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**INSTALLATION INSTRUCTIONS  
FOR  
Pro-Drag4 Rotary S3  
4 CHANNEL  
CAPACITOR DISCHARGE  
IGNITION**

PLEASE REPORT ANY OMISSIONS OR  
ERRORS TO [SALES@MWIGNITIONS.COM](mailto:SALES@MWIGNITIONS.COM)

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# **CAUTION**

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

**43xxxx**

**INCORRECT INSTALLATION  
WILL VOID WARRANTY**

# **IMPORTANT** **INSTALLATION NOTES**

## **MOUNTING**

Do not mount the unit where it will be exposed to water, select a location away from excessive heat and use rubber mounts to isolate from strong vibration. Where possible provide a cooling air supply and mount with the connector end low.

## **IGNITION LEADS & SPARKPLUGS**

Do not use straight metal wire or carbon ignition leads. For best performance use leads with a premium quality silicone jacket and spiral wound metal core construction. Do not use resistor type spark plugs.

## **WIRING & POWER SUPPLY**

Do not use a power supply above 16V. It is not only unnecessary but may activate the internal over voltage protection. Do not use a 'voltage booster' as most of them are unable to provide the instantaneous current required by the CDI. Connect the unit directly to the battery with the recommended wire gauge. Where possible crimp the connector terminals and do not solder them as this will make the wire prone to breaking. **IT IS MOST IMPORTANT TO MAKE SURE THE TRIGGER EDGE ON THE IGNITION SYSTEM IS SET THE SAME AS ON THE ECU.**

## **LED INDICATOR**

Once the unit has been switched on the LED on the end of the box will illuminate for approximately 1 second and then extinguish. Each consecutive trigger input received after this will be indicated by a single short flash. A repeated double flash of the LED indicates the generator stage has been unable to reach correct operating voltage. This may be due to faulty wiring or an internal failure.

## **CHECK IGNITION TIMING AFTER COMPLETING** **INSTALLATION**

# **IGNITION COILS**

## **CAUTION**

**IGNITION COILS MAY BE DAMAGED INTERNALLY IF FIRED WITHOUT A GROUND RETURN PATH.**

If your engine develops a misfire which can not be eliminated by other means try replacing the ignition coil on the suspect cylinder with one that is known to be good.

COP (coil on plug) coils with in built drivers are not suitable for cdi applications. Small COP ignition coils may overheat when used with a cdi system unless wired in parallel for wasted spark applications.

Most inductive ignition coils will work with CDI system however for best power select one with very low primary resistance and inductance with a turns ration between 75 and 100 to 1 such as the Bosch MEC717.

## **FERRITE COILS**

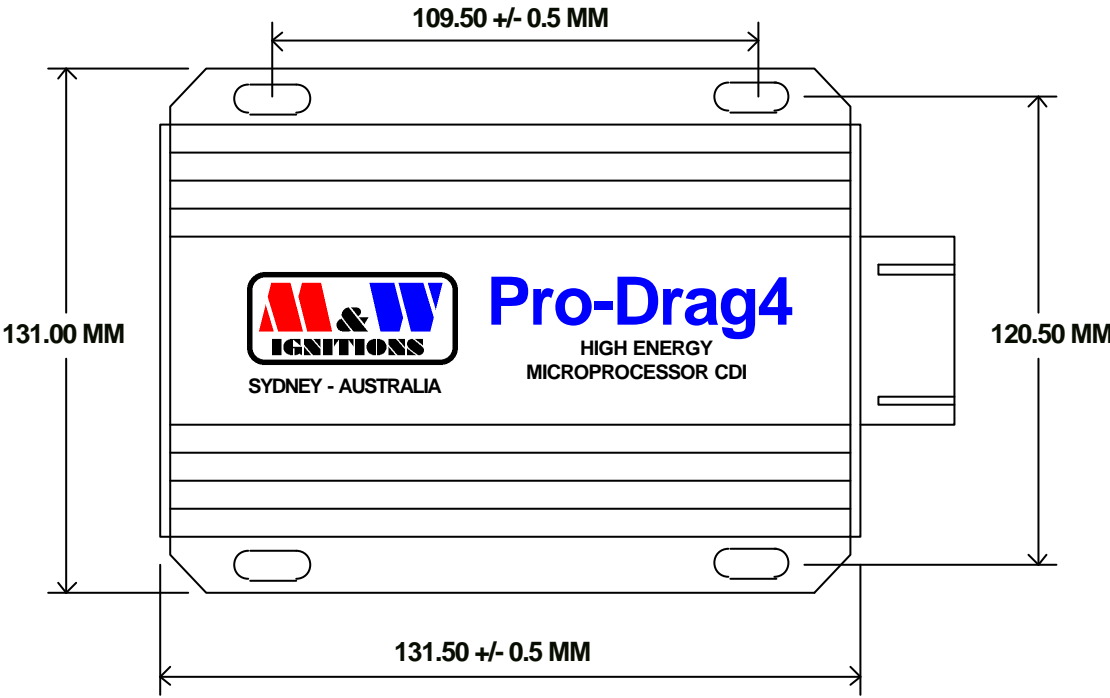
Be aware when buying ferrite coils from other suppliers as not all companies have the knowledge to correctly prepare them for automotive use. Due to their fragile nature and poor quality control during manufacture it is easy to experience premature ignition coil failure and engine misfiring unless correctly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



**NOT FOR STREET USE!**



**DISCONNECT POWER BEFORE WORKING ON UNIT**



Slot dimensions - 5mm \* 10mm

Title				<b>MOUNTING DIMENSIONS</b>			
Size		Number		Revision			
A4		<b>SERIES 3</b>		1.0			
Date: 26-Jun-2006				Sheet 1 of 1			
File: E:\M&W\Pro-Drag Rotary_S3_Mounting.dwg				Drawn by: M&W			

# M & W IGNITIONS

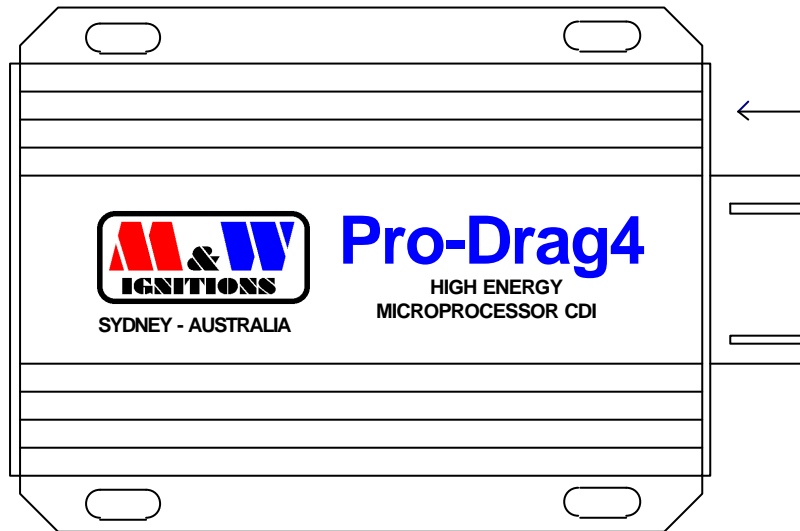
(C)1996 - 2006 M&W IGNITIONS

**NOT FOR STREET USE!**

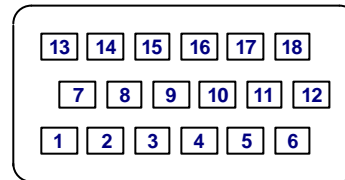
**CAUTION!  
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
WORKING ON UNIT**



← LED indicator



CDI CONNECTOR  
(LOOKING AT END  
OF EXTRUSION)

## TRIGGER EDGE SELECTION

Falling edge ignition - leave pin #9 disconnected.

Rising edge ignition - connect pin #9 to pin #10.

When triggering this unit of an existing ignition module or an ecu with built in igniters such as the Microtech 'MTX' series it may be necessary to select rising edge trigger.

## SPECIFICATIONS

Supply voltage = 13.8V DC negative ground  
 Operating voltage = +6V to +15V  
 Maximum supply current = 18A  
 Shutdown current <700uA  
 Maximum ignition frequency = 10,500 RPM  
 Coil primary voltage = 500V  
 Spark energy = 250 millijoules per plug  
 Trigger = 10mA open collector drive, falling edge  
 Ignition split = 0 to Infinity  
 Tacho = 12V, 25mA square wave  
 Maximum continuous operating temperature = 105°C  
 Dimensions = 132L \* 110W \* 40H  
 Weight = 800gm

**KEEP ALL INPUTS WELL SEPARATED FROM COIL OUTPUTS**

1 +12V (Battery)	7 Ground (Battery)	13 Trigger D
2 +12V (Battery)	8 Ground (Battery)	14 Trigger B
3 Trigger C	9 Trigger edge	15 Trigger A
4 Tacho	10 Trigger edge	16 CDI switch
5 Coil C +	11 Coil B +	17 Coil C & D -
6 Coil A +	12 Coil D +	18 Coil A & B -

Title				Pro-Drag4 Rotary 250mJ			
Size	Number			Revision			
A4	Series 3			1.0			
Date:	26-Jun-2006			Sheet 1 of 1			
File:	E:\M&W\Pro-Drag4_Rotary_S3_1.sch			Drawn By:		M&W	

# M & W IGNITIONS

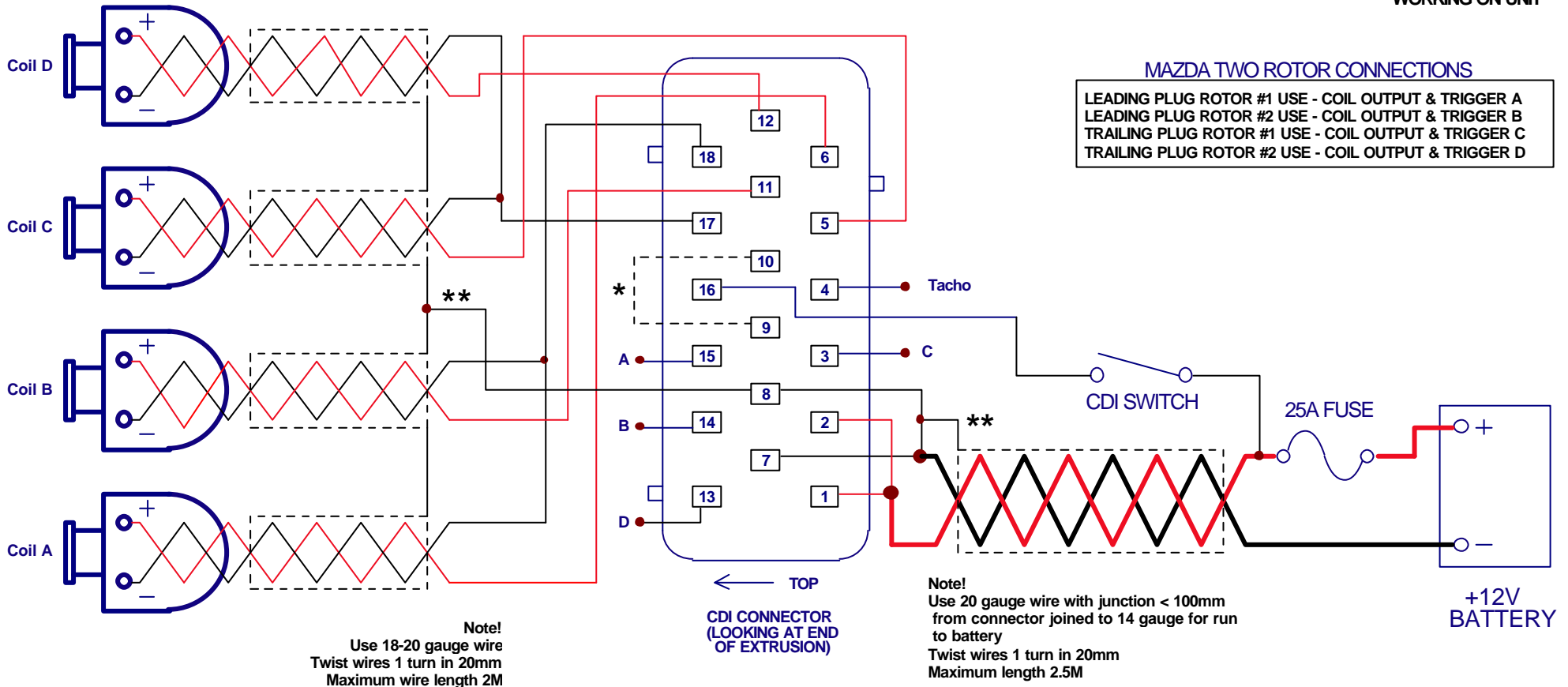
(C)1996 - 2006 M&W IGNITIONS

**NOT FOR STREET USE!**

**CAUTION!  
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
WORKING ON UNIT**



- \* See page 4 instructions for trigger edge selection link
- \*\* Twisted shielded cables required for Australian EMC compliance

Title				DIRECT FIRE ROTARY CDI			
Size	Number			Revision		1.0	
A4	SERIES 3						
Date:	26-Jun-2006			Sheet 1 of 1		1	
File:	E:\M&W\Pro-Drag4_Rotary_S3_2.sch			Drawn By:		M&W	

# M & W IGNITIONS

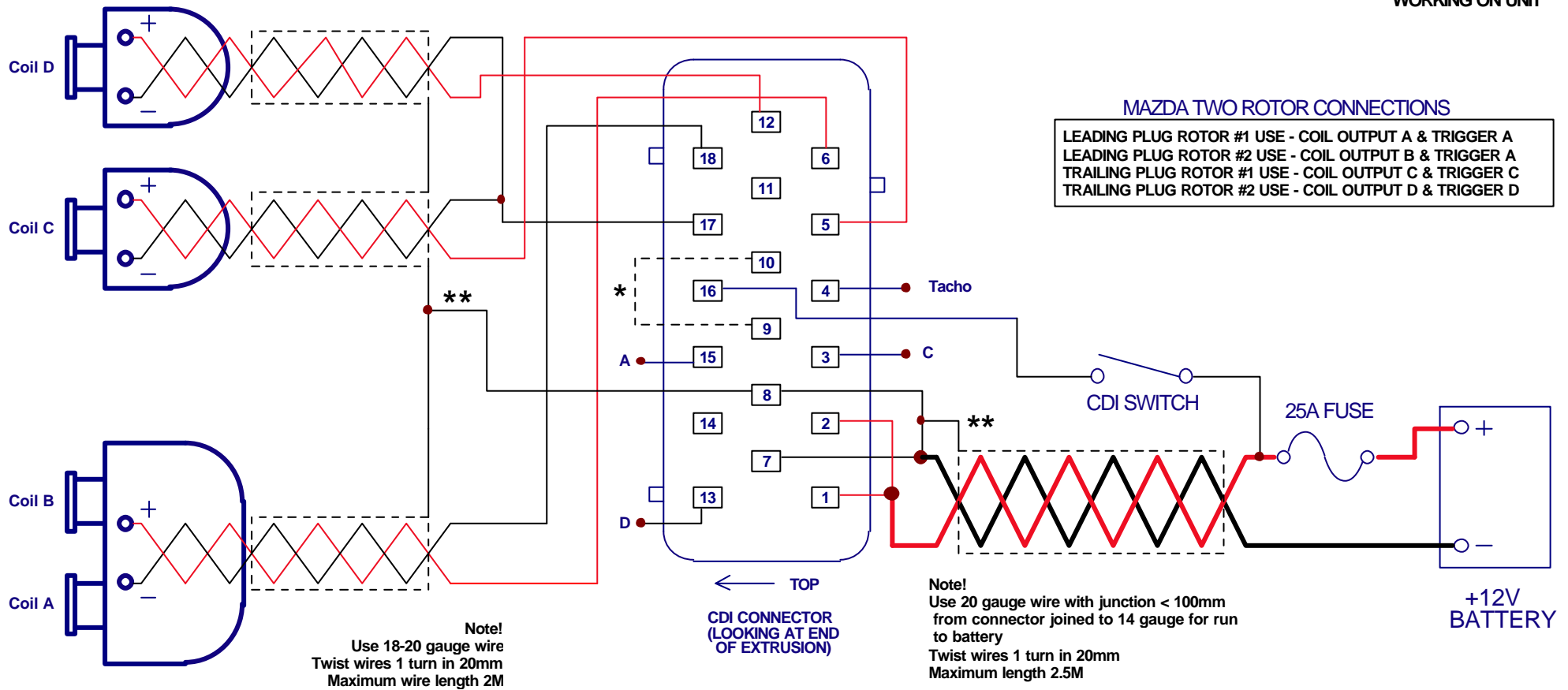
(C)1996 - 2006 M&W IGNITIONS

**NOT FOR STREET USE!**

**CAUTION!  
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
WORKING ON UNIT**



**MAZDA TWO ROTOR CONNECTIONS**  
 LEADING PLUG ROTOR #1 USE - COIL OUTPUT A & TRIGGER A  
 LEADING PLUG ROTOR #2 USE - COIL OUTPUT B & TRIGGER A  
 TRAILING PLUG ROTOR #1 USE - COIL OUTPUT C & TRIGGER C  
 TRAILING PLUG ROTOR #2 USE - COIL OUTPUT D & TRIGGER D

\* See page 4 instructions for trigger edge selection link  
 \*\* Twisted shielded cables required for Australian EMC compliance

Title			
WASTED SPARK ROTARY CDI			
Size	Number	Revision	
A4	SERIES 3	1.0	
Date:	26-Jun-2006	Sheet 1 of	1
File:	E:\M&W\Pro-Drags_Rotary_S3_3.sch	Drawn By:	M&W

# M & W IGNITIONS

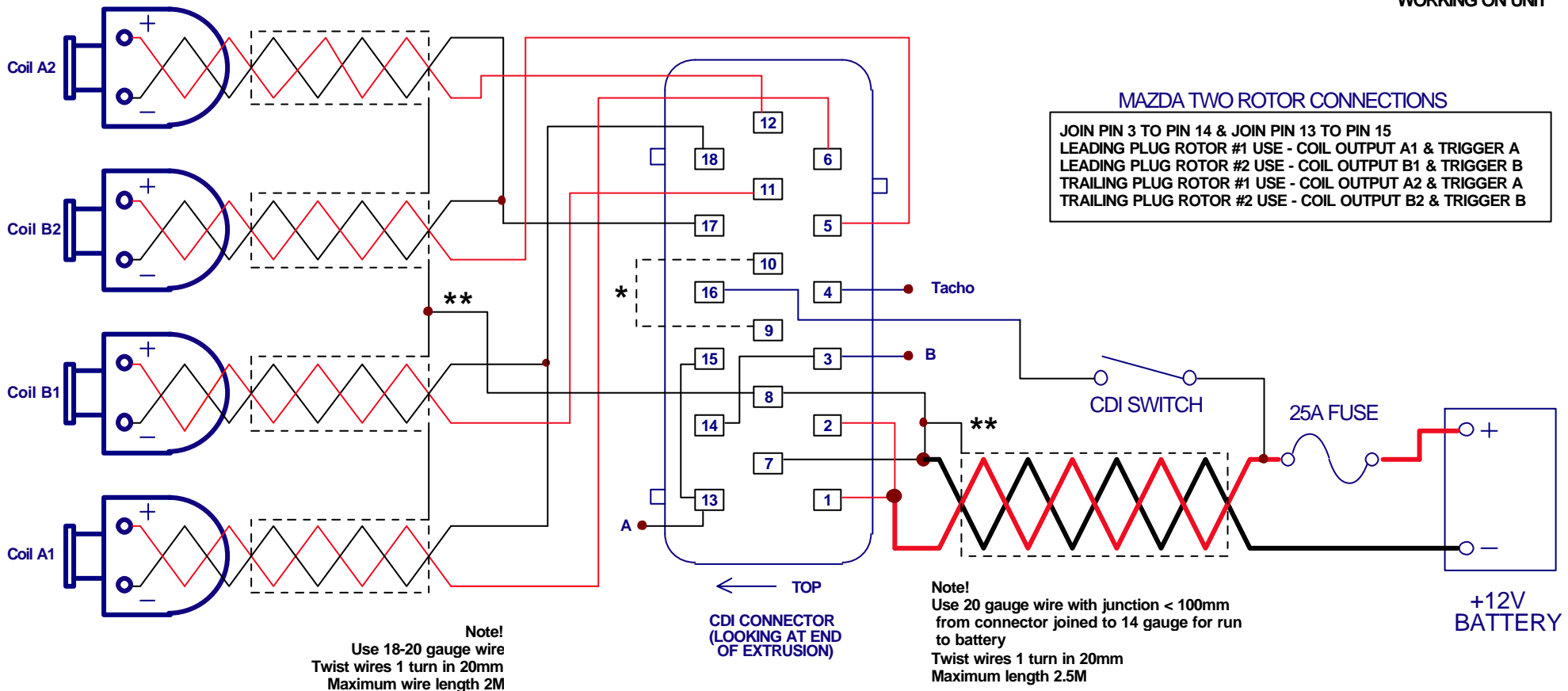
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**NOT FOR STREET USE!**

**CAUTION!  
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
WORKING ON UNIT**



### MAZDA TWO ROTOR CONNECTIONS

JOIN PIN 3 TO PIN 14 & JOIN PIN 13 TO PIN 15  
 LEADING PLUG ROTOR #1 USE - COIL OUTPUT A1 & TRIGGER A  
 LEADING PLUG ROTOR #2 USE - COIL OUTPUT B1 & TRIGGER B  
 TRAILING PLUG ROTOR #1 USE - COIL OUTPUT A2 & TRIGGER A  
 TRAILING PLUG ROTOR #2 USE - COIL OUTPUT B2 & TRIGGER B

Note!  
 Use 20 gauge wire with junction < 100mm  
 from connector joined to 14 gauge for run  
 to battery  
 Twist wires 1 turn in 20mm  
 Maximum length 2.5M

Note!  
 Use 18-20 gauge wire  
 Twist wires 1 turn in 20mm  
 Maximum wire length 2M

- \* See page 4 instructions for trigger edge selection link
- \*\* Twisted shielded cables required for Australian EMC compliance

Title				TWO TRIGGER ROTARY CDI			
Size	Number			Revision			
A4	SERIES 3			1.0			
Date:	26-Jun-2006			Sheet 1 of 1			
File:	E:\M&W\Pro-Draw4_Rotary_S3_4.sch			Drawn By:		M&W	