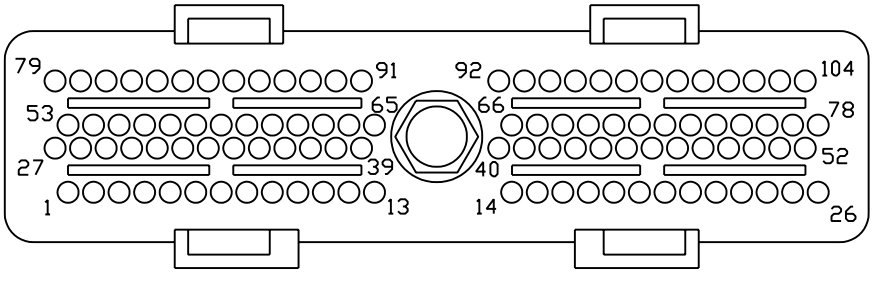
THIS WIRING DIAGRAM SHOWS THE PROPER CONNECTIONS FOR ALL THE FEATURES OF THE 30-1900U UNIVERSAL EMS. NOT EVERYTHING SHOWN MAY BE REQUIRED FOR YOUR INSTALLATION.

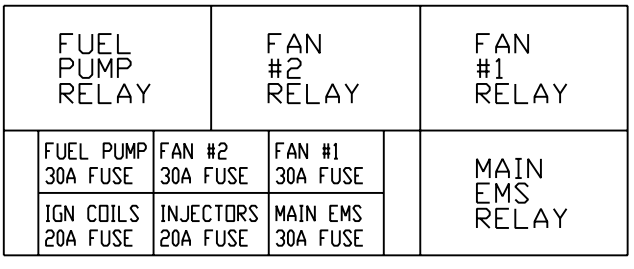
IF YOU ARE NOT USING AN AEM SUPPLIED HARNESS KIT, MAKE SURE TO USE HIGH QUALITY WIRE AND TO PROPERLY CRIMP ALL THE TERMINALS. ALSO, YOU MUST USE RELAYS AND FUSES AS DEPICTED IN THIS DRAWING.

AEM STRONGLY RECOMMENDS THE USE OF THE 30-2900-XX WIRING HARNESS KIT FOR ALL INSTALLATIONS. IT FEATURES HIGH QUALITY AUTOMOTIVE WIRE, AN INTEGRAL FUSE & RELAY BLOCK AND EVERY WIRE IS INDIVIDUALLY COLORED & LABELED. ADDITIONALLY, THE BEST PRACTICES ARE FOLLOWED REGARDING SPLICES & CRIMPS. IT WILL RESULT IN THE HIGHEST QUALITY & LEAST EXPENSIVE ROUTE TO A SUCCESSFUL INSTALLATION.

THIS DIAGRAM SHOWS THE WIRE COLORS AND INDIVIDUAL WIRE MARKING FOR EACH WIRE USED IN THE 30-2900-XX WIRE HARNESS KIT.

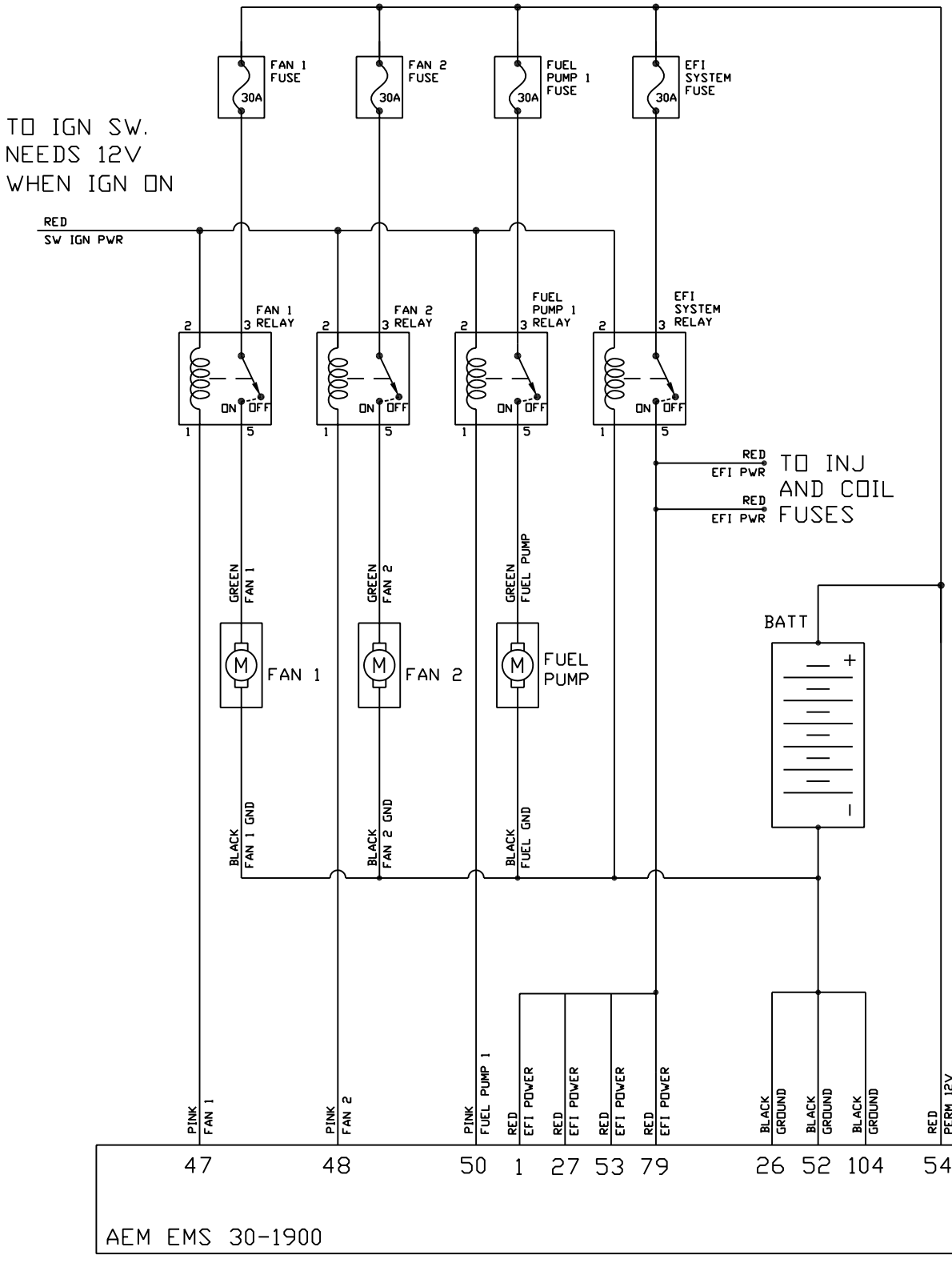


30-1900 CONTACT NUMBERING
AS VIEWED FROM THE WIRE SIDE



ELECTRICAL CENTER COMPONENT LOCATIONS
ON THE 30-2900-XX UNIVERSAL EMS WIRING HARNESS

POWER SUPPLY, RELAYS, FUSES, FANS & FUEL PUMP

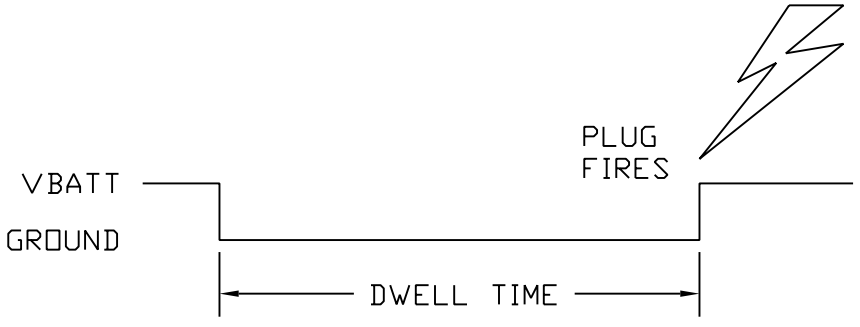


IGNITION COILS

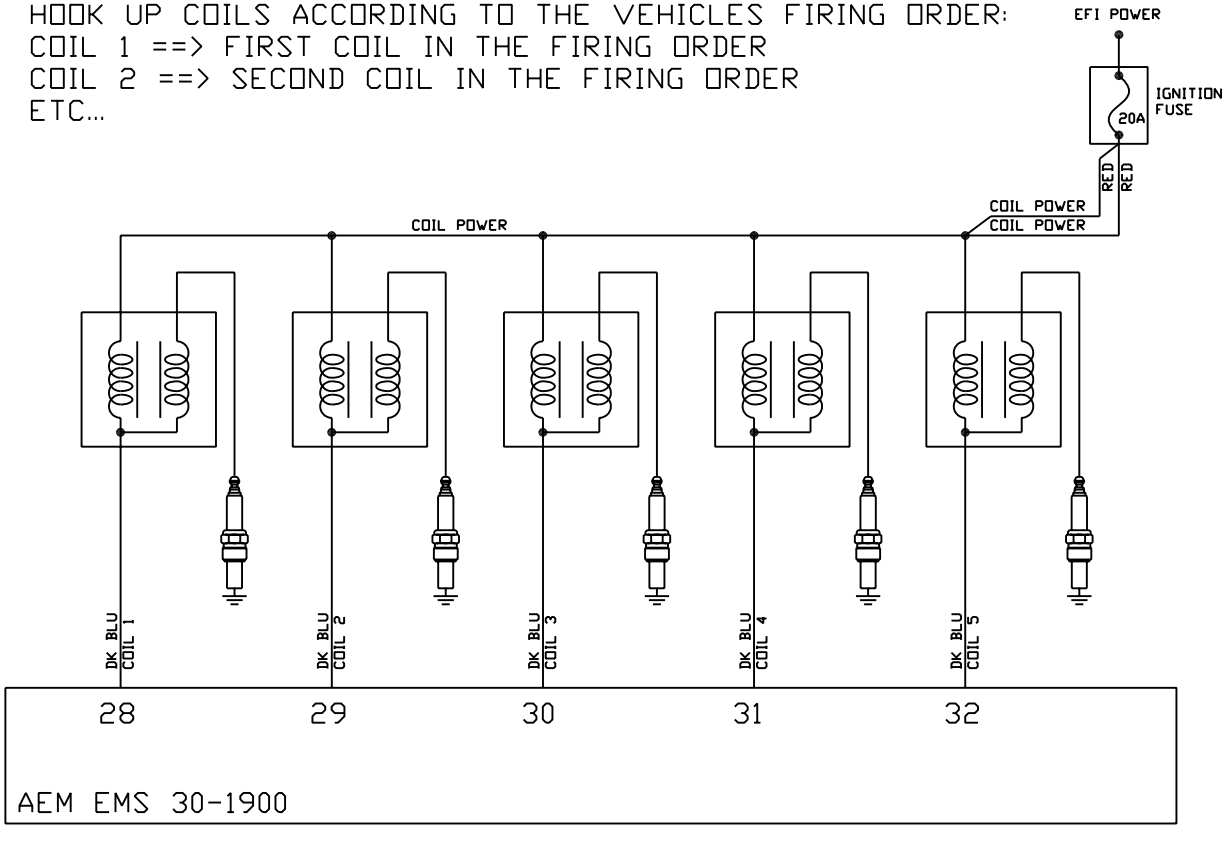
THE 30-1900 UNIVERSAL EMS IS CAPABLE OF DRIVING UP TO 5 INDUCTIVE COILS DIRECTLY (IT DOES NOT REQUIRE AN EXTERNAL IGNITOR). UP TO A 10 CYLINDER ENGINE CAN BE CONTROLLED BY USING DOUBLE ENDED COILS (WASTED SPARK).

THE INDIVIDUAL COIL OUTPUTS OF THE EMS ARE PULLED TO GROUND FOR THE DURATION OF THE DWELL TIME WHICH CHARGES THE COIL. THE OUTPUT IS THEN RELEASED FROM GROUND, CAUSING THE COIL TO FIRE. THIS IS SOMETIMES REFERRED TO AS A RISING EDGE TRIGGER.

SINCE THE EMS ALREADY HAS AN INTEGRAL IGNITOR, IT DOES NOT NEED AN EXTERNAL IGNITOR NOR CAN IT DRIVE COILS THAT HAVE AN IGNITOR BUILT INTO THEM.



HOOK UP COILS ACCORDING TO THE VEHICLES FIRING ORDER:
COIL 1 ==> FIRST COIL IN THE FIRING ORDER
COIL 2 ==> SECOND COIL IN THE FIRING ORDER
ETC...

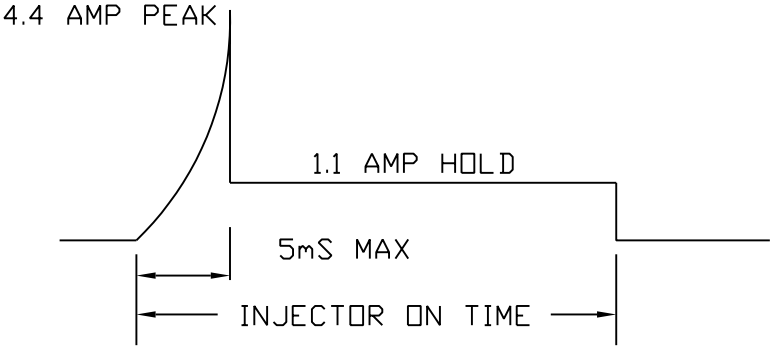


FUEL INJECTORS

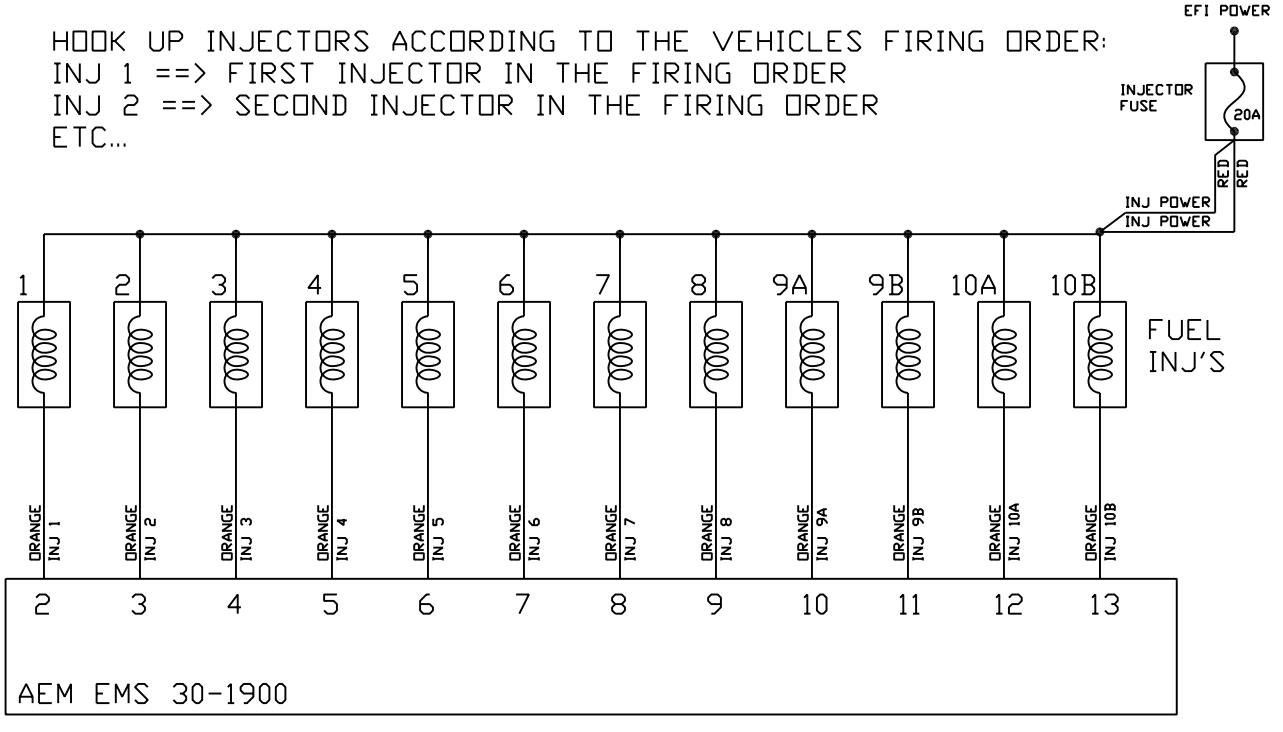
THE 30-1900 UNIVERSAL EMS IS CAPABLE OF DRIVING UP TO 10 FUEL INJECTORS SEQUENTIALLY. AN ADDITIONAL 2 CAN BE USED BUT ARE NOT INDEPENDANTLY CONTROLLED. INJ 9B IS DRIVEN FROM THE SAME SIGNAL AS INJ 9A. INJ 10B IS DRIVEN BY THE SAME SIGNAL AS INJ 10A.

THE INJECTOR DRIVE CIRCUITS OF THE 30-1900 EMS IS A PEAK AND HOLD TYPE DRIVER. WHEN THE INJECTOR DRIVER IS ACTIVATED THE INJECTOR CAN SOURCE UP TO 4.4 AMPS. ONCE THIS LEVEL IS ACHIEVED, THE CURRENT IS LIMITED TO 1.1 AMPS FOR THE DURATION OF THE INJECTOR ON TIME. IF 4.4 AMPS IS NOT REACHED WITHIN 5mS THEN THE CURRENT IS LIMITED TO 1.1 AMPS FOR THE DURATION OF THE ON TIME.

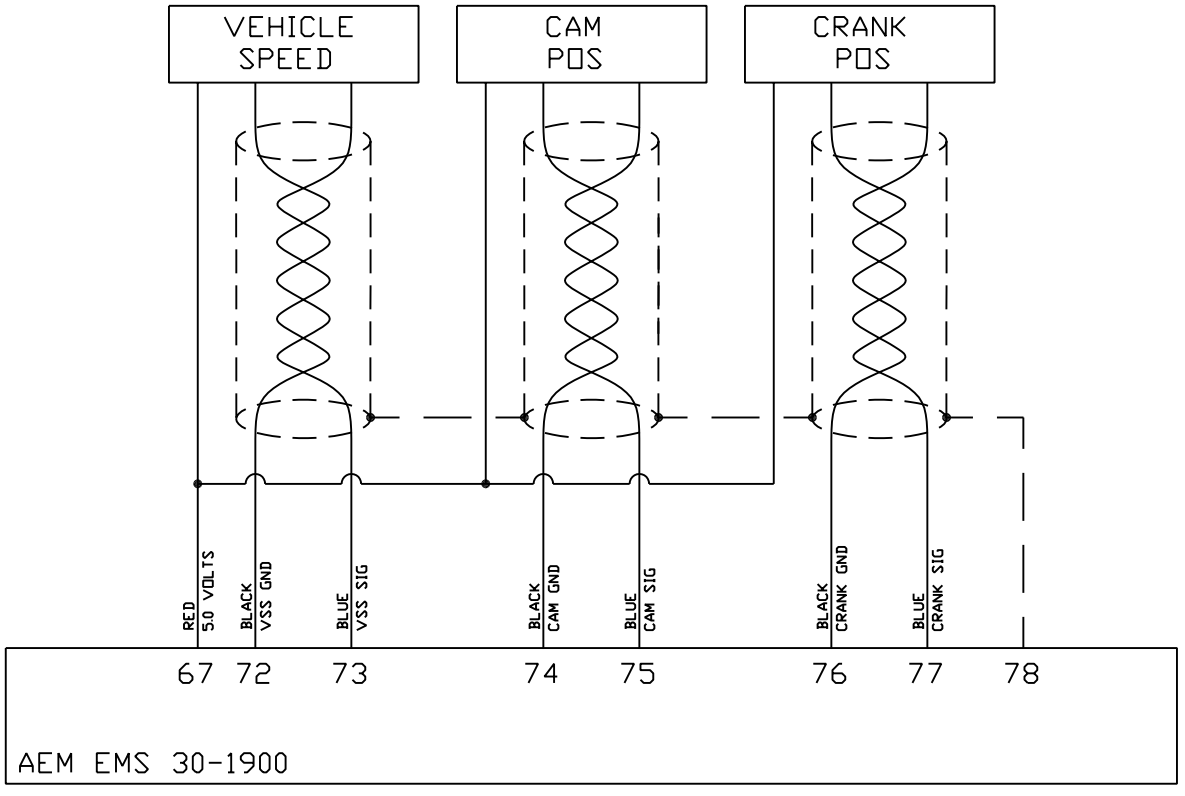
THE EMS CAN DIRECTLY DRIVE INJECTORS FROM 1-15 OHMS INTERNAL RESISTANCE.



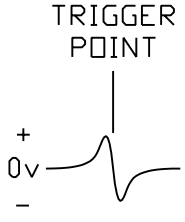
HOOK UP INJECTORS ACCORDING TO THE VEHICLES FIRING ORDER:
INJ 1 ==> FIRST INJECTOR IN THE FIRING ORDER
INJ 2 ==> SECOND INJECTOR IN THE FIRING ORDER
ETC...



SPEED SENSOR INPUTS, HALL EFFECT TYPE. TWISTED, SHIELDED PAIRS

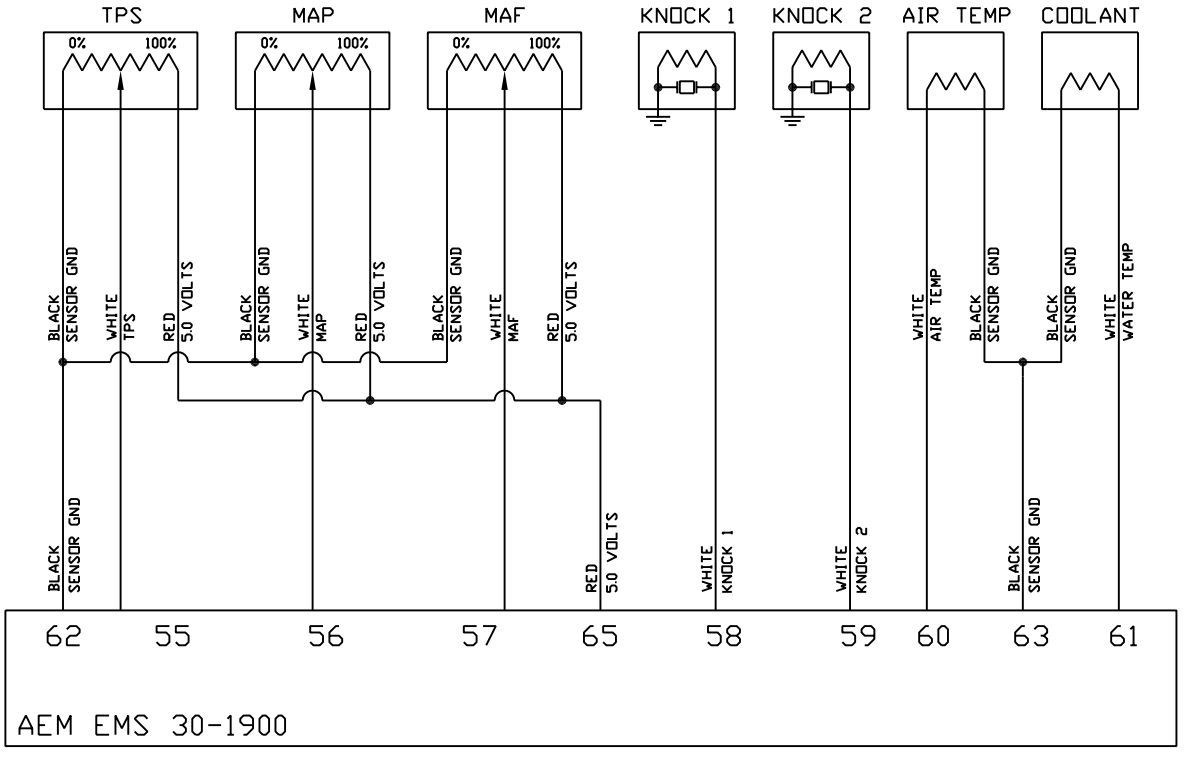


SPEED SENSOR INPUTS, MAGNETIC (VR) TYPE. TWISTED, SHIELDED PAIRS

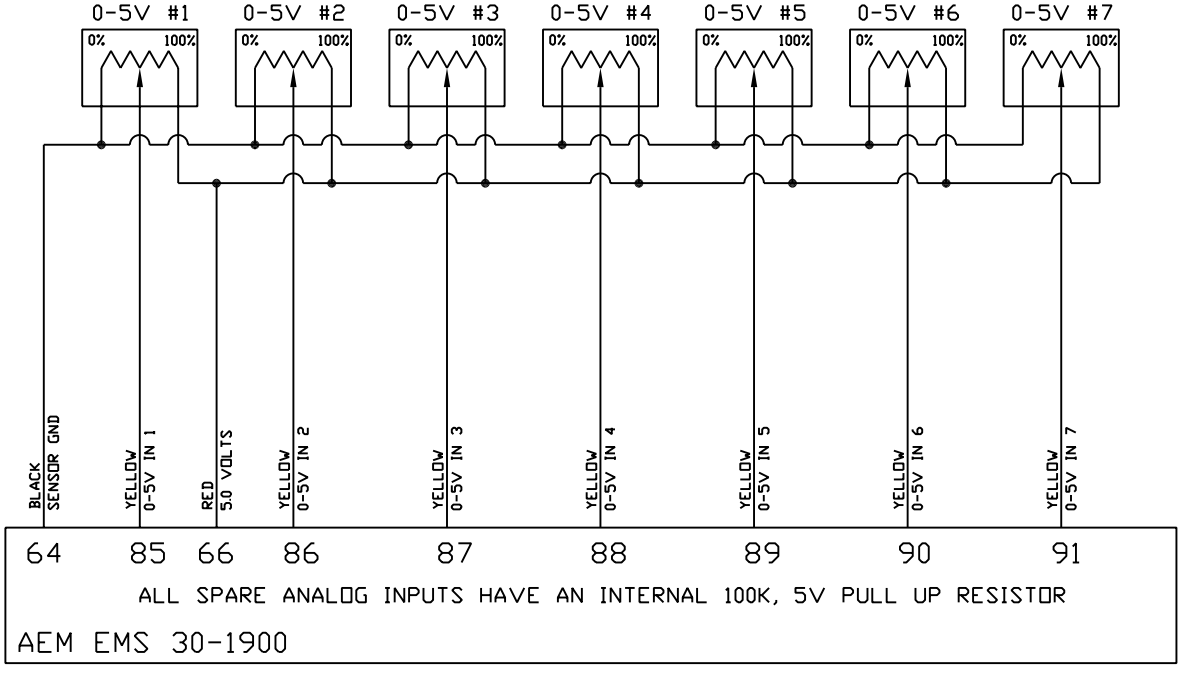


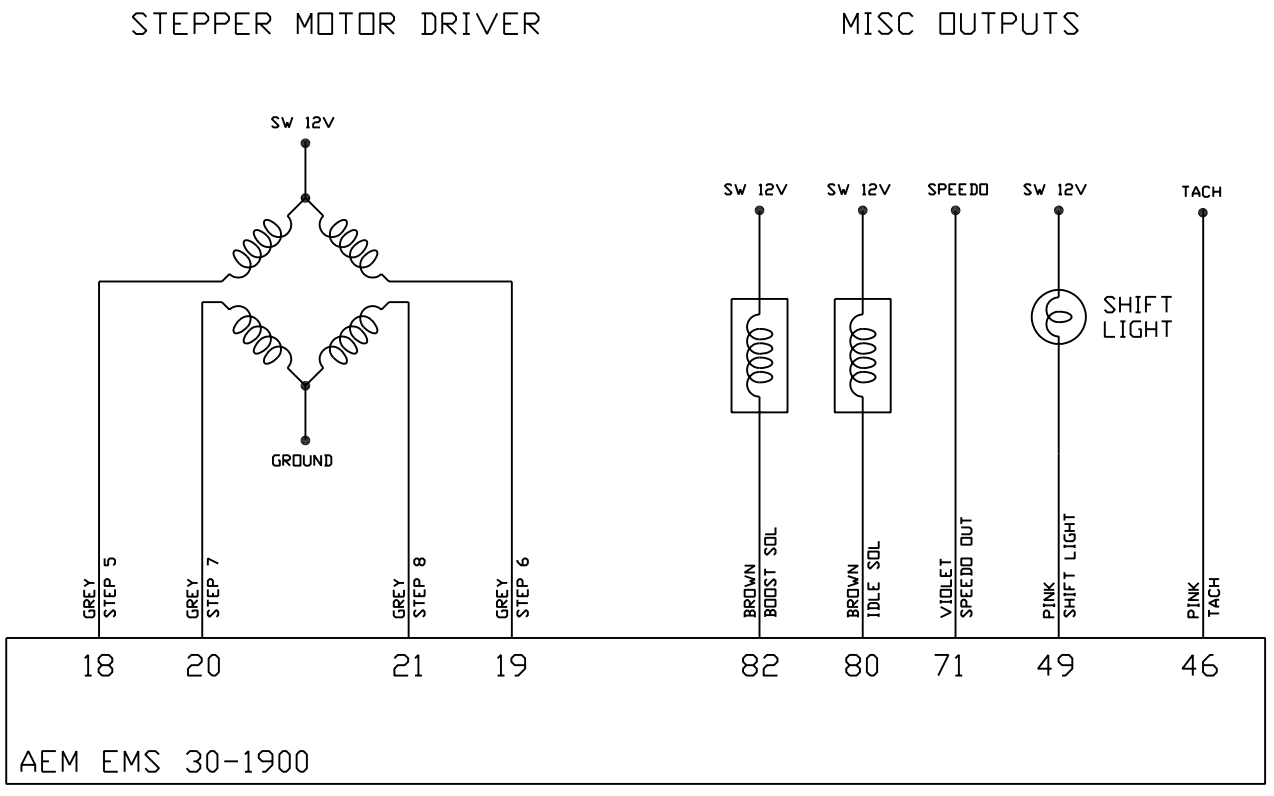
CONNECT SPEED SENSORS SO THAT RISING EDGE OCCURS FIRST. SET EDGE DETECTION TO "FALLING EDGE TRIGGER" THIS MUST BE DONE TO ENSURE ACCURATE ENGINE POSITION DETECTION.

ANALOG SENSOR INPUTS

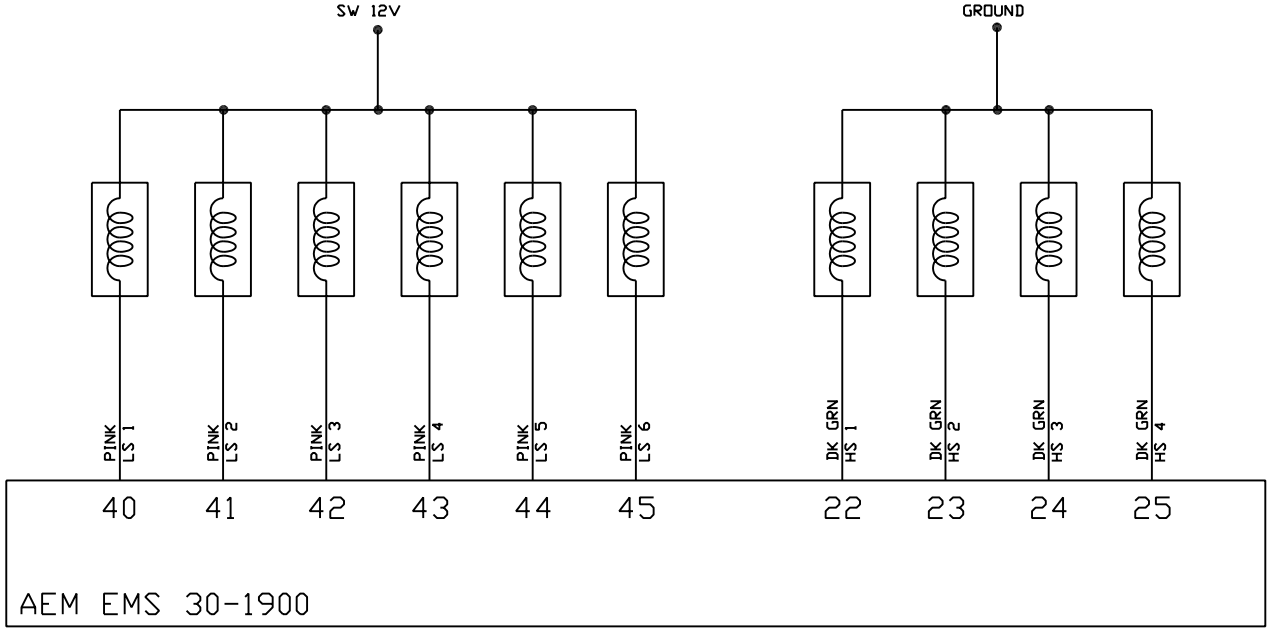


SPARE 0-5 VOLT ANALOG INPUTS

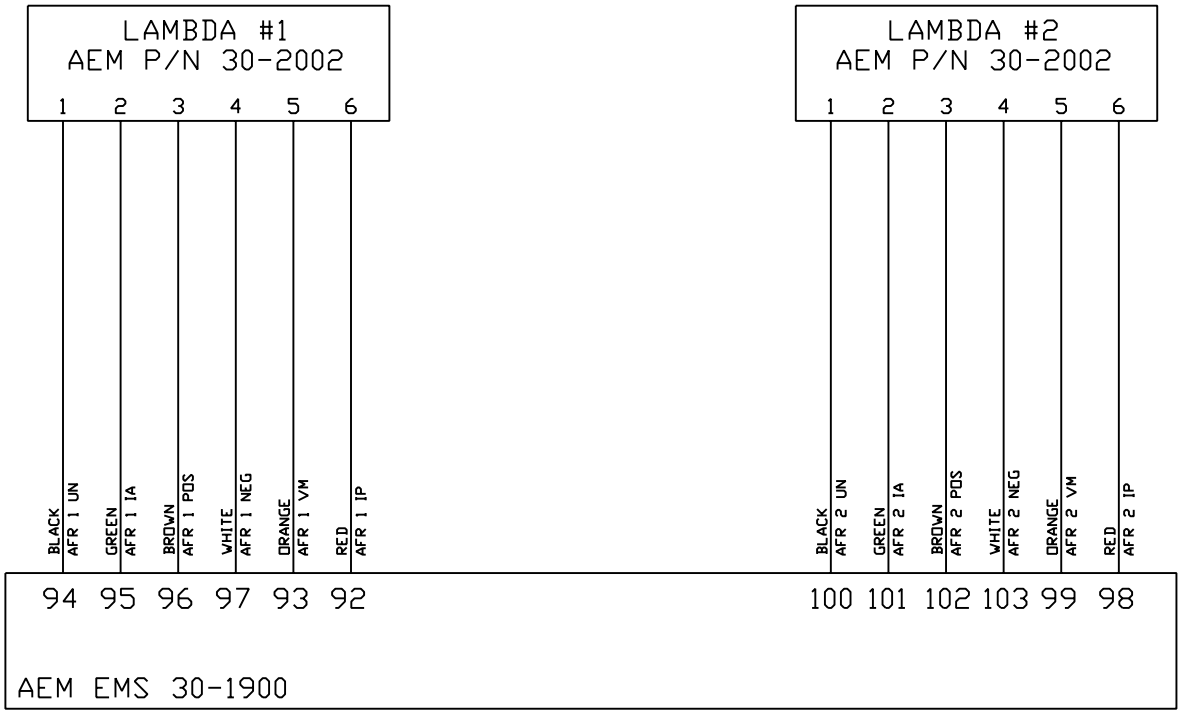




GENERAL PURPOSE OUTPUTS (RESISTANCE MUST BE GREATER THAN 10 OHMS)
WARNING LIGHTS, SOLENOIDS, RELAYS ETC... 1.5 AMP MAX



THE SUPPORTED AIR/FUEL RATIO SENSOR IS THE BOSCH LSU 4.2 UEGO



GENERAL PURPOSE SWITCH INPUTS
GROUND = ON

COMMS CONNECTOR
OPTIONAL FOR REMOTE ACCESS