

Blacktop *Beams* 3SGE to AE86 Wiring

Version 1.1
Provided by Doctored Garage

This is a general guide for wiring a BEAMS into an AE86 and is not guaranteed to be 100% accurate for your vehicle and engine, therefore, Doctored Garage cannot be held accountable for any damage that may occur when you wire your vehicle. Always verify with the wiring diagrams that you have to ensure accuracy.

Type of Circuit	Connector/Pin number	Circuit Protection	Notes
Constant 12V	N1	20A fused	Obtains power from the same fuse/wire as the EFI/Ignition Relay
Constant 12V	OBD2 pin 16	7.5A fused	
Constant 12V	P6	15A fused	for Electronic Throttle Control System (electronic throttle body)
Ignition 12V	N8	from EFI/Ignition Relay	
Ignition 12V	N16	from EFI/Ignition Relay	
Ignition 12V	O2 Sensor B+	from EFI/Ignition Relay	
Ignition 12V	Connector F pin C or z1/x1/y1 individually	from EFI/Ignition Relay	MAF and VVTi solenoids
Ignition 12V	N10	from IGN switch, 7.5A fused	This is the signal that the ECU uses to provide power to the coil side of the EFI/Ignition Relay and ground the coil side of the circuit opening/fuel pump relay
Ignition 12V	BA1 pin 3	from IGN switch, non-fused	for the ignition coils. Likely can use C2 from the AE86 connector to engine harness
Ignition 12V	BA1 pin 7	from ignition switch, non-fused	for the injectors. Likely can use C2 from the AE86 connector to engine harness
Ground	OBD2 pin 4		
Ground	connector m, all pins		might already be grounded to engine block
Ground	P21		
Ground	P31		
Ground	N15		
Ground	N6		

Other Wiring			
Purpose	Type of Circuit	Connector/Pin number	Notes
Check Engine Light	Ground	N7 or DA3 pin 9	
Tach signal		Q26	
Starter Signal	12V switched	AE86 connector C14	
EFI/Ignition Relay	Switch Power		The AE86 uses a 15A circuit protection for the EFI Relay, whereas the Altezza uses a 20A. You may not be able to use the AE86 EFI Relay.
	Coil Power	BEAMS N22 to AE86 2C pin 1	it isn't entirely necessary to have the BEAMS ECU control the EFI relay, but you can wire it this way if you want it to function like a stock Altezza
Circuit Opening/Fuel Pump Relay	Ground	E4	You'll need to provide ground to pin 4 of the AE86 circuit opening relay for it to work, as this is normally grounded through the 4AGE air flow meter
	Power		the 4AGE ECU normally provides power to the circuit opening relay. You will need to provide power either from the EFI main relay or through a separate power source (fused wire, switch, etc)

