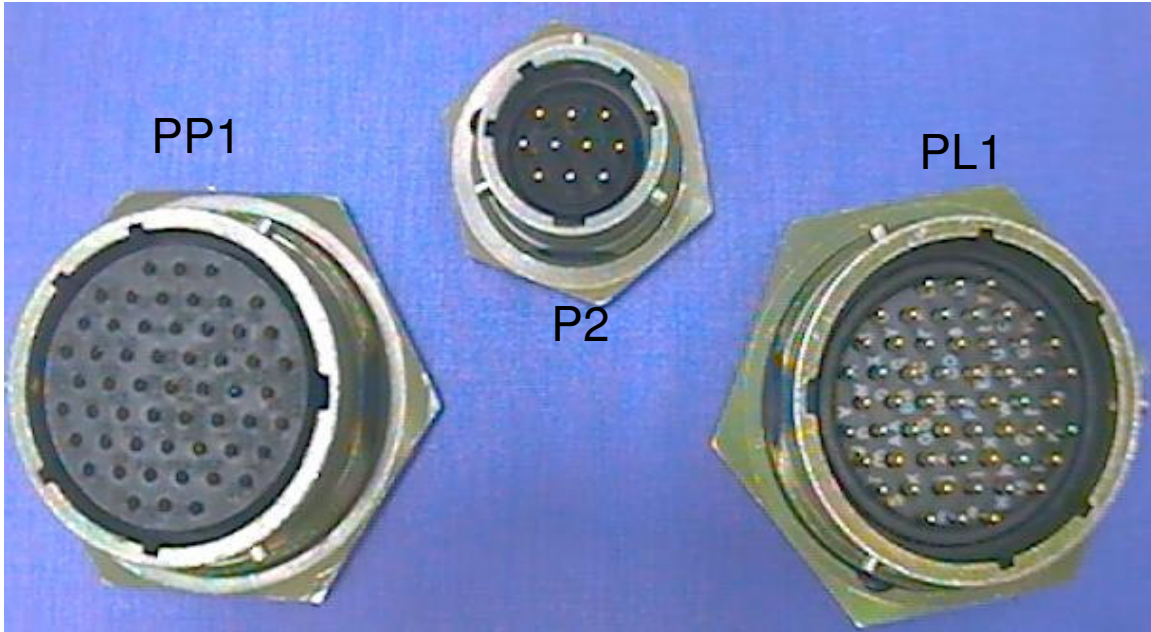


Hardware Manual for Race 600



Format of Pin Name: PP1-X = pin X on connector PP1

<u>Pin(s)</u>	<u>Reference Name(s)</u>	<u>Connection</u>	<u>Specifications</u>
PP1-K PP1-V PP1-m PP1-n PP1-p PP1-q PP1-AA PP1-FF PP1-HH	GND	ECU Grounds	All must be connected to Engine Ground.
PP1-A PP1-W PP1-X	VBB	+12V	+12V ECU Power
PP1-r PP1-BB	VBBEXT	+12V	Input voltage for noise reduction.
PP1-Z	OUT1	Fuel Pump Relay Output	Switched ground for fuel pump relay.

PP1-t	OUT2	Injection and Ignition Relay Output	Switched ground for injection and ignition relay.
PP1-c	OUT3	Fan Relay Output	Switched ground for fan relay.
PP1-a	OUT4	Tachometer Trigger	
PP1-B	COIL1	Ignition Coil Cylinder 1 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-C	COIL2	Ignition Coil Cylinder 2 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-E	COIL3	Ignition Coil Cylinder 3 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-F	COIL4	Ignition Coil Cylinder 4 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-H	COIL5	Ignition Coil Cylinder 5 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-J	COIL6	Ignition Coil Cylinder 6 Trigger	Trigger for inductive ignition coils with maximum charge current of 7.5 Ampere.
PP1-D PP1-G PP1-Y PP1-b PP1-d PP1-e	GNDIGN	Ignition Grounds	Grounds for ignition drivers. All must be connected to Engine Ground.
PP1-L	INJ1	Injection Cylinder 1 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.
PP1-M	INJ2	Injection Cylinder 2 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.
PP1-h	INJ3	Injection Cylinder 3 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.
PP1-N	INJ4	Injection Cylinder 4 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.
PP1-P	INJ5	Injection Cylinder 5 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.

PP1-R	INJ6	Injection Cylinder 6 Trigger	Trigger for injectors with impedance in the range of 8 to 20 Ohms.
PP1-g PP1-i PP1-j PP1-w PP1-x PP1-y	GNDINJ	Injection Grounds	Grounds for injector drivers. All must be connected to Engine Ground.
PP1-u	MPP1	Idle Valve Stepper Motor Output 1	Stepper Motor Driver output. Maximum current of 1 Ampere.
PP1-v	MPP2	Idle Valve Stepper Motor Output 2	Stepper Motor Driver output. Maximum current of 1 Ampere.
PP1-DD	MPP3	Idle Valve Stepper Motor Output 3	Stepper Motor Driver output. Maximum current of 1 Ampere.
PP1-EE	MPP4	Idle Valve Stepper Motor Output 4	Stepper Motor Driver output. Maximum current of 1 Ampere.
PP1-S	VAL3	Solenoid Output 1	Switched Ground for Solenoid 1 (normally on). Maximum output current of 2 Ampere.
PP1-z	VAL4	Solenoid Output 2	Switched Ground for Solenoid 2 (normally on). Maximum output current of 2 Ampere.
PP1-U	VAL6	Wastegate Valve Control	Pulse width modulated output for wastegate valve control. Maximum output current of 2 Ampere.
PL1-A	VREF	5V Reference Voltage	Reference Voltage for Throttle Position Sensor
PL1-B	VREF	5V Reference Voltage	Reference Voltage for Manifold Absolute Pressure Sensor
PL1-C	VREF	5V Reference Voltage	Reference Voltage for Hall Sensors and other Sensors.
PL1-D	SMOT+	Inductive Crankshaft Position Signal	Inductive Sensor with peak-to-peak voltage of 12Volt.
PL1-E	SMOT-	Inductive Crankshaft Position Ground	Inductive Crankshaft Position Sensor with peak-to-peak voltage of 12Volt.
PL1-M	INAN0	Throttle Position Signal	0-5V Input Signal
PL1-V	GND	Ground for Throttle Position and Inductive Sensor Shields	
PL1-W	GND	Ground for Manifold Absolute Pressure and Inductive Sensor Shields	

PL1-X	CAM-	Inductive Camshaft Position Ground	Inductive Sensor with peak-to-peak voltage of 12Volt.
PL1-Y	CAM+	Inductive Camshaft Position Signal	Inductive Sensor with peak-to-peak voltage of 12Volt.
PL1-Z	HSMOT	Hall Crankshaft Position Signal	Hall Effect Sensor with 5V or 12V signal.
PL1-i	INAN1	Signal for Manifold Absolute Pressure	Pressure transducer with 0 to 5V signal.
PL1-k	INAN10	Air Temperature Sensor Signal	Thermistor with impedance in the range of 100 to 100,000 Ohms.
PL1-m	INAN9	Engine Temperature Sensor Signal	Thermistor with impedance in the range of 100 to 100,000 Ohms.
PL1-p	GND	Air Temperature Sensor Ground	
PL1-q	GND	Engine Temperature Sensor Ground	
PL1-r	HCAM	Hall Camshaft Position Signal	Hall Effect Sensor with 5V or 12V signal.
PL1-BB	GND	Hall Crankshaft Position Ground	
PL1-CC	GND	Hall Camshaft Position Ground	
PL1-HH	GND	Engine Ground	
PL1-G	SCAR+	Inductive Wheel Speed Signal	Inductive Sensor with peak-to-peak voltage of 12Volt.
PL1-H	INFREQ2	Gear Shift Trigger Input	
PL1-S	INAN11	Exhaust Temperature Sensor Input	K-type thermocouple amplifier with 0-5V signal.
PL1-b	SCAR-	Inductive Wheel Speed Ground	Inductive Sensor with peak-to-peak voltage of 12Volt.
PL1-e	GND	Exhaust Temperature Sensor Ground	
PL1-h	INAN3	Lambda Sensor 2 Signal	Wideband lambda sensor with 0-5V signal.
PL1-t	HSCAR	Hall Wheel Speed Signal	Hall Effect Sensor with 5V or 12V signal.
PL1-w	ININT2	Dual Map Switch Trigger	Input open – ECU runs on map 0. Input grounded – ECU runs on map 1.
PL1-DD	GND	Lambda Sensor 2 Ground	
PL1-EE	GND	Lambda Sensor 1 Ground	Wideband lambda sensor with 0-5V signal.
PL1-GG	INAN2	Lambda Sensor 1 Signal	Wideband lambda sensor with 0-5V signal.
P2-C	D+	D+ for USB DAct Communications	Pin 1 on female DB9 for DAct USB.

P2-D	D-	D for USB DAct Communications	Pin 9 on female DB9 for DAct USB.
P2-B	VBUS	VBUS for USB DAct Communications	Pin 6 on female DB9 for DAct USB.

P2-F	MRX1	RX for WinCons/GenTab/DAct Serial Communications	Pin 2 on male DB9 for WinCons/GenTab/DAct serial communications.
P2-G	MTX1	TX for WinCons/GenTab/DAct Serial Communications	Pin 3 on male DB9 for WinCons/GenTab/DAct serial communications.
P2-K	FWP	FWP for WinCons/GenTab/DAct Serial Communications	Pin 7 on male DB9 for WinCons/GenTab/DAct serial communications.
P2-H	SRX1	RX for WAC	Pin 2 on male DB9 for WAC.
P2-J	STX1	TX for WAC	Pin 2 on male DB9 for WAC.
P2-E	GND	GND for Communications	Pin 5 on female DB9 for DAct USB, pin 5 on male DB9 for WinCons/GenTab/DAct serial communications, pin 5 on male DB9 for WAC.