400Hz in MS mode)
 Coil primary voltage = 460V/540V
 Spark energy = 105mJ/150mJ
 ECU trigger = 5mA adjustable edge
 PM trigger = 30mA rising edge
 Tacho = 12V, 25mA square wave
 Maximum allowable case temperature = 105°C
 Dimensions = 91L * 110W * 40H
 Weight = 500gm

KEEP ALL INPUTS WELL SEPARATED FROM COIL OUTPUTS

1 +12V (Battery)	7 Ground (Battery)	13 Power level (P)
2 +12V (Battery)	8 Ground (Battery)	14 Trigger B (P/M)
3 Two spark (M)	9 Trigger edge	15 Trigger A (ECU)
4 Tacho	10 Signal ground	16 Ignition switch
5	11	17
6 Coil A +	12	18 Coil A -

Title PRO-10 SINGLE CHANNEL CDI IGNITION		
Size A4	Number SERIES 3	Revision 1.2
Date: 4-Mar-2009	Sheet 1 of 1	
File: E:\M&W\...\Pro10_S3_1.sch	Drawn By: M&W	

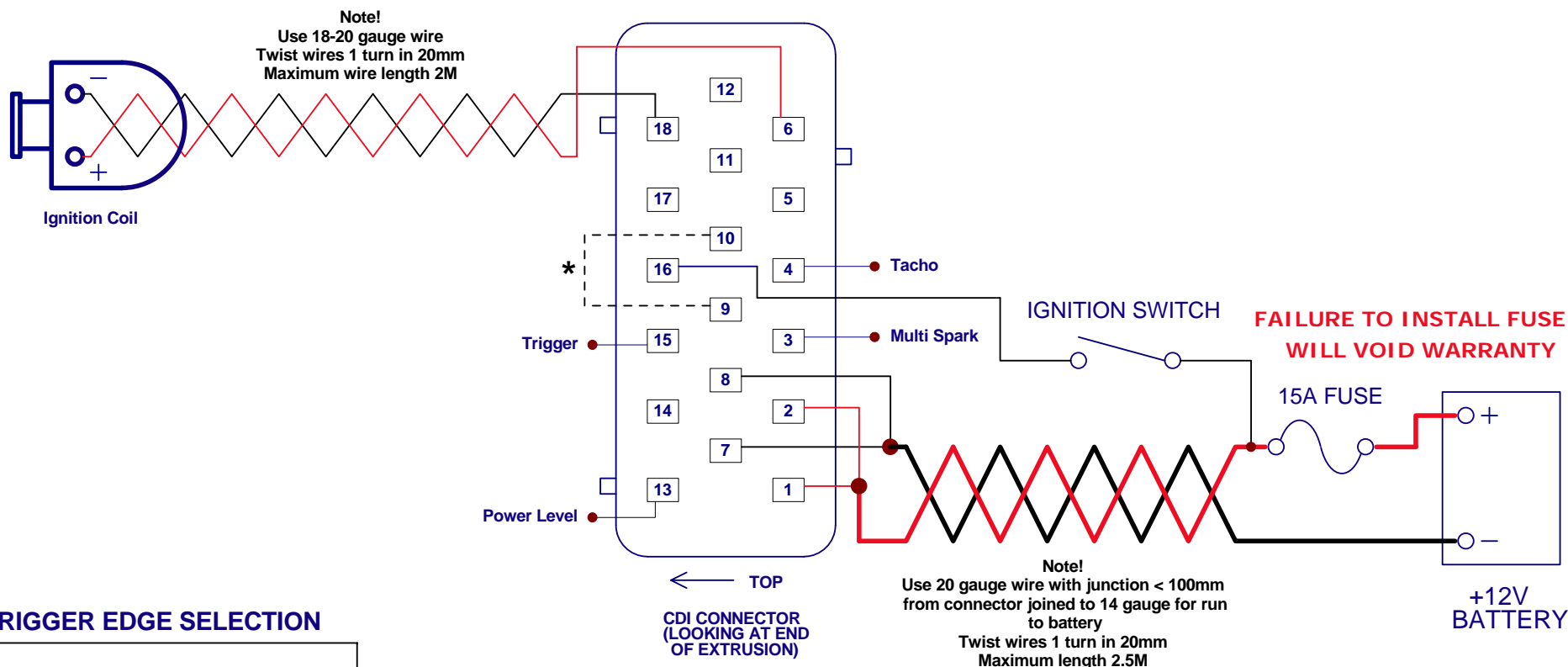
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* TRIGGER EDGE SELECTION

Falling edge ECU trigger - leave pin #9 disconnected.

Rising edge ECU trigger - connect pin #9 to pin #10.

Title		ECU TRIGGER IGNITION	
Size	Number	Revision	
A4	PRO-10 SERIES 3	1.2	
Date:	4-Mar-2009	Sheet 1 of	1
File:	E:\M&W\...\Pro10_S3_2.sch	Drawn By:	M&W

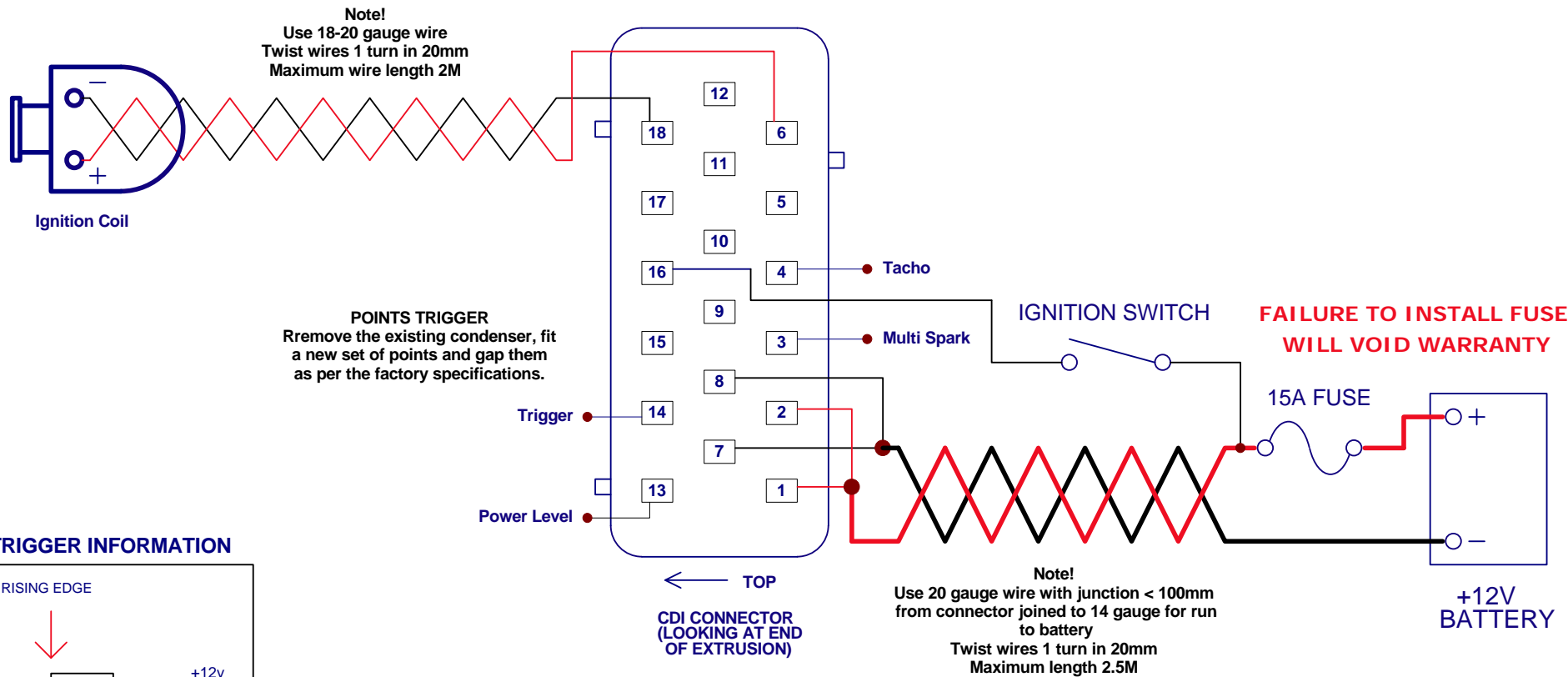
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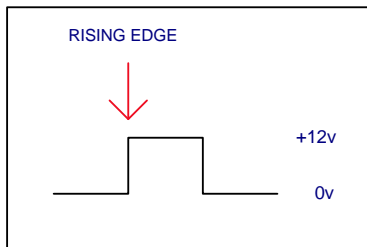
CAUTION!
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WORKING ON UNIT**



TRIGGER INFORMATION



Title			
POINTS / MODULE TRIGGER IGNITION			
Size	Number	Revision	
A4	PRO-10 SERIES 3	1.3	
Date:	8-May-2009	Sheet 1 of	1
File:	E:\M&W\...\Pro10_S3_3.sch	Drawn By:	M&W

**CAUTION!
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE
WORKING ON UNIT**

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IMPORTANT INSTALLATION NOTES!

MOUNTING

For best reliability it is suggested the unit be mounted under the rear seat where it will not be exposed to water or extremes of temperature.

WIRING

If the terminals in the factory cdi connector are corroded or damaged splice the extension harness onto the existing wiring rather than use the supplied adapting connector. Do not solder wire to terminals as this may weaken the terminals.

This diagram is only for people wishing to retain the factory wiring harness. For performance installations of if the vehicle is being re-wired please refer to the Points/Module diagram and use all connections as shown there.

IGNITION LEADS

The standard plain wire ignition leads **MUST** be replaced with a set of premium quality spiral wound metal conductor ignition leads.

IGNITION COIL

Use either the factory CDI coil , a Bosch MEC718 transformer style coil or a Crane LX92 coil.

SPARK PLUGS

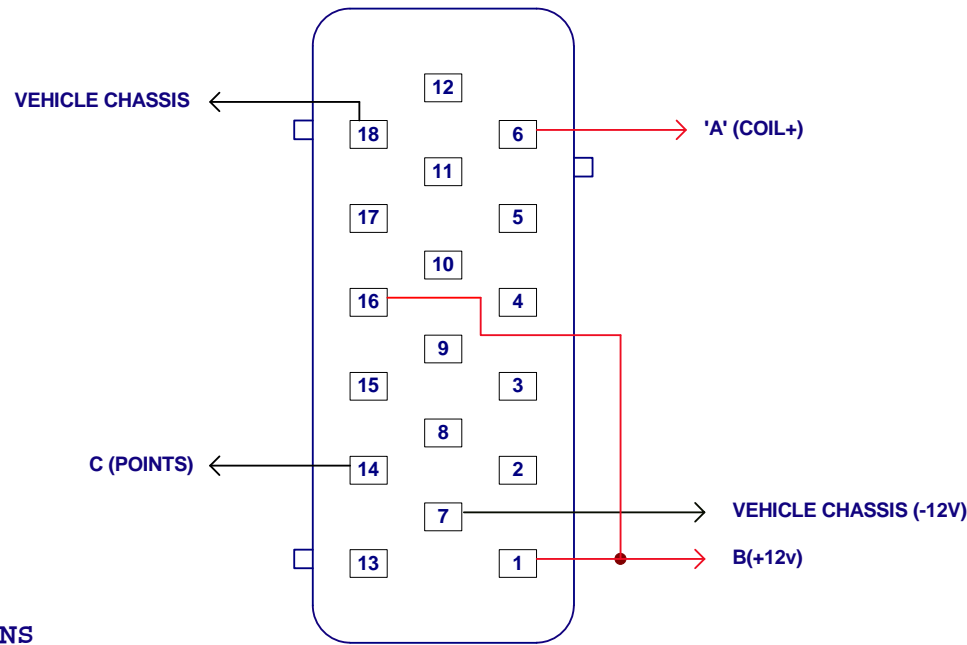
Use the recommended heat range plug gapped to 1.5mm (0.060"). If misfiring is evident reduce the gap accordingly. Resistor plugs should no longer be required.

TACHO

The vehicle may be fitted with either a low voltage or high voltage tachometer. The M&W CDI tachometer output provides a 12 square wave signal which will activate most OEM and aftermarket tachometers. If the tachometer fails to function seek the advice of a competent auto electrician or automotive instrument maker. If it is suspected that a high voltage tachometer is fitted, **AT YOUR OWN RISK**, you may try connecting it to the coil+ terminal.

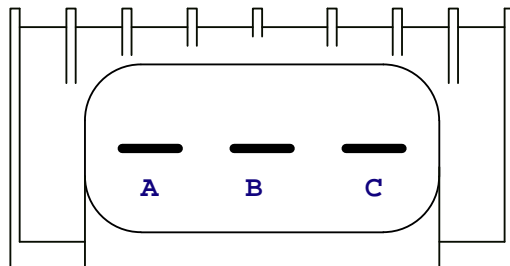
LED INDICATOR

The LED indicator will illuminate for approximately one second when power is applied to pin #6, it will then flash with each consecutive trigger pulse. In event of an internal high voltage failure the LED will repeatedly double flash.



← TOP
CDI CONNECTOR
(LOOKING AT END
OF EXTRUSION)

FACTORY CONNECTIONS



Title BOSCH '3' PIN CONNECTION			
Size A4	Number PRO-10 SERIES 3	Revision 1.0	
Date: 4-Mar-2009	Sheet 1 of 1		Drawn By: M&W
File: E:\M&W\...\Pro10_S3_B3.sch			

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