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1JZ-GTE JZZ30 Soarer

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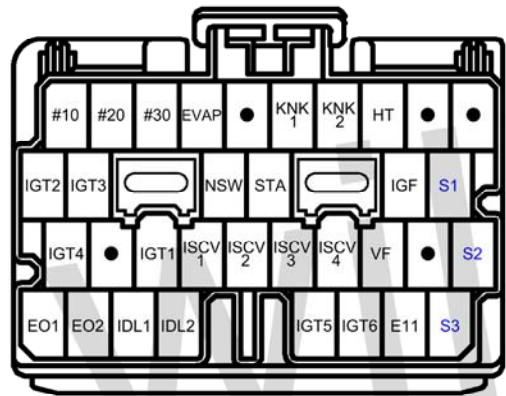
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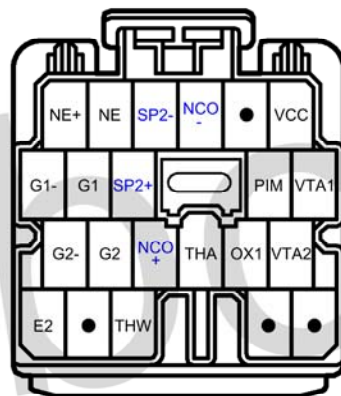
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- ## Introduction
- This page provides information in regards to 1JZ-GE engine wiring as found in the Japanese JZZ30 Toyota Soarer.
- As there were a large number of options available with the JZZ30 such as TEMS, TRC, ABS etc it is likely that some of the wiring detailed below may not apply to your wiring. Some of the plugs may also not be present because of this such as the engine to body loom plugs for the traction control.
- ## JZZ30 Toyota Soarer 1JZ-GTE Engine ECU Part Numbers
- | Toyota Part Number | Dates | Transmission |
|--------------------|--------------------|------------------------|
| 89661-24290 | 05/1991 to 08/1992 | Manual Transmission |
| 89661-24291 | 08/1992 to 01/1994 | Manual Transmission |
| 89661-24270 | 01/1994 to 08/1996 | Manual Transmission |
| 89661-24280 | 05/1991 to 08/1992 | Automatic Transmission |
| 89661-24281 | 08/1992 to 01/1994 | Automatic Transmission |
| 89661-24260 | 01/1994 to 08/1996 | Automatic Transmission |
- ## JZZ30 Toyota Soarer 1JZ-GTE Engine ECU Pinout
- 10/11/2013

JZZ30 1JZ-GTE

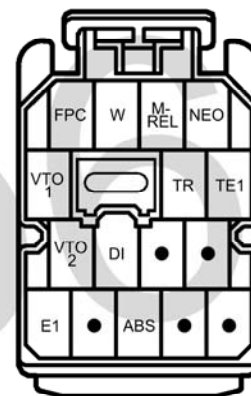
Note: Blue Text Indicates Terminals Related to Automatic Transmission Functions Only



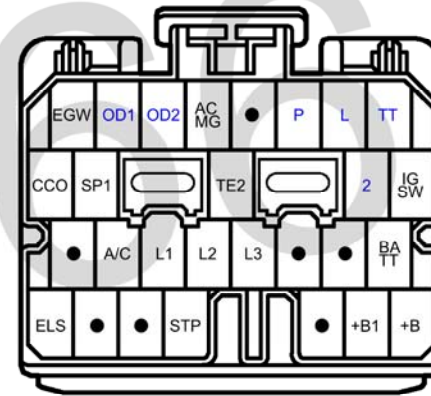
C88
90980-11221



C84
90980-11220



C85
90980-11219



C86
90980-11218

Note: Blue text indicates pins related to automatic transmission functions only.

Plug	Pin Number	Symbol	Definition	Input / Output	What	Why	How	Link
C88	1	/	/	/	/	/	/	
C88	2	/	/	/	/	/	/	
C88	3	HT	Oxygen Sensor Heater	Output	This pin is used to control the heater for the exhaust gas oxygen sensor.	The oxygen sensor required a certain temperature to start operating, to allow this temperature to be reached quickly and allow the oxygen sensor to start operation the sensor is heated.	This pin connects to Ground inside the engine ECU as required to turn the oxygen sensor heater on. One side of the oxygen sensor heater should be wired to this pin and one side of oxygen sensor heater should be wired to battery voltage (Main EFI Relay switched).	
C88	4	KNK2	No.2 Knock Sensor (Rear)	Input	This pin is used to measure engine knock.	Engine knock can occur if too much ignition timing and poor fuel are present, as engine knock can damage an engine the	This pin connects to the signal output of the knock sensor which is mounted under the intake manifold, to the rear of the engine and screwed into the side of the engine block. The knock sensor is Grounded via the engine block. 8.1kHz is the normal mode vibration.	

						engine ECU used a knock sensor to detect and compensate for knock if is detected.		
C88	5	KNK1	No.1 Knock Sensor (Front)	Input	This pin is used to measure engine knock.	Engine knock can occur if too much ignition timing and poor fuel are present, as engine knock can damage an engine the engine ECU used a knock sensor to detect and compensate for knock if is detected.	This pin connects to the signal output of the knock sensor which is mounted under the intake manifold, to the front of the engine and screwed into the side of the engine block. The knock sensor is Grounded via the engine block. 8.1kHz is the normal mode vibration.	
C88	6	/	/	/	/	/	/	
C88	7	EVAP	Evaporative Emission Control Vacuum Switching Valve	Output	This pin is used to control the VSV which is used to allow fuel vapour from the charcoal canister to enter the intake manifold and enter the engine.	Fuel vapours from the fuel tank are captured in the charcoal canister to protect the environment, the EVAP VSV is used to allow these captured emissions to be burnt during normal engine operation as determined by the engine ECU.	This pin is connected to Ground inside the ECU as required to turn the Evaporative Emissions Control Valve VSV ON allowing fuel emissions to pass to the intake manifold into the engine. One side of the VSV should be wired to this pin and one side of VSV should be wired to battery voltage (Main EFI Relay switched).	
C88	8	#30	No. 3 Injector Output	Output	This pin is used to control the No.2 & No.6 fuel injectors.	The fuel injectors are electronically controlled by the engine ECU.	This pin is connected to Ground inside the ECU as required to turn the fuel injector ON. The fuel injector should be wired with one side of the solenoid connected to battery voltage (Ignition switched) and one side of the fuel injector connected to this ECU pin.	
C88	9	#20	No. 2 Injector Output	Output	This pin is used to control the No.3 & No.5 fuel injectors.	The fuel injectors are electronically controlled by the engine ECU.	This pin is connected to Ground inside the ECU as required to turn the fuel injector ON. The fuel injector should be wired with one side of the solenoid connected to battery voltage (Ignition switched) and one side of the fuel injector connected to this ECU pin.	
C88	10	#10	No. 1 Injector Output	Output	This pin is used to control the No.1 & No.4 fuel injectors.	The fuel injectors are electronically controlled by the engine ECU.	This pin is connected to Ground inside the ECU as required to turn the fuel injector ON. The fuel injector should be wired with one side of the solenoid connected to battery voltage (Ignition switched) and one side of the fuel injector connected to this ECU pin.	
C88	11	S1	Automatic Transmission No.1 Shift Solenoid	Output	This pin is used to control the automatic	The automatic transmission gear	This pin outputs battery voltage to turn the No.1 shift solenoid ON as required. The No.1 shift solenoid is ON	

					transmission No.1 shift solenoid.	selection is controlled by electronic solenoids.	in gears 1 & 2. The other side of the No.1 shift solenoid is Grounded inside the automatic transmission.	
C88	12	IGF	Igniter Verification Signal	Input	This pin is used to detect if ignition has taken place successfully.	If no ignition is occurring and fuel injection continues the spark plugs can be fouled and backfires can occur in the exhaust, the igniter sends a signal to inform the engine so that it can stop fuel injection if successful ignition is not detected.	This pin is connected to Ground by the Igniter for a short period of time after a successful ignition event has been detected.	
C88	13	STA	Starter Signal	Input	This pin is used to determine if the engine is being cranked.	The engine ECU can take action to allow the engine to start easier if it is aware that the engine is trying to be started.	This pin is connected to battery voltage when the ignition switch is in CRANK position.	
C88	14	NSW	Neutral & Park Switch	Input	This pin is used to determine if the automatic transmission shifter is in the Park or Neutral positions.	The engine ECU needs to energise/de-energise the automatic transmission solenoids to select the correct gear.	This pin is connected to Ground by the automatic shifter position switch and the Starter Relay coil when the automatic transmission shifter is in the 'N' or 'P' positions. In manual vehicles this pin is connected to the engine ECU STA pin.	
C88	15	IGT3	Igniter Trigger Signal Cyl 3	Output	This pin is used to control the ignition for cylinder 3.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	16	IGT2	Igniter Trigger Signal Cyl 2	Output	This pin is used to control the ignition for cylinder 2.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	17	S2	Automatic Transmission No.2 Shift Solenoid	Output	This pin is used to control the automatic transmission No.2 shift solenoid.	The automatic transmission gear selection is controlled by electronic solenoids.	This pin outputs battery voltage to turn the No.2 shift solenoid ON as required. The No.2 shift solenoid is ON in gears 2 & 3. The other side of the No.2 shift solenoid is Grounded inside the automatic transmission.	
C88	18	/	/	/	/	/	/	
C88	19	VF	Voltage Feedback	Output	This pin is used to output diagnostic voltages that are related to the air fuel ratio and O2 sensor as well as OBD serial data.	Used to help in diagnosing issues.	This pin outputs a diagnostic voltage related to fuel trim. When the engine ECU pin TE1 is connected to Ground and the TPS IDL contact is OFF (engine ECU pin IDL1 is not connected to Ground) this pin outputs 0V when the engine ECU detects a lean O2 condition and 5V when the engine ECU detects a rich O2 condition. When the engine ECU pin TE1 is connected to Ground and the TPS	

							IDL contact is ON (engine ECU pin IDL1 is connected to Ground) this pin outputs 0V if no trouble codes are stored and 5V if trouble codes have been stored. When the engine ECU pin TE2 is connected to Ground serial OBD data is outputted by this pin.	
C88	20	ISCV4	Idle Speed Control Valve	Output	This pin is used to open / close the Idle Speed Control Valve (ISCV) to allow more or less air to enter the engine as required to keep the desired engine idle speed	There are a large number of items that effect idle speed (e.g. engine temperature, electrical load, etc) an Idle Speed Control Valve allows the engine ECU to compensate and attempt to maintain the desired engine idle RPM.	This pin is connected to Ground inside the ECU as required in a sequenced fashion with the other ISCVx pins to open / close the ISCV as required by the engine ECU. The ISCV has two power pins which should be connected to battery voltage (Main EFI Relay switched).	
C88	21	ISCV3	Idle Speed Control Valve	Output	This pin is used to open / close the Idle Speed Control Valve (ISCV) to allow more or less air to enter the engine as required to keep the desired engine idle speed	There are a large number of items that effect idle speed (e.g. engine temperature, electrical load, etc) an Idle Speed Control Valve allows the engine ECU to compensate and attempt to maintain the desired engine idle RPM.	This pin is connected to Ground inside the ECU as required in a sequenced fashion with the other ISCVx pins to open / close the ISCV as required by the engine ECU. The ISCV has two power pins which should be connected to battery voltage (Main EFI Relay switched).	
C88	22	ISCV2	Idle Speed Control Valve	Output	This pin is used to open / close the Idle Speed Control Valve (ISCV) to allow more or less air to enter the engine as required to keep the desired engine idle speed	There are a large number of items that effect idle speed (e.g. engine temperature, electrical load, etc) an Idle Speed Control Valve allows the engine ECU to compensate and attempt to maintain the desired engine idle RPM.	This pin is connected to Ground inside the ECU as required in a sequenced fashion with the other ISCVx pins to open / close the ISCV as required by the engine ECU. The ISCV has two power pins which should be connected to battery voltage (Main EFI Relay switched).	
C88	23	ISCV1	Idle Speed Control Valve	Output	This pin is used to open / close the Idle Speed Control Valve (ISCV) to allow more or less air to enter the engine as required to keep the desired engine idle speed	There are a large number of items that effect idle speed (e.g. engine temperature, electrical load, etc) an Idle Speed Control Valve allows the engine ECU to compensate and attempt to maintain the desired engine idle RPM.	This pin is connected to Ground inside the ECU as required in a sequenced fashion with the other ISCVx pins to open / close the ISCV as required by the engine ECU. The ISCV has two power pins which should be connected to battery voltage (Main EFI Relay switched).	
C88	24	IGT1		Output				

			Igniter Trigger Signal Cyl 1		This pin is used to control the ignition for cylinder 2.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	25	/	/	/	/	/	/	
C88	26	IGT4	Igniter Trigger Signal Cyl 4	Output	This pin is used to control the ignition for cylinder 2.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	27	S3	Automatic Transmission No.3 Lock Up Solenoid	Output	This pin is used to control the automatic transmission No.3 lock up control solenoid which is used to enable torque converter lock up.	The automatic transmission lock up torque converter is controlled by an electronic solenoid.	This pin outputs battery voltage to turn the No.3 lock up solenoid ON as required. When the No.3 lock up solenoid is on the torque converter lock up is engaged. The other side of the No.2 shift solenoid is Grounded inside the automatic transmission.	
C88	28	E11	ECU Ground	Input	Ground	Used to supply a Ground path to allow current to flow.	This pin connects to Ground or the battery negative.	
C88	29	IGT6	Igniter Trigger Signal Cyl 6 (Rear)	Output	This pin is used to control the ignition for cylinder 6.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	30	IGT5	Igniter Trigger Signal Cyl 5	Output	This pin is used to control the ignition for cylinder 5.	The ignition timing is electronically controlled by the engine ECU.	This pin is connected to +5V inside the engine ECU as required to trigger engine ignition. Ignition is triggered after approx 4mSec of dwell on the high (+5V) to low (0V) transition.	
C88	31	IDL2	Traction Control Throttle Idle Position Sensor	Input	This pin is used to detect when the traction control throttle is in the idle (fully open) position.	Knowing when the throttle is fully open allows the engine ECU to have a known position allowing it to compensate for slight variation in the analogue signal.	This pin is connected to Ground by a switch inside the throttle position sensor when the traction control throttle is fully open.	
C88	32	IDL1	Throttle Position Idle Sensor	Input	This pin is used to detect when the throttle is in the idle (fully closed) position.	Knowing when the throttle is fully closed allows the engine ECU to have a known position allowing it to compensate for slight variation in the analogue signal.	This pin is connected to Ground by a switch inside the throttle position sensor when the throttle is fully closed.	

C88	33	E02	ECU Ground	Input	Ground	Used to supply a Ground path to allow current to flow.	This pin connects to Ground or the battery negative.	
C88	34	E01	ECU Ground	Input	Ground	Used to supply a Ground path to allow current to flow.	This pin connects to Ground or the battery negative.	
<u>Plug</u>	<u>Pin Number</u>	<u>Symbol</u>	<u>Definition</u>	<u>Input / Output</u>	<u>What</u>	<u>Why</u>	<u>How</u>	<u>Link</u>
C84	1	VCC	+5V Regulated Power	Output	This pin is used to supply +5V power to the throttle position and MAP sensors.	The throttle position and MAP sensors require regulated and constant +5V to operate.	This pin outputs regulated +5V to the throttle position sensors and the MAP sensor.	
C84	2	/	/	/	/	/	/	
C84	3	NCO-	Over Drive Direct Clutch Speed Sensor	Input	This pin is used to detect the speed of the automatic transmission OD input shaft.	Detection of the automatic transmission OD input shaft speed can be used to improve shift timing and ensure smooth gear shifts.	This pin connects to the OD speed sensor located on the left, front side of the automatic transmission and outputs a number of pulses (reluctor pulses) per revolution of the OD direct clutch drum.	
C84	4	SP2-	No. 2 Speed Sensor	Input	This pin is used to determine vehicle speed.	Vehicle speed is used in idle control, automatic transmission shift control, speed limiting etc. Two speed sensors are used to provide a backup.	This pin connects to the No.2 speed sensor located on the left, rear side of the automatic transmission and outputs 4 pulses (reluctor pulses) per revolution of the automatic transmission output shaft.	
C84	5	NE	Crank position sensor	Input	This pin is used to detect the speed and location of the engine crankshaft.	The engine ECU needs to know the position of the engine so that it can accurately provide fuel and ignition.	This pin connects to the engine crankshaft position sensor located to the lower front of the exhaust side of the engine near the alternator which outputs 12 pulses (reluctor pulses) per engine crankshaft revolution.	
C84	6	NE+	Crank position sensor	Input	This pin is used to detect the speed and location of the engine crankshaft.	The engine ECU needs to know the position of the engine so that it can accurately provide fuel and ignition.	This pin connects to the engine crankshaft position sensor located to the lower front of the exhaust side of the engine near the alternator which outputs 12 pulses (reluctor pulses) per engine crankshaft revolution.	
C84	7	VTA1	Throttle Position Sensor	Input	This pin is used to detect the position of the engine throttle.	The measured position of the engine throttle is a useful parameter for engine operation, particularly in transient	This pin measures the variable voltage from the throttle position sensor that represents how open / closed the throttle is.	

						conditions such as acceleration.		
C84	8	PIM	Pressure Intake Manifold (MAP Sensor)	Input	This pin is used to determine the manifold air pressure (MAP).	Manifold air pressure is a primary component in the speed density fuel injection control algorithm that is used, it is also used to control the sequential turbo system.	This pin connects to the signal output of the MAP sensor which contains a small sensor to measure air pressure. A small vacuum hose connects the MAP sensor to the intake after the throttle body.	
C84	9	SP2+	No. 2 Speed Sensor	Input	This pin is used to determine vehicle speed.	Vehicle speed is used in idle control, automatic transmission shift control, speed limiting etc. Two speed sensors are used to provide a backup.	This pin connects to the No.2 speed sensor located on the left, rear side of the automatic transmission and outputs 4 pulses (reluctor pulses) per revolution of the automatic transmission output shaft.	
C84	10	G1	Cam Position Sensor No.1 (Front)	Input	This pin is used to detect the location of the intake camshaft.	Vehicle speed is used in idle control, automatic transmission shift control, speed limiting etc. Two speed sensors are used to provide a backup.	This pin connects to the No.1 camshaft position sensor located to the front of the intake side of the engine head which outputs 1 pulse (reluctor pulse) per camshaft revolution. A pulse is generated slightly before the TDC on the cylinder 1 exhaust stroke which is used to determine the engine position for sequential ignition and fuel.	
C84	11	G1-	Cam Position Sensor No.1 (Front)	Input	This pin is used to detect the location of the intake camshaft.	Vehicle speed is used in idle control, automatic transmission shift control, speed limiting etc. Two speed sensors are used to provide a backup.	This pin connects to the No.1 camshaft position sensor located to the front of the intake side of the engine head which outputs 1 pulse (reluctor pulse) per camshaft revolution. A pulse is generated slightly before the TDC on the cylinder 1 exhaust stroke which is used to determine the engine position for sequential ignition and fuel.	
C84	12	VTA2	Traction Control Throttle Position Sensor	Input	This pin is used to detect the position of the traction control throttle.	The measured position of the traction control throttle is a useful parameter for engine operation.	This pin measures the variable voltage from the traction control throttle position sensor that represents how open / closed the traction control throttle is.	
C84	13	OX1	Oxygen Sensor	Input	This pin is used to determine the exhaust gas air fuel ratio.	The engine ECU will aim for an air fuel ratio near stoichiometric (neither rich or lean) to enhance fuel economy under periods of low load.	This pin connects to the signal output of the oxygen sensor that is mounted in the exhaust. The factory oxygen sensor is a 'narrow band' oxygen sensor that outputs approximately 0V when the air fuel ratio is lean and approximately 1V when the air fuel ratio is rich. The engine ECU will aim to keep the engine running at stoichiometric by alternating between very slightly rich and very slightly lean conditions, as the sensor is only a narrow band sensor this is a practical way to achieve (or very close to) the desired stoichiometric air fuel ratio.	
C84	14	THA		Input				

			Intake Air Temperature Sensor		This pin is used to measure the temperature of the engine inlet manifold air.	The engine air temperature has an effect on the engines operation, such as reducing ignition timing if the intake air is very hot.	This pin connects to a thermistor that is installed at the middle, engine side of the engine intake manifold to the radiator on the front, upper, exhaust side of the engine to measure engine air intake temperature. One side of the thermistor should be wired to this pin and one side of the thermistor should be wired to the engine ECU pin E2 (Ground).	
C84	15	NCO+	Over Drive Direct Clutch Speed Sensor	Input	This pin is used to detect the speed of the automatic transmission OD input shaft.	Detection of the automatic transmission OD input shaft speed can be used to improve shift timing and ensure smooth gear shifts.	This pin connects to the OD speed sensor located on the left, front side of the automatic transmission and outputs a number of pulses (reluctor pulses) per revolution of the OD direct clutch drum.	
C84	16	G2	Cam Position Sensor No.2 (Rear)	Input	This pin is used to detect the location of the intake camshaft.	The engine ECU needs to know if the engine is on the compression or exhaust stroke for sequential spark and ignition, the camshaft position sensor provides this information.	This pin connects to the No.2 camshaft position sensor located to the rear of the intake side of the engine head which outputs 1 pulse (reluctor pulse) per camshaft revolution. A pulse is generated slightly before the TDC on the cylinder 1 compression stroke which is used to determine the engine position for sequential ignition and fuel.	
C84	17	G2-	Cam Position Sensor No.2 (Rear)	Input	This pin is used to detect the location of the intake camshaft.	The engine ECU needs to know if the engine is on the compression or exhaust stroke for sequential spark and ignition, the camshaft position sensor provides this information.	This pin connects to the No.2 camshaft position sensor located to the rear of the intake side of the engine head which outputs 1 pulse (reluctor pulse) per camshaft revolution. A pulse is generated slightly before the TDC on the cylinder 1 compression stroke which is used to determine the engine position for sequential ignition and fuel.	
C84	18	/	/	/	/	/	/	
C84	19	/	/	/	/	/	/	
C84	20	THW	Water Temperature Sensor	Input	This pin is used to measure the temperature of the engine coolant.	The engine coolant temperature has a significant effect on the engines operation, for example requiring more fuel during 'warm up' conditions.	This pin connects to a thermistor that is installed at the engine coolant water outlet to the radiator on the front, upper, exhaust side of the engine to measure engine coolant temperature. One side of the thermistor should be wired to this pin and one side of the thermistor should be wired to the engine ECU pin E2 (Ground).	
C84	21	/	/	/	/	/	/	

C84	22	E2	Sensor Ground	Output	Sensor ground.	The throttle position and MAP sensors have a separate ground to ensure clear signals.	This pin is connected to sensor Ground inside the engine ECU. Do not connect this pin to chassis Ground.	
Plug	Pin Number	Symbol	Definition	Input / Output	What	Why	How	Link
C85	1	NEO	Slave Engine Speed Sensor	Output	This pin is used to supply a copy of the engine speed (NE) signal to the traction control ECU.	Engine speed is a useful parameter for traction control.	This pin connects to the Traction Control ECU pin NEO.	
C85	2	M-REL	EFI Main Relay	Output	This pin is used to turn ON the Main EFI Relay which feeds power to the fuel pump, engine ECU, ISCV, engine VSVs and O2 sensor heater circuits, etc.	ECU control of the main power relay allows the ECU to remain powered up after engine shutdown to fully open the ISCV.	This pin is connected to battery voltage inside the ECU as required to turn the Main EFI Relay ON when the ignition switch is ON. Note that this pin continues to output voltage for a few second after the ignition has been switched off to allow the ISCV to be fully opened by the ECU for the next engine start. One side of the Main EFI Relay coil should be connected to this pin and one side of the Main EFI Relay coil should be connected to Ground.	
C85	3	W	Engine Warning Light (Check Engine Light)	Output	This pin is used to turn ON / OFF the check engine light.	The check engine light comes on to inform of a detected engine issue.	This pin is Grounded by the ECU as required to turn the Check Engine Light ON. The check engine light should be wired with one side of the light connected to battery voltage (Ignition Switched) and one side of the light connected to this ECU pin. Light ON = Error Condition, light OFF = Normal.	
C85	4	FPC	Fuel Pump Control	Output	This pin is used to signal the desired fuel pump speed to the Fuel Pump ECU.	The fuel pump speed can be reduced at low load conditions to make the fuel quieter and improve fuel pump longevity.	This pin outputs a 0V to 5V Pulse Width Modulated (PWM) signal which is connected to the Fuel Pump ECU to control fuel pump speed.	
C85	5	TE1	Test mode select 1	Input	This pin is used to select the test mode during which diagnostic codes are flashed on the check engine light .	Used to help in diagnosing issues.	This pin is connected to Ground to enable test mode.	
C85	6	TR	Timing Retard	Input	This pin is used as a signal to request that the engine ECU retard engine ignition timing.	Reduced ignition time will reduce engine power which is used by the Traction Control ECU to attempt to maintain traction.	This pin connects to the Traction Control ECU pin TR2.	

C85	7	VTO1	Slave Throttle Position Sensor	Output	This pin is used to supply a copy of the analogue throttle position signal (VTA1) to the traction control ECU.	The measured position of the engine throttle is a useful parameter for traction control.	This pin connects to the Traction Control ECU pin VTH.	
C85	8	/	/	/	/	/	/	
C85	9	/	/	/	/	/	/	
C85	10	DI	Diagnostic Indication - Fuel Pump Control	Input	This pin is used to determine if the Fuel Pump ECU is healthy.	Lets the engine ECU know if the Fuel Pump ECU is healthy, if the Fuel Pump ECU is not healthy the engine ECU stops the output on the FPC pin.	This pin is connected to battery voltage when the Fuel Pump ECU is healthy, the pin is open circuit when Fuel Pump ECU is not healthy.	
C85	11	VTO2	Slave Traction Control Throttle Position Sensor	Output	This pin is used to supply a copy of the analogue traction control throttle position (VTA2) signal to the traction control ECU.	The measured position of the traction control throttle is a useful parameter for traction control.	This pin connects to the Traction Control ECU pin VSH.	
C85	12	/	/	/	/	/	/	
C85	13	/	/	/	/	/	/	
C85	14	ABS (MT only)	ABS Activated?	Input	It is suspected that this pin is used to determine when the ABS is active and retard engine timing.	Reduced ignition time will reduce engine power which is used by the ABS to attempt to maintain braking traction.	This pin is connected to the ABS control ECU EX pin, which it is suspected is connected to ground when the ABS system is activated.	
C85	15	/	/	/	/	/	/	
C85	16	E1	ECU Ground	Input	Ground		This pin connects to Ground or the battery negative.	

						Used to supply a Ground path to allow current to flow.		
<u>Plug</u>	<u>Pin Number</u>	<u>Symbol</u>	<u>Definition</u>	<u>Input / Output</u>	<u>What</u>	<u>Why</u>	<u>How</u>	<u>Link</u>
C86	1	TT	Test Terminal	Output	This pin is used to output a diagnostic voltage dependant on throttle position, brake pedal position and automatic transmission gear position.	Used to help in diagnosing issues with the TPS, brake and automatic transmission.	Refer to TT section.	
C86	2	L	Low Gear Automatic Transmission Position Indicator	Input	This pin is used to determine if the automatic transmission shifter is in the L position.	The engine ECU needs to energize/de-energize the automatic transmission solenoids to select the correct gear.	This pin is connected to battery voltage by the automatic shifter position switch when the automatic transmission shifter is in the 'L' position.	
C86	3	P	Power / Normal Auto	Input	This pin is used to select Power or Normal shift patterns for the automatic transmission.	Used to modify the automatic transmission shift points to make the automatic transmission shifts more performance orientated.	This pin is connected to battery voltage when the Power / Normal switch is in the Power position. Pin is open circuit when the Power / Normal switch is in the Normal Position. In power mode gears are held longer and the automatic transmission will not select 1st gear when the automatic shifter is manually placed in the '2' position.	
C86	4	/	/	/	/	/	/	
C86	5	ACMG	Air Conditioning (AC) Magnetic Clutch Relay	Output	This pin is used to turn the AC magnetic clutch relay ON.	ECU control of the AC enables the AC to be turned off during hard acceleration.	This pin is Grounded by the ECU as required to turn the AC magnetic clutch relay ON. One side of the AC magnetic clutch relay coil should be wired to this pin and one side of the AC magnetic clutch relay coil should be connected to battery voltage (Ignition switched) and one side of the relay coil connected to this ECU pin.	
C86	6	OD2	Over Drive Disable 2	Input	This pin is used to disable the automatic transmission over drive gear (4th Gear) by a user switch.	Used to enable the driver to disable the automatic transmission over drive gear (4th Gear) for towing, hills, etc.	This pin is Grounded by the over drive switch to disable the automatic transmission over drive gear.	
C86	7	OD1	Over Drive Disable 1	Input	This pin is used by the Cruise Control ECU to request to disable the automatic transmission	The cruise control ECU may need to change to 3rd gear from 4th gear	This pin is Grounded by the Cruise Control ECU to disable the automatic transmissions over drive gear.	

					over drive gear (4th Gear).	(over drive) to maintain the desired set speed.		
C86	8	EGW	Exhaust Gas Temperature Warning Light (Catalytic Converter)	Output	This pin is used to turn ON / OFF the exhaust gas warning light.	The exhaust gas warning light comes on to inform of an overheated catalytic converter.	This pin is Grounded by the ECU as required to turn the exhaust gas warning light ON. Light ON = Error Condition, light OFF = Normal.	
C86	9	IGSW	Ignition Switch	Input	This pin is used to determine if the ignition is ON.	The engine ECU is turned on by this signal.	This pin is connected to battery voltage when the ignition switch is in RUN and CRANK positions.	
C86	10	2	2nd Gear Automatic Transmission Position Indicator	Input	This pin is used to determine if the automatic transmission shifter is in the 2nd position.	The engine ECU needs to energize/de-energize the automatic transmission solenoids to select the correct gear.	This pin is connected to battery voltage by the automatic shifter position switch when the automatic transmission shifter is in the '2' position.	
C86	11	TE2	Test mode select 2	Input	This pin is used to select the test mode during which diagnostic serial data is sent out the VF1 pin.	Used to help in diagnosing issues.	This pin is connected to Ground to enable test mode.	
C86	12	SP1	No.1 Speed Sensor	Input	This pin is used to determine vehicle speed.	Vehicle speed is used in idle control, automatic transmission shift control, speed limiting etc. Two speed sensors are used to provide a backup.	This pin is connected to the combination meter speed output which outputs 4 pulses (Open collector square wave pulses) per No.1 speed sensor shaft revolution. The combination meter receives its speed signal from the No.1 speed sensor which is located on the right, rear side of automatic transmission and outputs 4 pulses (0V to Battery Voltage square wave pulses) per sensor shaft revolution.	
C86	13	CCO	Catalytic Converter Temperature Sensor	Input	This pin is used to measure the catalytic converter temperature.	Used to inform the driver of an overheated catalytic converter.	This pin connects to a thermistor that is installed after the catalytic converter to sense the catalytic converter temperature. One side of the thermistor should be wired to this pin and one side of the thermistor should be wired to Ground.	
C86	14	BATT	Battery Power	Input	This pin is used to supply constant battery power to the ECU.	Constant battery power allows the engine ECU to retain error codes, fuel trims, etc.	This pin is connected to battery voltage at all times.	
C86	15	/	/	/	/	/	/	
C86	16	/	/	/	/	/	/	

C86	17	L3	Throttle Position	Output	Together the L1, L2 & L3 pins are used to output a digital representation of the throttle position.	Throttle position is required by some sub control units such as the ABS & TRC ECU.	The L1, L2 & L3 pins together output a modified Gray encoded digital signal. Each pin outputs output either 0V or 5V. Refer to L1, L2, & L3 page for details.	
C86	18	L2	Throttle Position	Output	Together the L1, L2 & L3 pins are used to output a digital representation of the throttle position.	Throttle position is required by some sub control units such as the ABS & TRC ECU.	The L1, L2 & L3 pins together output a modified Gray encoded digital signal. Each pin outputs output either 0V or 5V. Refer to L1, L2, & L3 page for details.	
C86	19	L1	Throttle Position	Output	Together the L1, L2 & L3 pins are used to output a digital representation of the throttle position.	Throttle position is required by some sub control units such as the ABS & TRC ECU.	The L1, L2 & L3 pins together output a modified Gray encoded digital signal. Each pin outputs output either 0V or 5V. Refer to L1, L2, & L3 page for details.	
C86	20	A/C	Air Conditioning (AC) Request Signal	Input	This pin is used to request that the AC be turned ON.	Having an AC request input and a separate control output allows the engine ECU to turn the AC OFF under some conditions, such as hard acceleration.	This pin is connected to Ground to request that the AC be turned ON. The AC request signal is generated by the climate control ECU, however connecting this pin to Ground will not guarantee that the AC is turned ON.	
C86	21	/	/	/	/	/	/	
C86	22	+B	EFI Main Relay Switched Power	Input	This pin is used to supply switched battery power to the ECU.	Used to supply power.	This pin is connected to battery voltage when the Main EFI Relay is energized to supply power to the ECU. The Main EFI Relay is triggered by the engine ECU pin M-REL pin. This pin is connected inside the ECU to the B1+ pin.	
C86	23	+B1	EFI Main Relay Switched Power	Input	This pin is used to supply switched battery power to the ECU.	Used to supply power.	This pin is connected to battery voltage when the Main EFI Relay is energized to supply power to the ECU. The Main EFI Relay is triggered by the engine ECU pin M-REL pin. This pin is connected inside the ECU to the B1+ pin.	
C86	24	/	/	/	/	/	/	
C86	25	STP	Stop Light Switch	Input	This pin is used to detect when the brake pedal is depressed.	Used to disable the automatic transmission lock up torque converter, exit deceleration fuel cut etc.	This pin is connected to battery voltage when brake pedal is depressed, the ECU pin is open circuit when the brake pedal is not depressed.	
C86	26	/	/	/	/	/	/	

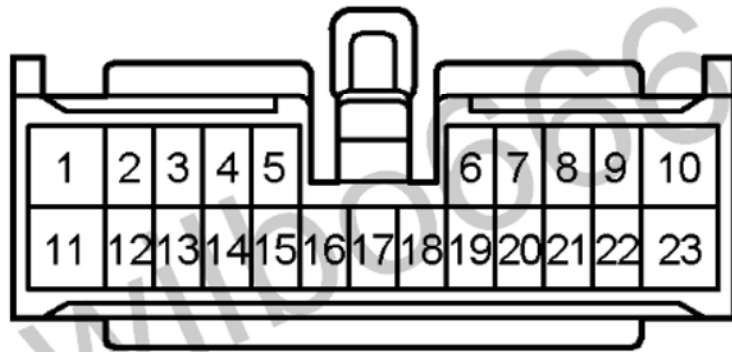
C86	27	/	/	/	/	/	/	
C86	28	ELS	Electrical Load Sense	Input	This pin is used to signal that heavy electrical loads are ON (e.g. rear demister).	Heavy electrical loads place more load on the alternator and hence the engine, the engine ECU can adjust for these heavy electrical loads if it is aware of them.	This pin is connected to battery voltage when a heavy electrical load is ON.	

JZZ30 Toyota Soarer 1JZ-GTE Engine Loom to Body Loom Pinouts

JZZ30 Toyota Soarer 1JZ-GTE 90980-10921 Engine Loom to Body Loom Plug

This orange plug is located inside the passenger foot well and mates with male connector 90980-10920.

JZZ30 90980-10921 Engine Loom to Body Loom



90980-10921

CI1 on wiring diagrams.

Note: Blue text indicates pins related to automatic transmission functions only.

Pin	Symbol	Definition	Input / Output (To engine = Input) (From engine = Output)	Description
1	ABS Control ECU: TC	Test Connector	Input	The body loom side of this pin connects to the 'TC' pin on a number of control modules.

	Cruise Control ECU: TC TEMS ECU: TC Climate Control ECU: TC 4WS ECU: TC			The engine loom side of this pin connects to the engine mounted diagnostic connector TC pin.
2	Engine ECU: TE2 Under Dash Mounted Diagnostic Connector: TE2	Test Enable	Input	The body loom side of this pin connects to the under dash diagnostic connector TE2 pin. The engine loom side of this pin connects to the engine ECU TE2 pin.
3	Engine ECU: VF Engine Mounted Diagnostic Connector: VF Under Dash Mounted Diagnostic Connector: ENG	Voltage Feedback Diagnostics	Output	The body loom side of this pin connects to the under dash mounted diagnostic connector ENG pin. The engine loom side of this pin connects to the engine ECU VF pin and the engine mounted diagnostic connector VF pin.
4	Engine ECU: TE Engine Mounted Diagnostic Connector: TE1 Under Dash Mounted Diagnostic Connector: TE1	Test Enable	Input	The body loom side of this pin connects to the under dash mounted diagnostic connector TE1 pin. The engine loom side of this pin connects to the engine ECU TE1 pin and the engine mounted diagnostic connector TE1 pin.
5	Engine ECU: TT Under Dash Mounted Diagnostic Connector: TT	Test Terminal	Output	The body loom side of this pin connects to the under dash mounted diagnostic connector TT pin. The engine loom side of this pin connects to the engine ECU TT pin.
6		No.1 Speed Sensor (3 wire): Ground	Input	The body loom side of this pin needs to be connected to ground via pin 11 of plug 90980-11055. In factory wiring this pin connects to the dash and the dash connects the speed sensor Ground pin (and other dash items) to Ground via pin 11 of plug 90980-11055. The engine loom side of this pin connects to the transmission No.1 (3 wire) speed sensor Ground pin.
7		No.1 Speed Sensor (3 wire): Output Signal	Output	The body loom side of this pin needs to be connected to the speedometer located in the dash. The engine loom side of this pin connects to the transmission No.1 (3 wire) speed sensor signal output pin.
8		Tachometer Output from Igniter	Output	The body loom side of this pin needs to be connected to the dash tachometer and other vehicle systems.

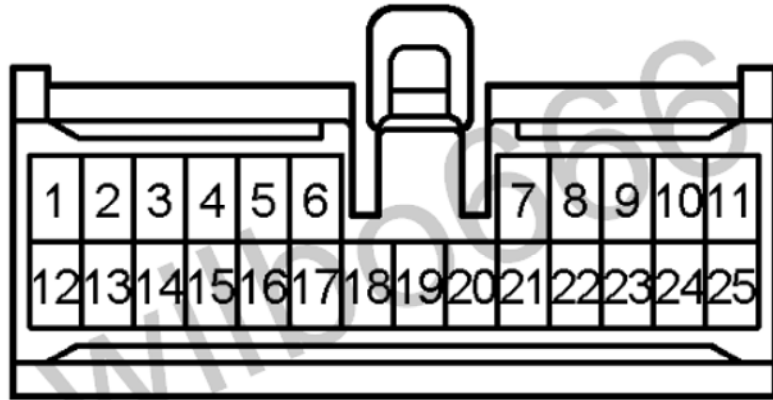
				The engine loom side of this pin connects to the igniter tachometer output pin which outputs a 0V to battery voltage signal that is related to engine RPM.
9	/	/	/	/
10	Engine Mounted Diagnostic Connector: AB	SRS Airbag Power	Input	<p>The body loom side of this pin connects to the SRS airbag control ECU LA pin.</p> <p>The engine loom side of this pin connects to the diagnostic connector mounted on the side of the engine.</p>
11		Reverse Gear Position Switch Indicator	Output	<p>The body loom side of this pin needs to be connected to the reverse lights and should also be connected to the dash for indication in automatic transmission vehicles.</p> <p>The engine loom side of this pin connects to the transmission reverse switch mounted on the transmission and outputs battery voltage when the transmission is in the reverse position.</p>
12		Park Gear Automatic Transmission Position Switch Indicator	Output	<p>The body loom side of this pin connects to the dash for indication.</p> <p>The engine loom side of this pin connects to the automatic transmission shifter position switch mounted on the automatic transmission and outputs battery voltage when the automatic transmission shifter is in the Park position.</p>
13		Neutral Gear Automatic Transmission Position Switch Indicator	Output	<p>The body loom side of this pin connects to the dash for indication.</p> <p>The engine loom side of this pin connects to the automatic transmission shifter position switch mounted on the automatic transmission and outputs battery voltage when the automatic transmission shifter is in the Neutral position.</p>
13		Drive Gear Automatic Transmission Position Switch Indicator	Output	<p>The body loom side of this pin connects to the dash for indication.</p> <p>The engine loom side of this pin connects to the automatic transmission shifter position switch mounted on the automatic transmission and outputs battery voltage when the automatic transmission shifter is in the Drive position.</p>
15	/	/	/	/
16	Engine ECU: 2	2nd Gear Automatic Transmission Position Switch Indicator	Output	<p>The body loom side of this pin connects to the dash for indication.</p> <p>The engine loom side of this pin connects to the automatic transmission shifter position switch mounted on the automatic transmission and outputs battery voltage when the automatic transmission shifter is in the 2 position. The engine loom side of this pin also connects to the engine ECU 2 pin.</p>
17	Engine ECU: L		Output	

		Low Gear Automatic Transmission Position Switch Indicator		<p>The body loom side of this pin connects to the dash for indication.</p> <p>The engine loom side of this pin connects to the automatic transmission shifter position switch mounted on the automatic transmission and outputs battery voltage when the automatic transmission shifter is in the 2 position. The engine loom side of this pin also connects to the engine ECU L pin.</p>
18	<p>Engine ECU: W</p> <p>Engine Mounted Diagnostic Connector: W</p> <p>Under Dash Mounted Diagnostic Connector: W</p>	Check Engine Light	Output	<p>The body loom side of this pin needs to be connected to the dash check engine light pin. This pin should also be connected to the under dash mounted diagnostic connector.</p> <p>The engine loom side of this pin connects to the engine mounted diagnostic connector W pin.</p>
19	Engine ECU: EGW	Exhaust Gas Temperature Warning Light (Catalytic Converter)	Output	<p>The body loom side of this pin connects to the exhaust gas warning light located in the dash.</p> <p>The engine loom side of this pin connects to the engine ECU EGW pin.</p>
20		Low Oil Pressure Switch	Output	<p>The body loom side of this pin needs to be connected to the low oil pressure light located in the dash.</p> <p>The engine loom side of this pin connects to the low oil pressure switch located on the front, lower, intake side of the engine.</p>
21	Engine ECU: P	Automatic Transmission Power / Normal Mode Select	Input	<p>The body loom side of this pin needs to be connected to the automatic transmission power / normal mode select switch. This pin should also connect to the dash for indication.</p> <p>The engine loom side of this pin is connected to the engine ECU P pin.</p>
22	Engine ECU: OD2	Over Drive Disable 2	Input	<p>The body loom side of this pin needs to be connected to the automatic transmission overdrive switch.</p> <p>The engine loom side of this pin connects to the engine ECU OD2 pin.</p>
23		Low Oil Level Switch	Output	<p>The body loom side of this pin connects to the dash for low oil level indication.</p> <p>The engine loom side of this pin connects to the low oil level switch located at the sump on the middle, intake side of the engine.</p>

JZZ30 Toyota Soarer 1JZ-GTE 90980-11055 Engine Loom to Body Loom Plug

This white plug is located inside the passenger foot well and mates with male connector 90980-11133.

JZZ30 90980-11055 Engine Loom to Body Loom



90980-11055

CI2 on wiring diagrams.

Note: Green text indicates pins related to ABS & TRC transmission functions only.

Pin	Symbol	Definition	Input / Output (To engine = Input) (From engine = Output)	Description
1	Dash: TB	Ignition Power	Output	The body loom side of this pin connects to the dash TB pin. The engine loom side of this pin connects to the No.1 fuel injector power feed.
2	Engine Mounted Diagnostic Connector: WA (LP)	ABS	Input	The body loom side of this pin connects to the ABS ECU WA pin and also the ABS light mounted in the dash. The engine loom side of this pin connects to the engine mounted diagnostic connector WA pin. Note that there is a shorting link inserted between terminals WA and WB of the engine mounted diagnostic connector.
3	ABS & TRC ECU: BRK	TRC	Input	The body loom side of this pin connects to the TRC actuator BSW pin. The engine loom side of this pin connects to the ABS & TRC ECU BRK pin.
4	TRC ECU: WT	TRC	Output	

				<p>The body loom side of this pin connects to the dash TRC OFF indication light.</p> <p>The engine loom side of this pin connects to the ABS ECU WT pin.</p>
5	TRC ECU: IND	TRC	Output	<p>The body loom side of this pin connects to the dash TRC active indication light.</p> <p>The engine loom side of this pin connects to the ABS ECU IND pin.</p>
6	TRC ECU: FLO 4WS ECU: WFL	TRC	Input	<p>The body loom side of this pin connects to the 4WS ECU WFL pin.</p> <p>The engine loom side of this pin connects to the TRC ECU FLO pin.</p>
7	TEMS ECU: TEM Air Suspension ECU: VH Engine Mounted Diagnostic Connector: TEM Under Dash Diagnostic Connector: TEM	TEMS	Input	<p>The body loom side of this pin connects to the TEMS ECU TEM pin, the air suspension ECU VH pin and the under dash mounted diagnostic connector TEM pin.</p> <p>The engine loom side of this pin connects to the engine mounted diagnostic connector TEM pin.</p>
8	/	/	/	/
9	Engine ECU: CCO Engine Mounted Diagnostic Connector: CCO	Catalytic Converter Temperature Sensor	Input	<p>The body loom side of this pin connects to the positive side of the catalytic converter temperature sensor.</p> <p>The engine loom side of this pin connects to the engine ECU CCO pin and the engine mounted diagnostic connector CCO pin.</p>
10	Dash: ST Engine ECU: STA		Output	<p>The body loom side of this pin connects to the dash ST pin.</p> <p>The engine loom side of this pin connects to the engine ECU STA pin.</p>
11		Dash Ground	Output	<p>The body loom side of this pin needs to be connected to the dash Ground. In factory wiring this pin connects to the dash and the dash connects the speed sensor Ground pin on pin 6 of plug 90980-10921 (and other dash items) to Ground via this pin. In conversion wiring it may simplify wiring to wire this pin directly to pin 6 of plug 90980-10921 and ensure the dash Ground is also connected to the engine Ground.</p> <p>The engine loom side of this pin connects to Ground under the intake manifold.</p>
12		#10 Fuel Injector Signal	Output	<p>The body loom side of this pin connects to the dash T pin for fuel economy monitoring.</p>

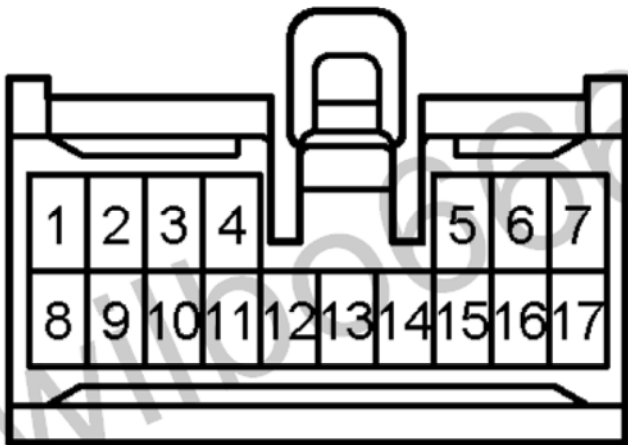
	Dash: T Engine ECU: #10			The engine loom side of this pin connects to the No.1 fuel injector and the engine ECU #10 pin.
13	TRC ECU: PKB	Parking Brake Switch	Output	The body loom side of this pin connects to the parking brake switch. The engine loom side of this pin connects to the TRC ECU PKB pin.
14	/	/	/	/
15	TRC ECU: BATT	Battery Power	Input	The body loom side of this pin connects to constant battery voltage from the room lamp fuse. The engine loom side of this pin connects to the TRC ECU BATT pin.
16	TRC ECU: CSW	Traction Control Switch	Output	The body loom side of this pin connects to the TRC switch. The engine loom side of this pin connects to the TRC ECU CSW pin.
17	TRC ECU: FRO 4WS ECU: WFR	TRC	Input	The body loom side of this pin connects to the 4WS ECU WFR pin. The engine loom side of this pin connects to the TRC ECU FRO pin.
18	TRC ECU: ABSO ABS & TRC ECU: ABSO	TRC	Input	The body loom side of this pin connects to the ABS & TRC ABSO pin. The engine loom side of this pin connects to the TRC ECU ABSO pin.
19	Engine ECU: ABS ABS ECU: EX	ABS	Input	Note: Manual Transmission Only. The body loom side of this pin connects to the ABS ECU EX pin. The engine loom side of this pin connects to the engine ECU ABS pin .
20	Engine ECU: L1 Air Suspension ECU: L1	Suspension Control	Output	The body loom side of this pin connects to the air suspension ECU L1 pin. The engine loom side of this pin connects to the engine ECU L1 pin.
21	Engine ECU: L2 Air Suspension ECU: L2	Suspension Control	Output	The body loom side of this pin connects to the air suspension ECU L2 pin. The engine loom side of this pin connects to the engine ECU L2 pin.

22	Engine ECU: L3 Air Suspension ECU: L3	Suspension Control	Output	The body loom side of this pin connects to the air suspension ECU L3 pin. The engine loom side of this pin connects to the engine ECU L3 pin.
23	Engine ECU: E1 Under Dash Mounted Diagnostic Connector: E1	Ground	Output	The body loom side of this pin needs to be connected to the under dash diagnostic connector E1 pin. The engine loom side of this pin is connected to Ground underneath the intake manifold, the engine ECU E1 pin and the engine mounted diagnostic connector E1 pin.
24	/	/	/	/
25	Engine Mounted Diagnostic Connector: TS ABS ECU: TS 4WS ECU: TS Suspension ECUs: TS	Test Enable	Input	The body loom side of this pin connects to a number of control module 'TS' input pins. The engine loom side of this pin connects to the engine mounted diagnostic connector TS pin.

JZZ30 Toyota Soarer 1JZ-GTE 90980-11203 Engine Loom to Body Loom Plug

This grey plug is located inside the passenger foot well and mates with male connector 90980-11202.

JZZ30 90980-11203 Engine Loom to Body Loom



90980-11203

CF1 on wiring diagrams.

Note: Blue text indicates pins related to automatic transmission functions only.

Note: Green text indicates pins related to ABS & TRC transmission functions only.

<u>Pin</u>	<u>Symbol</u>	<u>Definition</u>	<u>Input / Output</u> <u>(To engine = Input)</u> <u>(From engine =</u> <u>Output)</u>	<u>Description</u>
1	Engine ECU: IDL Cruise Control ECU: IDL	Throttle Closed Switch	Output	The body loom side of this pin connects to the cruise control ECU pins. The engine loom side of this pin is connected to the engine ECU IDL pin which is connected to Ground when the engine throttle is closed.
2	Engine ECU: S2 Cruise Control ECU: ECT	S2 Automatic Transmission Solenoid	Output	The body loom side of this pin connects to the cruise control ECU ECT pin. The engine loom side of this pin connects to the engine ECU S2 pin.
3	Engine ECU: SP1	Dash: Speed Sensor Output (from No.1 Speed Sensor)	Input	The body loom side of this pin needs to be connected to the dash speedometer output. The engine loom side of this pin connects to the engine ECU SP1 terminal.
4	/	/	/	/
5	/	/	/	/
6	Proportional Power Steering ECU: SOL+	Proportional Power Steering Solenoid	Input	The body loom side of this pin connects to the proportional power steering ECU SOL+ pin. The engine loom side of this pin connects to the proportional power steering solenoid located on the drivers side of the power steering rack.
7	Engine ECU: STP	Stop Light Switch	Input	The body loom side of this pin needs to be connected to the switched side of the brake light switch. The engine loom side of this pin connects to the engine ECU STP pin.
8	Cruise Control ECU: N&C	Cruise Control Clutch Switch	Output	The body loom side of this pin connects to the cruise control ECU N&C pin via the clutch switch so that the cruise control is disabled when the clutch switch is depressed. The cruise control ECU N&C pin is pulled to ground via the starter relay when the clutch switch is closed.

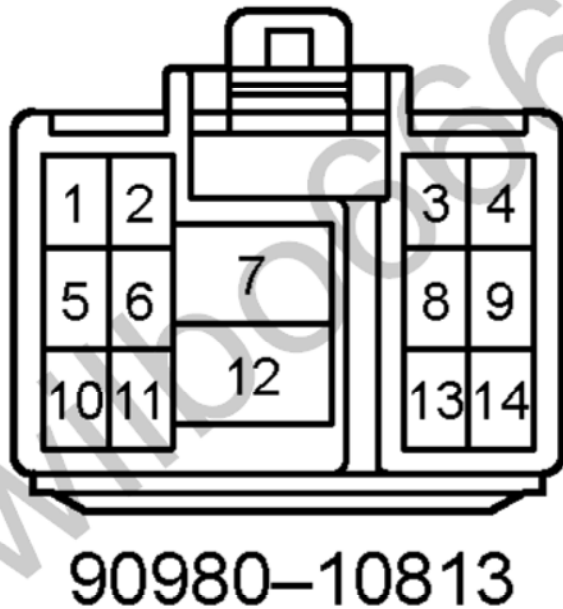
				<p>The engine loom side of this pin connects to Ground via the starter relay coil.</p> <p>Note: Manual transmission only, see pin 10 of this plug for automatic transmission equivalent. Refer to engine ECU NSW pin for further information as this pin functions in a similar manner (connected to Ground via the starter relay).</p>
9	<p>Engine ECU: OD1</p> <p>Cruise Control ECU: O/D</p>	Over Drive Disable 1	Output	<p>The body loom side of this pin connects to the cruise control ECU O/D pin to disable overdrive.</p> <p>The engine loom side of this pin connects to the engine ECU OD1 pin.</p>
10	<p>Engine ECU: NSW</p> <p>Cruise Control ECU: N&C</p>	Starter Signal / Park-Neutral Signal	Output	<p>The body loom side of this pin connects to cruise control ECU N&C pin so that cruise control can be disabled when the automatic transmission is placed in the Park or Neutral positions.</p> <p>The engine loom side of this pin connects to one side of the automatic transmission park / neutral switch to provide power to the automatic transmission shifter position switch and also the engine ECU NSW pin.</p> <p>Note: Automatic transmission only, see pin 6 of this plug for manual transmission equivalent. Refer to engine ECU NSW pin for further information as this pin functions in a similar manner (connected to Ground via the starter relay).</p>
11	Engine ECU: IGSW	Ignition Switched Power	Input	<p>The body loom side of this pin needs to be connected to an ignition switched power source that supplies battery voltage when the ignition is in the RUN and CRANK Positions.</p> <p>The engine loom side of this pin connects to the engine ECU IGSW pin.</p>
12	TRC ECU: IG	Ignition Switched Power	Input	<p>The body loom side of this pin connects to an ignition switched power source that supplies battery voltage when the ignition is in the RUN and CRANK Positions.</p> <p>The engine loom side of this pin connects to the TRC ECU IG pin.</p>
13	Alternator: IG	Alternator Ignition Switched Power	Input	<p>The body loom side of this pin needs to be connected to an ignition switched power source that supplies battery voltage when the ignition is in the RUN and CRANK Positions.</p> <p>The engine loom side of this pin connects to the engine alternator IG pin.</p> <p>Note: On >01/1994 vehicles the alternator wiring is part of the body loom, not the engine loom.</p>
14	/	/	/	/
15	/	/	/	/

16	Proportional Power Steering ECU: SOL-	Proportional Power Steering Solenoid	Input	<p>The body loom side of this pin connects to the proportional power steering ECU SOL-pin.</p> <p>The engine loom side of this pin connects to the proportional power steering solenoid located on the drivers side of the power steering rack.</p>
17	/	/	/	/

JZZ30 Toyota Soarer 1JZ-GTE 90980-10813 Engine Loom to Body Loom Plug

This grey plug is located inside the passenger foot well and mates with male connector 90980-10812.

JZZ30 90980-10813 Engine Loom to Body Loom



CF2 on wiring diagrams.

<u>Pin</u>	<u>Symbol</u>	<u>Definition</u>	<u>Input / Output</u> <u>(To engine = Input)</u> <u>(From engine = Output)</u>	<u>Description</u>
1	<p>Engine Mounted Diagnostic Connector: FP</p> <p>Fuel Pump ECU: FP</p>	Fuel Pump Power	Input	<p>The body loom side of this pin needs to be connected to the positive side of the fuel pump wiring and the fuel pump ECU FP pin.</p> <p>The engine loom side of this pin connects to the engine mounted diagnostic connector</p>

				FP pin which allows power to be directly applied to the fuel pump in order to test its functionality.
2	Airconditioning ECU: IG	Climate Control Switched Ignition Power	Input	<p>The body loom side of this pin connects to switched ignition power to feed the climate control water valve and the airconditioning ECU.</p> <p>The engine loom side of this pin connects to the climate control water valve and the airconditioning ECU IG via pin 2 of plug 90980-10803.</p>
3		Ignition Switched Power to Fuel Injectors (No.2, No. 4, No.6)	Input	<p>The body loom side of this pin needs to be connected to battery voltage when the ignition is in the RUN and CRANK positions to supply battery voltage to the fuel injectors.</p> <p>The engine loom side of this pin connects to the fuel injector supply pins.</p>
4	/	/	/	/
5	Alternator: L	Alternator Charge Warning Light	Output	<p>The body loom side of this pin needs to be connected to the dash mounted alternator charge light.</p> <p>The engine loom side of this pin connects to the alternator L pin.</p> <p>Note: On >01/1994 vehicles the alternator wiring is part of the body loom, not the engine loom.</p>
6	Engine ECU: NSW	Starter Signal / Park-Neutral Signal	Input	<p>The body loom side of this pin needs to be connected to battery voltage when the ignition switch is in the CRANK position. to trigger the starter motor (via the neutral start switch [AT] & starter relay).</p> <p>The engine loom side of this pin connects to one side of the automatic transmission park / neutral switch to provide power to the automatic transmission shifter position switch and also the engine ECU NSW pin.</p> <p>Refer to engine ECU STA pin for further information.</p>
7		Ignition Switched Power to Fuel Injectors (No.1, No. 3, No.5)	Input	<p>The body loom side of this pin needs to be connected to battery voltage when the ignition is in the RUN and CRANK positions to supply battery voltage to the fuel injectors.</p> <p>The engine loom side of this pin connects to the fuel injector supply pins.</p>
8	Engine ECU: DI Fuel Pump ECU: DI	Fuel Pump Diagnostic Indication	Input	<p>The body loom side of this pin needs to be connected to fuel pump ECU DI pin.</p> <p>The engine loom side of this pin connects to the engine ECU DI pin.</p>
9	/	/	/	/

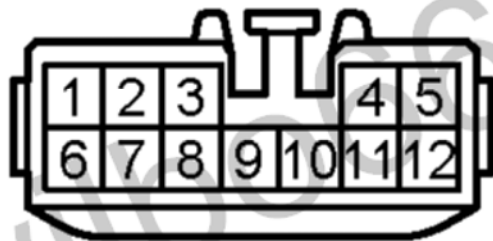
10		Ignition Switched Power	Input	<p>The body loom side of this pin needs to be connected to an ignition switched power source that supplies battery voltage when the ignition is in the RUN and CRANK Positions.</p> <p>The engine loom side of this pin connects switched battery voltage to the automatic transmission position switch and the transmission No.1 (3 wire) speed sensor.</p>
11	Engine ECU: ELS	Electrical Load Sense	Input	<p>The body loom side of this pin connects to the rear demister and headlight power supply wires with isolating diodes.</p> <p>The engine loom side of this pin connects to the engine ECU ELS pin.</p>
12	Fuel Pump ECU: B Engine ECU: +B, +B1	Main EFI Relay Switched Power	Output	<p>The body loom side of this pin needs to be connected to the fuel pump ECU B pin.</p> <p>The engine loom side of this pin connects to main EFI relay switched power and the engine ECU +B and +B1 pins.</p>
13	/	/	/	/
14	Engine ECU: FPC Fuel Pump ECU: FRC	Fuel Pump Control	Output	<p>The body loom side of this pin needs to be connected to the fuel pump ECU FRC pin.</p> <p>The engine loom side of this pin connects to the engine ECU FPC pin.</p>

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JZZ30 Toyota Soarer 1JZ-GTE 90980-10803 Engine Loom to Body Loom Plug

This white plug is located inside the passenger foot well and mates with male connector 90980-10802.

JZZ30 90980-10803 Engine Loom to Body Loom



90980-10803

CH1 on wiring Diagrams.

Pin	Symbol	Definition	Input / Output (To engine = Input)	Description

			<u>(From engine = Output)</u>	
1	Airconditioning ECU: SG	Airconditioning Sensor Ground	Input	<p>The body loom side of this pin connects to the airconditioning compressor lock sensor and to the ambient air temperature thermistor via pin 7 of plug 90980-10896.</p> <p>The body loom side of this pin connects to the airconditioning ECU pin SG to provide a ground for these sensors.</p>
2	Airconditioning ECU: IG	Airconditioning ECU Switched Ignition Power	Input	<p>The body loom side of this pin connects to the airconditioning ECU IG pin to supply power to the airconditioning ECU.</p> <p>The engine loom side of this pin is connected to switched ignition power via pin 2 of plug 90980-10813.</p>
3	/	/	/	/
4	Airconditioning ECU: LCKI	Airconditioning Compressor Lock Sensor	Output	<p>The body loom side of this pin connects to the airconditioning ECU LCKI input which is used to detect the speed of the airconditioning compressor.</p> <p>The engine loom side of this pin connects to the airconditioning compressor speed sensor located at the bottom of the airconditioning compressor.</p>
5	Engine ECU: A/C AirconditioningECU: MGC	Airconditioning Request Signal	Input	<p>The body loom side of this pin connects to the airconditioning ECU MGC pin. The airconditioning ECU MGC pin is used to request that the engine ECU engage the airconditioning compressor magnetic clutch.</p> <p>The engine loom side of this pin connects to the engine ECU A/C pin.</p>
6	/	/	/	/
7	Airconditioning ECU: W/V	Climate Control Water Valve	Output	<p>The body loom side of this pin connects to the airconditioning ECU W/V pin.</p> <p>The engine loom side of this pin connects to the climate control water valve.</p>
8	/	/	/	/
9	/	/	/	/
10	/	/	/	/

11	/	/	/	/
12	/	/	/	/

JZZ30 Toyota Soarer 1JZ-GTE 90980-10841 Engine Loom to Body Loom Plug (Pre 01/1994)

This plug is located inside the engine bay near the battery and mates with male connector 90980-10944.

Note: This plug is found on pre 01/1994 vehicles, post 01/1994 vehicles use the plug 90980-11413 instead of this plug.

JZZ30 90980-10841 Engine Loom to Body Loom



90980-10841

CA1 on wiring Diagrams.

<u>Pin</u>	<u>Symbol</u>	<u>Definition</u>	<u>Input / Output</u> <u>(To engine = Input)</u> <u>(From engine =</u> <u>Output)</u>	<u>Description</u>
1		Starter Motor Relay Switched Power	Input	<p>The body loom side of this pin needs to be connected to the starter motor relay switched power output which switches battery voltage to the starter motor to turn it on and crank the engine.</p> <p>The engine loom side of this pin connects to the starter motor solenoid. The starter motor is grounded via the engine block.</p>
2		Alternator Battery Voltage Sense	Input	<p>The body loom side of this pin needs to be connected to the battery via a 7.5A fuse.</p>

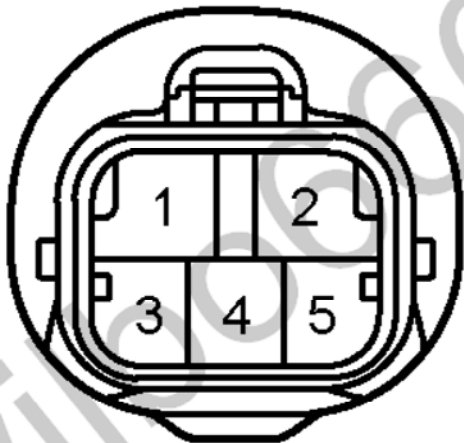
				<p>The engine loom side of this pin connects to the alternator S pin.</p> <p>Note: On >01/1994 vehicles the alternator wiring is part of the body loom, not the engine loom,.</p>
3	Engine ECU: +B, +B1	Main EFI Relay Switched Power	Input	<p>The body loom side of this pin needs to be connected to the main EFI relay switched power output which switches battery voltage to the engine ECU. ISCV, VSVs, etc. The main EFI relay is switched via the engine ECU M-REL output pin.</p> <p>The engine loom side of this pin connects to the engine ECU, ISCV, VSVs, etc power supply pins.</p>

JZZ30 Toyota Soarer 1JZ-GTE 90980-11413 Engine Loom to Body Loom Plug (Post 01/1994)

This plug is located inside the engine bay near the battery and mates with male connector 90980-11412.

Note: This plug is found on post 01/1994 vehicles, pre 01/1994 vehicles use the plug 90980-10841 instead of this plug.

JZZ30 90980-11413 Engine Loom to Body Loom



90980-11413

CA3 on wiring Diagrams.

Pin	Symbol	Definition	Input / Output (To engine = Input) (From engine = Output)	Description
1		Starter Motor Relay Switched Power	Input	The body loom side of this pin needs to be connected to the starter motor relay switched power output which switches battery voltage to the starter motor to turn

				<p>it on and crank the engine.</p> <p>The engine loom side of this pin connects to the starter motor solenoid. The starter motor is grounded via the engine block.</p>
2	Engine ECU: +B, +B1	Main EFI Relay Switched Power	Input	<p>The body loom side of this pin needs to be connected to the main EFI relay switched power output which switches battery voltage to the engine ECU. ISCV, VSVs, etc. The main EFI relay is switched via the engine ECU M-REL output pin.</p> <p>The engine loom side of this pin connects to the engine ECU, ISCV, VSVs, etc power supply pins.</p>
3		No.1 Airconditioning Condenser Fan Switched Power	Output	<p>Note: Automatic Transmission without Multivison vehicles only.</p> <p>The body loom side of this pin connects to the airconditioning condenser fan relay switched power output which switches battery voltage to the airconditioning condenser fan/s to energeise the airconditioning condenser fan/s .</p> <p>The engine loom side of this pin connects to pin 5 of this plug.</p>
4	/	/	/	/
5		No.1 Airconditioning Condenser Fan Switched Power	Input	<p>Note: Automatic Transmission without Multivison vehicles only.</p> <p>The body loom side of this pin connects to the No.1 airconditioning condenser fan.</p> <p>The engine loom side of this pin connects to pin 3 of this plug which is supplied with switched battery voltage from the airconditioning condenser fan relay to energeise the No.1 airconditioning condenser fan.</p>

JZZ30 Toyota Soarer 90980-10896 Engine Loom to Body Loom Plug

This plug is located inside the engine bay near the battery and mates with male connector 90980-10896.

JZZ30 90980-10897 Engine Loom to Body Loom



90980–10897

CA2 on wiring Diagrams.

Pin	Symbol	Definition	Input / Output (To engine = Input) (From engine = Output)	Description
1		Airconditioning Magnetic Clutch	Input	<p>The body loom side of this pin needs to be connected to the airconditioning magnetic clutch relay switched power output which switches battery voltage to the airconditioning magnetic clutch to energise the clutch and turn the airconditioning on.</p> <p>The engine loom side of this pin connects to the airconditioning magnetic clutch. The airconditioning magnetic clutch is grounded via the engine block.</p>
2	Engine ECU: ACMG	Airconditioning Magnetic Clutch Relay Trigger Signal	Output	<p>The body loom side of this pin needs to be connected to the airconditioning magnetic clutch relay coil negative.</p> <p>The engine loom side of this pin connects to the engine ECU ACMG pin.</p>
3	Engine ECU: STA	Starter Motor Relay Trigger Signal	Output	<p>The body loom side of this pin needs to be connected to the starter motor relay coil positive to turn the relay on when the ignition switch is in CRANK position (and the automatic transmission park / neutral switch is in the park / neutral position if the vehicle is equipped with an automatic transmission).</p> <p>Manual transmission: The engine loom side of this pin is connected in the engine wiring loom to pin 7 of the engine loom to body plug 90980-11469 and also the engine ECU STA pin.</p> <p>Automatic transmission: The engine loom side of this pin is connected to the automatic transmission part / neutral position switch and also the engine ECU STA pin.</p>

				Refer to pin 7 of body loom plug 90980-11469 for further information.
4	Engine ECU: BATT	Battery Power	Input	<p>The body loom side of this pin needs to be connected to constant battery voltage.</p> <p>The engine loom side of this pin connects to the engine ECU BATT pin.</p>
5	/	/	/	/
6	Engine Mounted Diagnostic Connector: WB	ABS	Output	<p>The body loom side of this pin connects to the ABS actuator W pin.</p> <p>The engine loom side of this pin connects to the diagnostic connector mounted on the side of the engine WA pin. Note that there is a shorting link inserted between terminals WA and WB of the diagnostic connector from factory.</p>
7	Airconditioning ECU: SG	Airconditioning Signal Ground	Output	<p>The body loom side of this pin connects to the ambient air temperature sensor thermistor mounted at the far front of the car.</p> <p>The engine loom side of this pin connects to the airconditioning ECU pin SG via pin 1 of plug 90980-10803 to provide a ground for the ambient temperature sensor.</p>
8	Engine ECU: M-REL	EFI Main Relay Trigger Signal	Output	<p>The body loom side of this pin needs to be connected to the main EFI relay coil positive.</p> <p>The engine loom side of this pin connects to the engine ECU M-REL pin.</p>

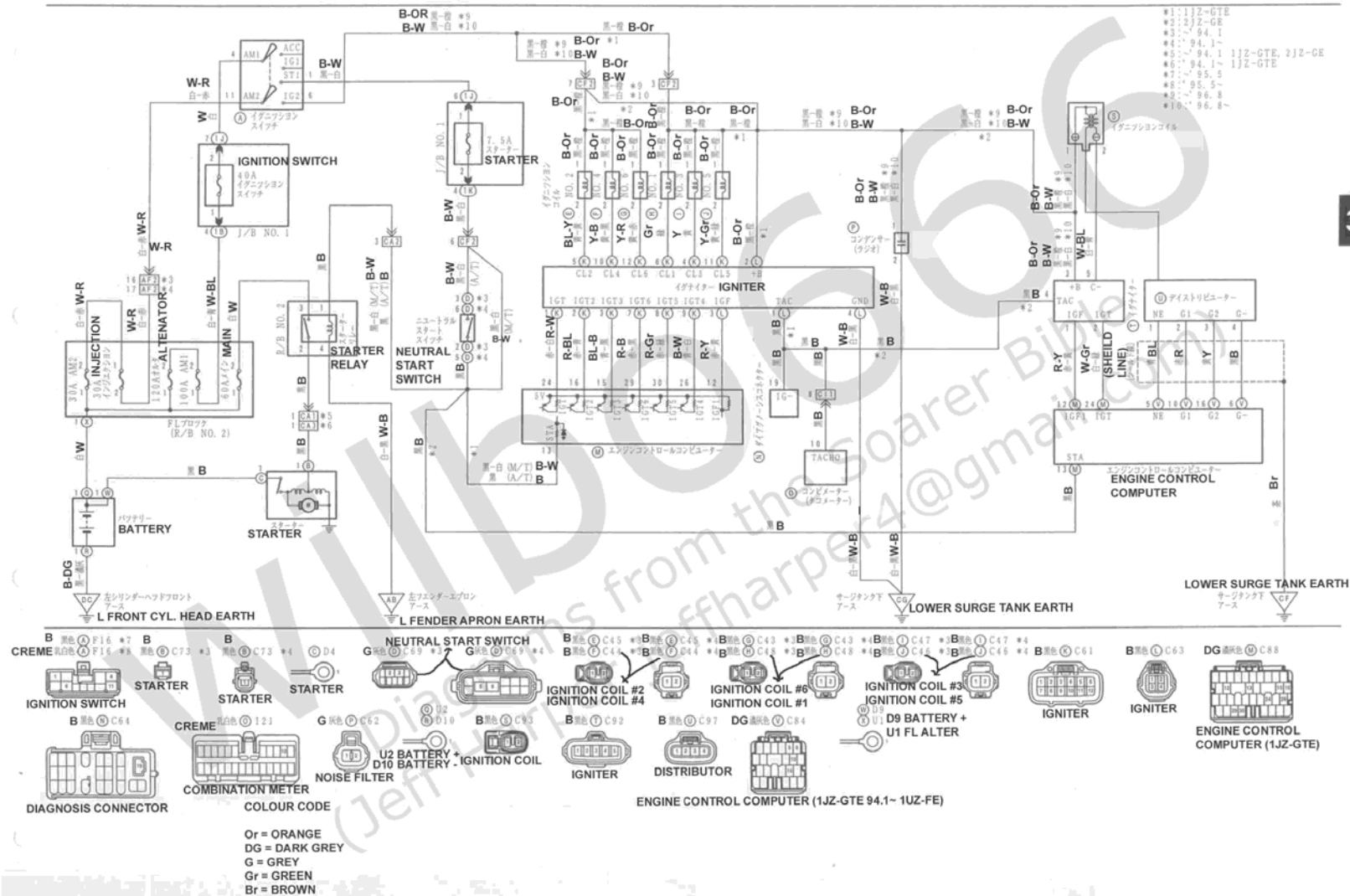
JZZ30 Toyota Soarer 1JZ-GTE Wiring Diagrams

I would like to thank Jeff Harper (<http://planetsoarer.com/workshop/workshop.htm>), the creator of the Soarer Bible who has given permission for his translated wiring diagrams to be presented here.

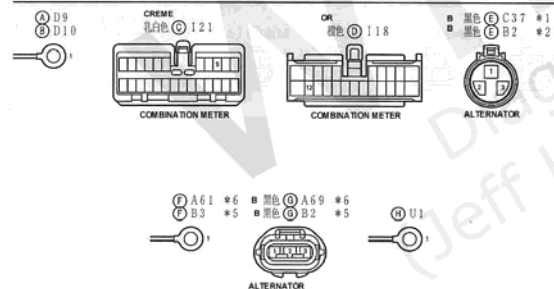
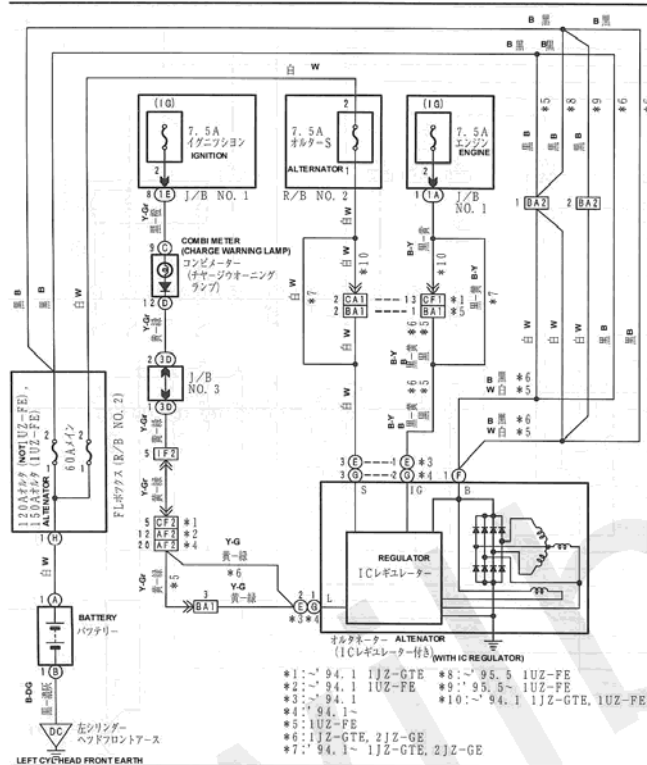
Starting, Ignition

(~' 97. 8の2 JZ-GE, ~' 96. 8の1 JZ-GTE)

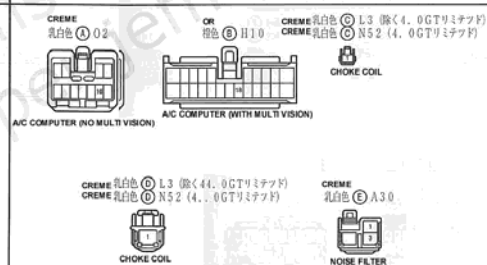
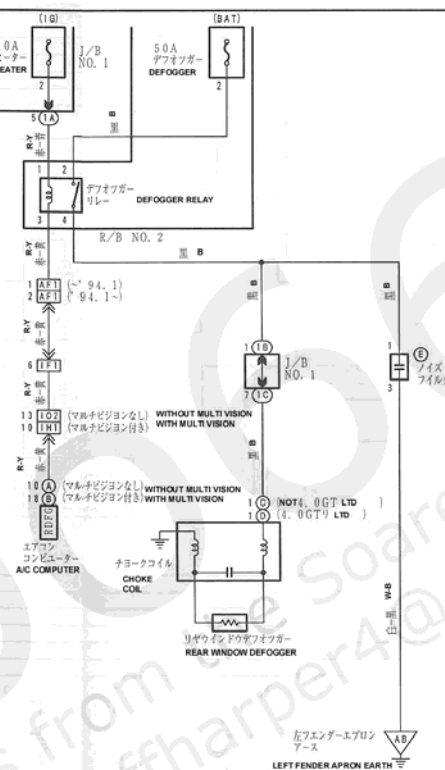
3-3



CHARGING チャージング

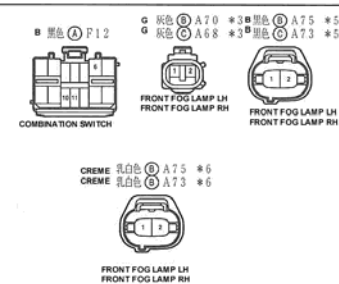
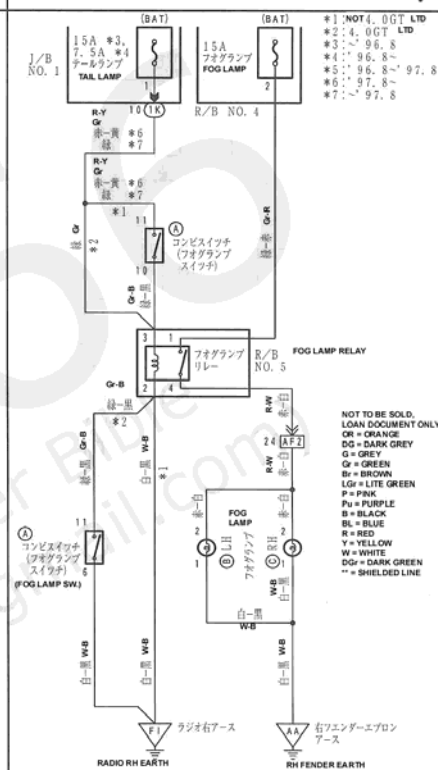


REAR WINDOW DEFOGGER



FOG LAMP

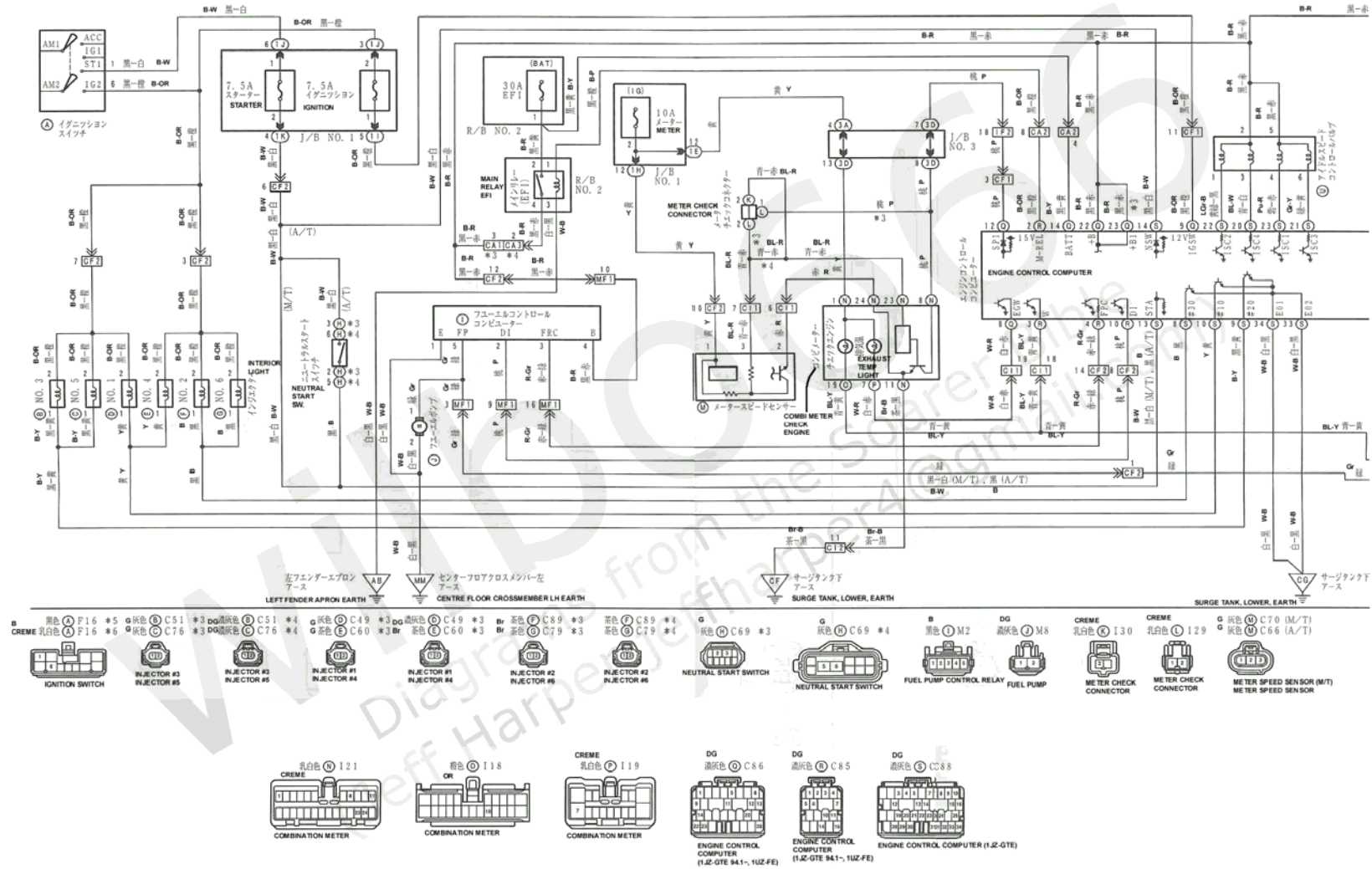
3-5



ENGINE CONTROL

エンジンコントロール (1 JZ-GTEの〜' 96. 8)

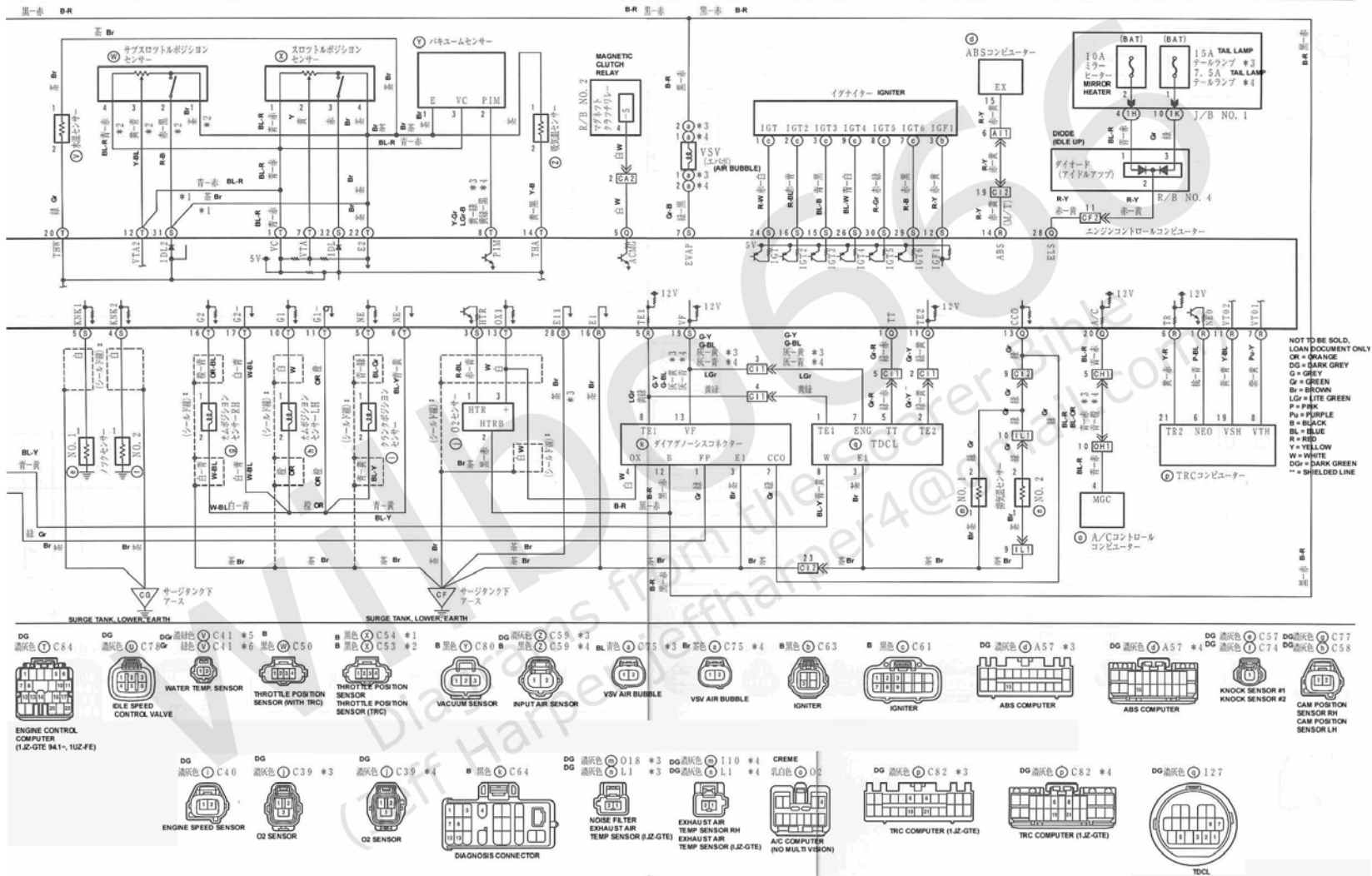
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#2:TRC WITH #4:~ 94.1~ #6:~ 95.5~
```

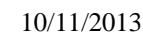


ENGINE CONTROL エンジンコントロール (1JZ-GTEの〜'96. 8)

*1:TRC NOT *3: 94.1 *5: 95.5
 *2:TRC WITH *4: 94.1 ~ *6: 95.5 ~

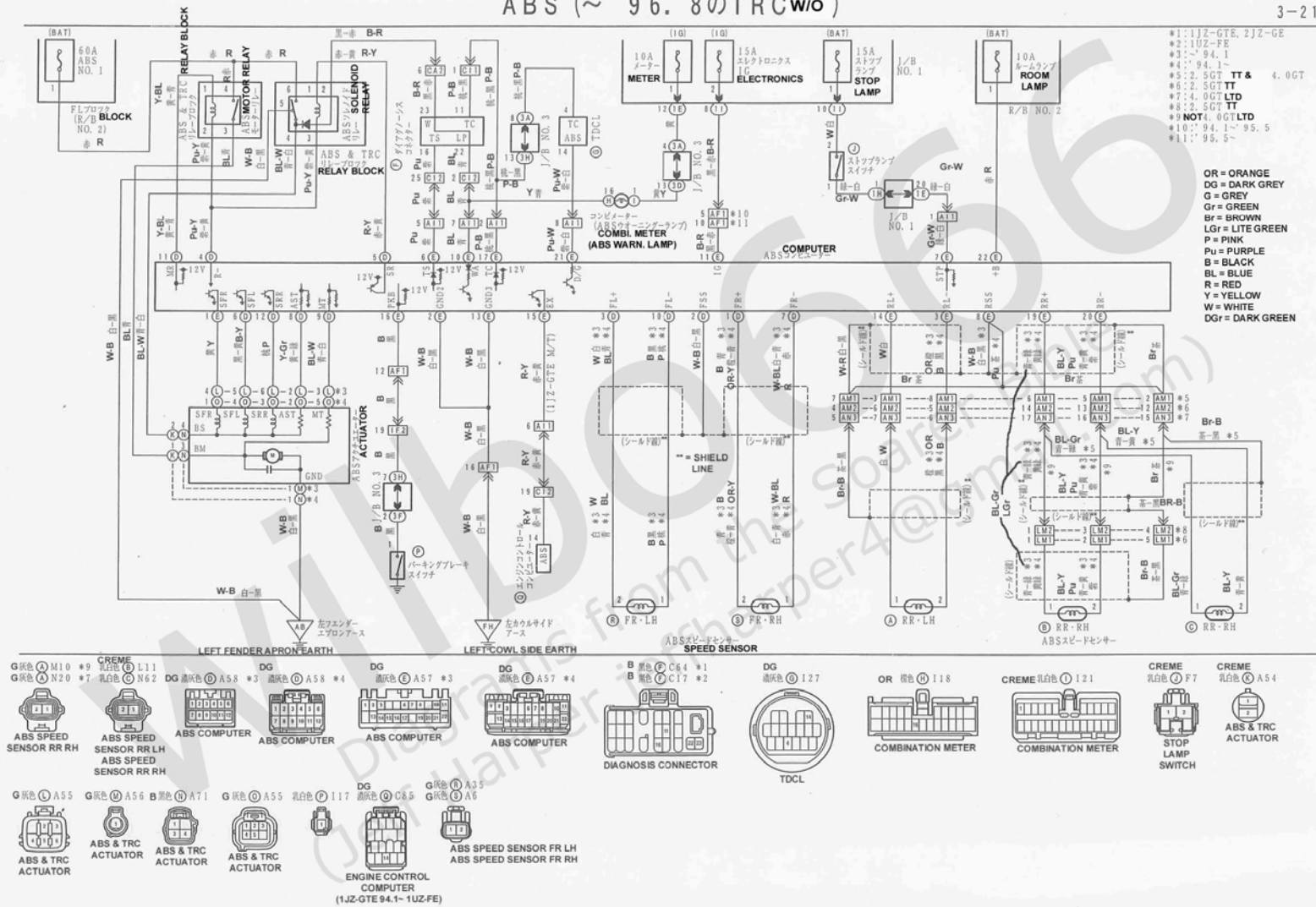
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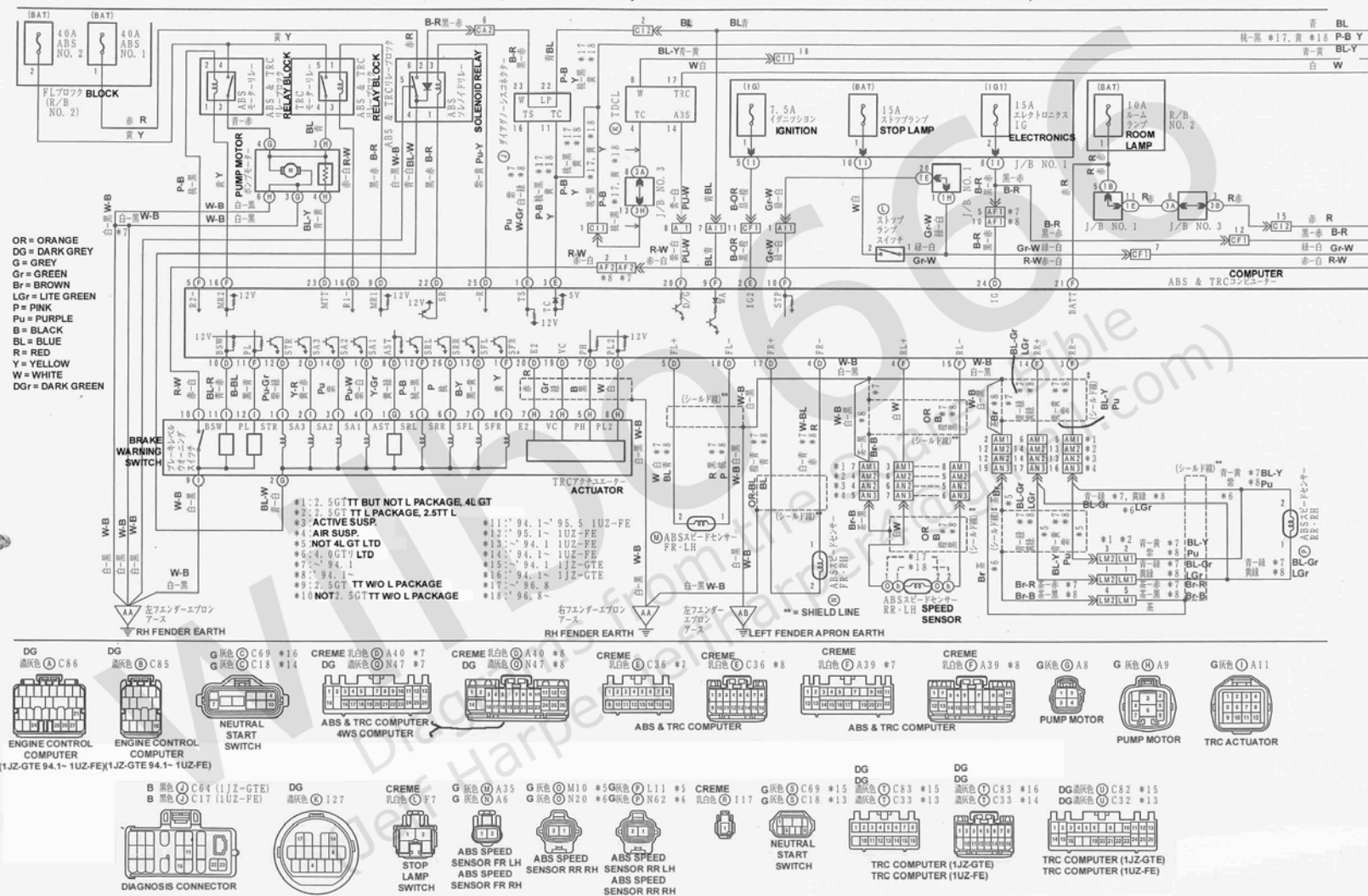


ABS (~' 96. 8のTRCw/o)

3-21

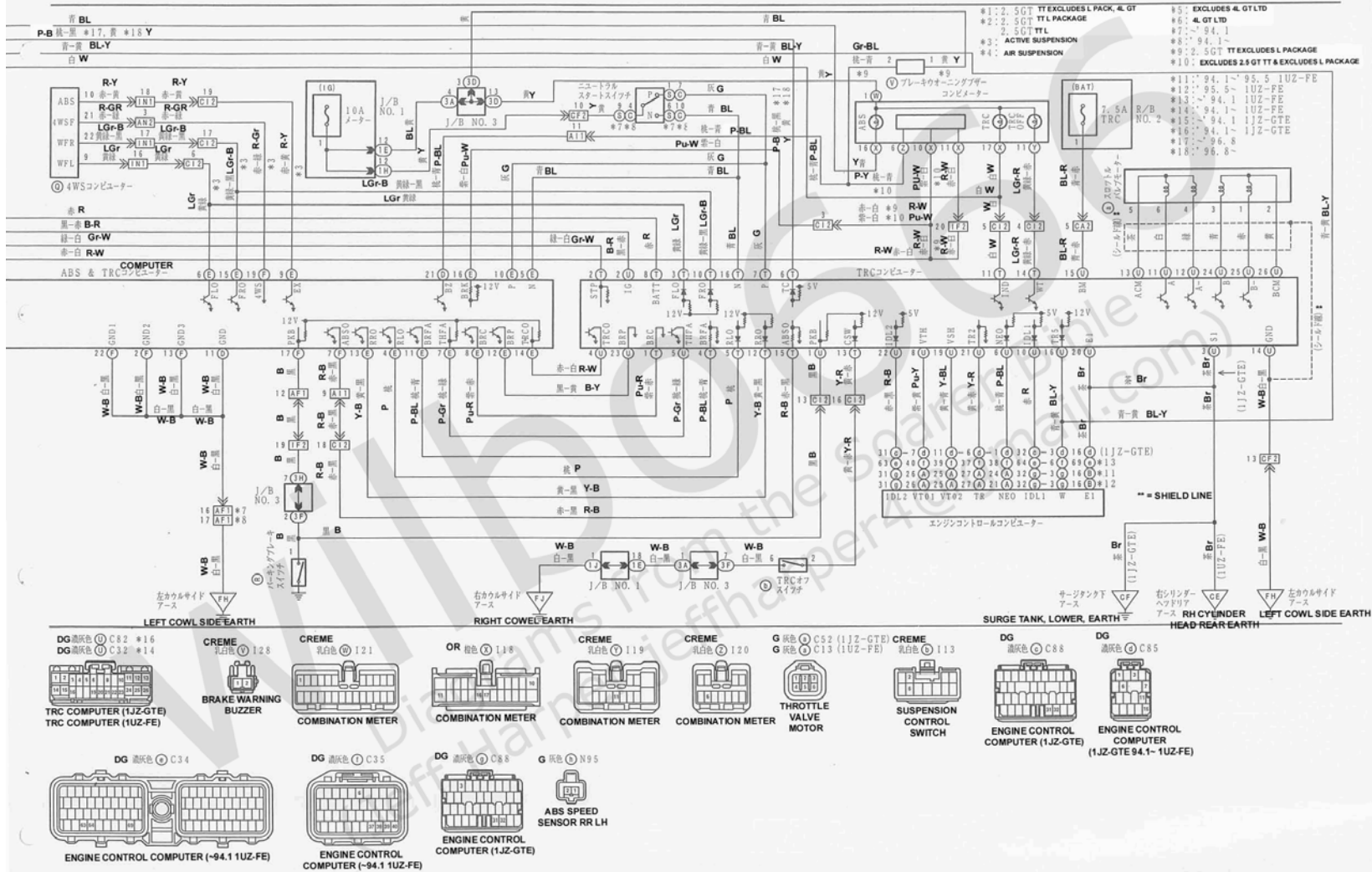


3-22



ABS & TRC (~'96.8, '96.8~'97.8の1UZ-FE)

3-23



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