TOYOTA ALTEZZA (SXE10·3SGE·6MT)STARTDATA MANUAL = TP5-7Harness

TOYOTA ALTEZZA ECU Side Terminal

[TP5-7Base]

Refer the following for special setting when modifying the wiring, etc.



To prepare the vehicle data, write SXE10 STARTDATA on HKS website to F-CONVPRO. Setting by using an actual vehicle according to each vehicle characteristics is required. * SXE10 STARTDATA is data only to start the engine.

The data were prepared based on the vehicle using high-octane gasoline (troctane level is approximately 98-100), and the following parts were installe

Super Power Flow KIT
 Super Header TYPE2
 Silent Hi-POWER Muffler

Explanatory Notes

- B: Power Supply (12V)
- ③: Backup Power Supply (12V)
- (E): Ground
- 🐵 : Center Ground
- D: Pressure Sensor, Airflow Signal, etc.
 - FCD : Press Sensor Signal for HKS FCD

ARF : Airflow Signal for HKS AFR

Speed Signal

SLD :Speed Signal for HKS SLD

- ①: RPM Signal
 - 🛞 :RPM Signal Level Converter Required.
- ⊕: Injector Signal
 - Primary Injector Signal
 - 🐨 :Secondary Injector Signal
- Throttle Angle Signal
- (IG: Ignition Signal
 - (IGL) : Leading Ignition Signal
 - (IGT) :Trailing Ignition Signal
 - (IGSL) : Rotor Detect Signal(Leading Side)
 - (IGST) : Rotor Detect Signal(Trading Side)
- 💮 : Water Temp Signal
- ाः Intake Air Temp Signal
- 🛞: Knocking Signal
- O2 Sensor Signal
- S/C·T/C: Supercharger · Turbocharger
- A/T: Automatic Transmission
- M/T: · Manual Transmission
- When there is more than one signal, a number comes after the mark. The number comes with the injector and ignition signals mean a number of cylinder.

This explains the main points to prepare STARTDATA using the modified harness TP5-7 for TOYOTA ALTEZZA(SXE10). For mapping, parameter settings, and data logging, refer to the operation manual of F-CON V Pro Ver.3.4.

■ Accelerator position signal input (Hardware)

TOYTOA ALTEZZA (SXE10) has electronically controlled throttles as standard.

Engine load is measured by connecting throttle butterfly signal 1 to F-CON terminal #20. However there can sometimes be cases when releasing the accelerator does not fully close the throttle which causes fuel to be injected and therefore engine braking may be compromised. To avoid this situation, connect accelerator position signal 1 to F-Con terminal #61. * Accelerator position overrides physical throttle position and operates as per fully closed throttle condition.



Accelerator position signal input (software)

In Parameter /	Parameter Setting					×	Parameter Setting				×
innut settings /	Basic Crankshaft/Camshaft			Voltage			Basic Crankshaft/Camshaft			Basic	
input settings /	▲ Input Setting Voltage	Option Voltag	e Input [Type1]	Option Volta	ge Input [Type2]		✓ Input Setting	Number of Cadinders	4 -	Dienlacement	2000 [mi]
voltage tab, Pin	Throttle/Accel	#1 PIN 14	Intake Air Pressure	#9 PIN 52	Pull-Up Water Temp		Voltage		TOYOT M		TOYOTAG
61 is set to	Others Switch	#2 PIN 21	AirFlow_1	•	✓ Pull-Up		- Throttle/Accel	Crank Signal Type	TUYUTAZ	 Cam Signal Type 	
Access 1.	- Frequency - A/F - Knock	#3 PIN 9	OFF	#10 PIN 39	Intake Air Temp.		- Others Switch	Crank Offset Angle		0.0 [degr	ee]
Setting	 Output Setting Voltage 	#4 PIN 15	OFF	▼ #11 PIN 23	OFF	-	A/F - Knock	Crank Signal Sub Param	eter	0	
accelerator fully	Switch (LSL1)	#5 PIN 16	OFF	- #12 PIN 24	Pull-Up OFF	-	- Voltage	Type of Intake Air Volur	me Measurement	Intake Air Pr	essure →
closed level to	Switch (LSH1) Switch (LSH2)	Ignition Got	,				- Switch (LSL1)	Complete Combustion J	udgement RPM	500 [r/m	กไ
2.0% cap avoid	✓ Switch (HS)						-Switch (LSH1)	Engine Stall Judgement	RPM	200 [r/mi	กไ
	Fuel 1						- Switch (LSH2)	Scramble Trim Time	0 [ms	ec] Power Holding Time	0 [sec]
the above	Twin Injector			Option Volta	ge Input [Type3]		 ✓ Switch (HS) ✓ Fuel 	Standard Power Supply	Voltage	12000 [mV]	
mentioned	Ignition 1 Ignition 2	Air Flow Type	OFF		Throttlo1_1		- Fuel 1 - Fuel 2		0.0 [8]		
issue	▲ ISC			#16 PIN 61	Accel_1	•	Twin Injector	Fuer Cut Throttle	2.0 [%]	Fuer Out Accel Posit	ion 2.0 [%]

■ Intake Air Temperature Signal additional information.

The stock air flow meter contains IAT sensors. In order to measure actual IAT it is necessary to modify the wiring harness as indicated below:



Connect HKS IAT sensor to now vacant terminal #39

■ Managing the Check Engine Light

When using FCONVPro, due to the complete customization of the fueling settings an AFR error could cause an engine check light. In this case, disconnecting and insulating the terminal below will stop the light illuminating. Please perform this if the light causes concern. Engine error codes can be checked using HKS OB-Link.



■ Before using SXE10 STARTDATA····

When preparing SXE10 STARTDATA, the following throttle sensor voltage and accel sensor voltage input was performed. Make sure to complete the throttle sensor and accel sensor learning before starting the vehicle set-up.

①Turn on the ignition. Check if the power of F-Con unit is on.

②Select "Send All Data" from "Communication" mane.

(3) Click "GET" of CLOSE side (1) in Throttle/Accel under Parameter Setting without acceleration.

(a) Click "GET" of OPEN side (2) in Throttle/Accel under Parameter Setting while an accelerator is fully opened.

(5) In the same way, make sure to complete accel sensor voltage Parameter Setting((3, 4))

Parameter Setting					×
Basic Crankshaft/Camshaft		Throt	tle/Accel		(2)
 Input Setting Voltage Throttle/Accel Pressure 	Throttle Parameter 1-1 PIN 20	CLOSE	737 [mV] GET 0.0 [%]	OPEN	4067 [mV] GET 100.0 [%]
- Others - Switch - Frequency	Throttle Parameter 1-2	CLOSE	0 [mV] GET	OPEN	5000 [mV] GET 100.0 [%]
 A/F - Knock Output Setting Voltage Frequency 	Throttle Parameter 2–1	CLOSE	0 [mV] GET	OPEN	5000 [mV] GET 100.0 [%]
Switch (LSL1) Switch (LSL2) Switch (LSH1) Switch (LSH2)	Throttle Parameter 2–2	CLOSE	0 [mV] GET	OPEN	5000 [mV] GET
Switch (HS)	Accel Parameter 1 PIN 61	CLOSE	493 [mV] GET 0.0 [%]	OPEN	3925 [mV] GET 100.0 [%]
Twin Injector	Accel Parameter 2	CLOSE	0 [mV] GET 0.0 [%]	OPEN	5000 [mV] GET 100.0 [%]

⁽⁶⁾After the throttle voltage learning is completed, click "Send Parameter" or "OK" to return to a normal screen.



Vehicle Setup Points (Setup on Chassis Dynamo Meter) ■ Standard Ignition Time Main Map Based on information from F-CONIS and OBD2(K-LINE), the ignition time map tracing the factory ECU ignition time was prepared to maintain the vehicle condition. (At 2000RPM = BTDC13, and under high speed & high load area = BTDC23)

To prepare STARTDATA, the knocking signal from the factory knocking sensor was confirmed using Oscilloscope, and the vehicle conditions were checked from its output waveform.

This map's values may vary depending on the vehicle's individual difference. Attention must be paid to the vehicle' knocking during setting up the vehicle.

Use the acceleration trim ignition time map and other items that may effect on the engine response as default data. The setup must be performed in accordance with each vehicle characteristics.



기 Unit Data DATA Inform 무図		2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000	7250	7500	7600
🗐 [F1] Axis Setting	-0.80	31.4	33.6	34.7	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8
F21Conversion Table	-0.77	31.2	33.3	34.5	34.5	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
F3]Fuel Control	-0.75	30.6	32.8	33.9	34.0	34.1	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.2	34.2
S [F3]Fuel Map 1	-0.72	30.1	3Z.Z	33.4	33.5	33.6	33.7	33.8	33.8	33.8	33.8	33.8	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.8
🞝 [F3]Fuel Map 2	-0.70	28.0	31.7	32.8	33.0	33.2	33.3	33.4	33.4	33.4	33.4	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
🕞 [E3] Fuel Map 3	-0.67	20.U 20.E	01.1 90 E	91.7	02.0 92.0	02.7	02.0 99.5	00.U	00.U	00.U	00.1 99.7	00.1 99.7	00.1 99.7	00.1	00.1	00.2	00.2	00.2	00.2	00.2	00.1 99.7	00.1
■ [F3]Fuel Cut	-0.60	20.0	20.0	21.2	91.5	91.9	92.0	22.0	22.0	22.0	22.7	22.7	92.7 92.4	22.0	22.0	92.0 92.4	92.6	22.0	22.0	22.0 22.4	92.7 92.4	22.7
	-0.59	27.0	29.4	30.6	31.0	31.4	31.6	31.8	31.9	31.9	31.9	31.9	32.4	32.4	32.4	32.4	32.0	32.0	32.0	32.4	32.4	31.9
	-0.57	26.9	28.8	30.1	30.5	30.9	31.2	31.4	31.5	31.5	31.5	31.5	31.6	31.6	31.7	31.7	31.8	31.8	31.8	31.7	31.6	31.6
	-0.54	26.3	28.3	29.5	30.0	30.5	30.8	31.0	31.1	31.1	31.1	31.1	31.2	31.3	31.3	31.4	31.4	31.4	31.4	31.3	31.2	31.2
	-0.52	25.8	27.7	29.0	29.5	30.0	30.4	30.6	30.7	30.7	30.7	30.8	30.8	30.9	30.9	31.0	31.1	31.1	31.0	30.9	30.8	30.8
	-0.49	25.3	27.2	28.4	29.0	29.6	30.0	30.2	30.3	30.3	30.3	30.4	30.5	30.5	30.6	30.6	30.7	30.7	30.7	30.6	30.5	30.4
	-0.46	24.7	26.6	27.9	28.5	29.1	29.5	29.7	29.9	29.9	29.9	30.0	30.1	30.1	30.2	30.3	30.3	30.3	30.3	30.2	30.1	30.0
	-0.44	24.2	26.0	27.3	28.1	28.6	29.1	29.3	29.5	29.5	29.5	29.6	29.7	29.8	29.8	29.9	30.0	30.0	29.9	29.8	29.7	29.6
[F0]Valve liming [F0]0-4: Out-out	-0.41	23.7	25.5	26.8	27.5	28.2	28.7	28.9	29.1	29.1	29.2	29.2	29.3	29.4	29.5	29.5	29.6	29.6	29.6	29.5	29.3	29.2
Billegioption output	-0.39	23.1	24.9	26.2	27.1	27.7	28.3	28.6	28.7	28.7	28.8	28.8	28.9	29.0	29.1	29.2	29.3	29.3	29.2	29.1	28.9	28.8
	-0.36	22.6	24.4	25.7	26.5	27.3	27.9	28.2	28.3	28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.9	28.9	28.9	28.7	28.5	28.4
🖽 Ignition Main Map	-0.34	22.1	23.8	25.1	26.1	26.8	27.5	27.8	27.9	28.0	28.0	28.1	28.2	28.3	28.4	28.4	28.5	28.6	28.5	28.3	28.2	28.1
🖽 Ignition Sub Map	-0.31	21.5	23.2	24.6	25.6	26.4	27.0	27.3	27.5	27.6	27.6	27.7	27.8	27.9	28.0	28.1	28.2	28.2	28.1	28.0	27.8	27.7
Idle Ignition Main Map	-0.28	21.0	22.7	24.0	25.1	25.9	26.6	26.9	27.1	27.2	27.2	27.3	27.4	27.6	27.6	27.7	27.8	27.8	27.8	27.6	27.4	27.3
Idle Ignition Sub Map	-0.26	20.5	22.1	23.5	24.6	25.5	26.2	26.5	26.7	26.8	26.8	26.9	27.1	27.2	27.2	27.3	27.4	27.5	27.4	27.2	27.1	27.0
Main Close Angle Time	-0.23	19.9	21.6	22.9	24.1	25.0	25.8	26.1	26.3	26.4	26.4	26.5	26.7	26.8	26.9	27.0	27.1	27.1	27.0	26.9	26.7	26.6
E Sub Close Angle Time	-0.21	19.4	21.0	22.4	23.6	24.6	25.4	25.7	25.9	26.0	26.0	26.1	26.3	26.4	26.5	26.6	26.7	26.8	26.7	26.5	26.3	26.2
Higher Ispition Timing	-0.18	18.9	20.4	21.8	23.1	24.1	24.9	25.3	25.6	25.6	25.6	25.7	25.9	26.0	26.2	26.3	26.4	26.4	26.3	26.1	25.9	25.8
m Aptiles ICN Cut	-0.15	18.3	19.9	21.3	22.6	23.7	24.5	24.9	25.2	25.2	25.3	25.4	25.5	25.7	25.8	25.9	26.0	26.0	26.0	25.8	25.5	25.4
Antinag IGN COC	-0.13	17.8	19.3	20.7	22.1	23.2	24.1	24.5	24.8	24.8	24.9	25.0	25.2	25.3	25.4	25.5	25.7	25.7	25.6	25.4	25.1	25.0
	-0.10	17.3	18.7	20.2	21.6	22.8	23.7	24.1	24.4	24.5	24.5	24.6	24.8	24.9	25.1	25.2	25.3	25.3	25.2	25.0	24.8	24.6
	-0.08	16.7	18.2	19.6	21.1	22.3	23.3	23.7	24.0	24.1	24.1	24.2	24.4	24.5	24.7	24.8	24.9	25.0	24.9	24.6	24.4	24.2
	-0.05	16.2	17.6	19.1	20.6	21.8	22.8	23.3	23.6	23.7	23.7	23.9	24.0	24.2	24.3	24.4	24.6	24.6	24.5	24.3	24.0	23.9
	-0.03	15.6	1/.1	18.5	20.1	21.4	22.4	22.9	23.2	23.3	23.3	23.5	23.7	23.8	23.9	24.1	24.2	24.3	24.2	23.9	23.7	23.5
	0.001	10.4	15.8	18.3	18.8	71.7	11.7	11.1	(5.11	(5.1	(5.	75.31	(4.5)	(d. 6	(4.8)	75.8	74.1	74.	74.11	15.1	74.5	66.8

Vehicle Setup Points (Setup on Chassis Dynamo Meter)

■ Standard Ignition Time Main Map

Based on information from F-CONIS "F Main Input. Output", the ignition timing map tracing the factory ECU ignition

time was prepared to maintain the vehicle condition.

(At 2500RPM≒9000µSEC, and under high area (nearly the rev limit) ≒11000µSEC afterward.)

The injector opening rate became nearly equal to 70%. Also, it was confirmed that the value of the AF was about 11.63 under the high RPM and high load area.



Use the non-phase injection time map, acceleration trim map (fuel correction), and other items that may effect on the engine response as default data. The setup must be performed in accordance with each vehicle characteristics.



High RPM/High Load

Refer to the manual of F-CON V Pro Ver.3.4 for use of the fuel mapping, etc.

ica in accordance v	VICII	cucii	V CI III		iui u		cico.															
Unit Data DATA Inform 🕀 🖾		2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000	7250	7500	7600
A[E1]Avia Satting	-0.80	872	876	896	927	960	992	1022	1054	1083	1107	1122	1128	1131	1133	1134	1134	1133	1132	1132	1132	1132
TEP]Conversion Table	-0.77	926	935	952	976	1003	1030	1057	1084	1111	1133	1146	1153	1156	1157	1158	1158	1158	1157	1157	1157	1157
	-0.75	1060	1074	1083	1091	1104	1122	1142	1163	1185	1203	1215	1221	1224	1226	1227	1227	1228	1228	1229	1229	1229
	-0.72	1243	1258	1255	1249	1250	1260	1274	1291	1308	1324	1336	1343	1347	1350	1352	1354	1355	1356	1357	1357	1357
	-0.70	1458	1465	1451	1436	1432	1438	1450	1467	1486	1504	1518	1528	1535	1541	1544	1547	1548	1549	1549	1548	1548
E [F3]Fuel Map 2	-0.67	1679	1673	1654	1640	1639	1648	1665	1690	1718	1745	1765	1780	1791	1798	1803	1804	1803	1801	1798	1796	1796
B [F3]Fuel Map 3	-0.65	1916	1898	1875	1866	1869	1885	1913	1953	1998	2040	2073	2096	2111	2119	2121	2116	2108	2099	2090	2084	2084
🞒 [F3] Fuel Cut	-0.62	2153	2131	2108	2104	2114	2140	2182	2241	2308	2371	2420	2454	2474	2480	2475	2461	2441	2422	2405	2394	2394
🗗 [F4] A/F	-0.59	2383	2367	2349	2350	2365	2400	2454	2532	2621	2705	2774	2820	2845	2849	2835	2810	2779	2750	2727	2712	2712
🞒 [F5] Ignition Control	-0.57	2592	2591	2584	2590	2609	2649	2711	2802	2908	3012	3098	3158	3189	3192	3174	3142	3106	3073	3047	3031	3031
🗗 [F5]Ignition Map 1	-0.54	2784	2806	2817	2832	2851	2888	2951	3047	3162	3279	3379	3452	3492	3502	3487	3457	3422	3390	3364	3348	3348
🐴 [F5] Ignition Map 2	-0.52	2952	3000	3036	3062	3082	3116	3177	3275	3395	3518	3627	3711	3764	3787	3783	3763	3734	3705	3681	3666	3666
🐴 [F6] ISC	-0.49	3091	3168	3233	3275	3300	3335	3402	3505	3630	3756	3868	3959	4025	4063	4075	4067	4046	4021	3999	3984	3984
A [F7]Boost	-0.46	3210	3303	3387	3442	3477	3525	3613	3739	3879	4011	4125	4220	4293	4343	4367	4370	4357	4336	4316	4302	4302
🗗 [F8] Valve Timing	-0.44	3352	3446	3532	3585	3624	3690	3809	3973	4142	4293	4414	4512	4587	4640	4670	4679	4672	4655	4637	4623	4623
Figlingtion Output	-0.41	3536	3614	3685	3726	3763	3844	3999	4211	4425	4607	4742	4844	4919	4972	5004	5015	5009	4991	4969	4951	4951
	-0.39	3778	3840	3885	3900	3923	4010	4191	4445	4709	4933	5094	5205	5282	5337	5372	5385	5379	5355	5322	5292	5292
	-0.36	4065	4118	4146	4146	4157	4239	4423	4694	4991	5251	5439	5563	5647	5709	5755	5778	5774	5744	5696	5649	5649
📰 Standard Injection Time	-0.34	4396	4447	4466	4455	4454	4519	4684	4944	5248	5534	5750	5895	5989	6061	6120	6159	6167	6136	6074	6010	6010
📰 Injection Time at Start	-0.31	4727	4785	4812	4803	4796	4842	4981	5217	5510	5805	6042	6209	6316	6396	6466	6521	6542	6512	6442	6363	6363
FT None Phase Injection Time	-0.28	5016	5087	5115	5097	5087	5138	5284	5519	5806	6102	6354	6543	6662	6744	6811	6869	6894	6865	6787	6698	6698
Time Independent Injector Time	-0.26	5265	5363	5400	5374	5357	5420	5599	5868	6170	6467	6723	6928	7062	7145	7199	7238	7246	7203	7114	7018	7018
Ben Main Injector Dead Time	-0.23	5513	5640	5688	5653	5628	5713	5942	6264	6596	6902	7157	7367	7505	7584	7618	7632	7616	7552	7444	7335	7335
Bes Sub Injector Dead Time	-0.21	5805	5957	6024	5993	5955	6038	6287	6658	7036	7373	7638	7845	7976	8043	8062	8060	8026	7944	7816	7693	7693
F Independent Injector Dead Time	-0.18	6125	6283	6366	6351	6432	6457	6648	7063	7442	7739	8099	8300	8412	8465	8482	8483	8449	8356	8208	8066	8066
man of a set of the se	-0.15	6473	6634	6737	6751	6836	6937	7011	7467	7871	8220	8629	8724	8833	8883	8905	8912	8878	8775	8614	8457	8457
E Standard Injection liming	-0.13	6890	7051	7169	7214	7290	7442	7523	7972	8452	8932	9361	9437	9513	9513	9589	9462	9437	9386	9235	8982	8982
BH Injection liming	-0.10	7847	7840	8012	7989	7936	7830	7897	8267	9469	10024	10296	10315	10297	10245	10258	10400	10345	10220	10068	9672	9672
🕲 Iwin Injector	-0.08	8204	8320	8345	8469	8192	8070	8330	8640	10232	11045	11154	11003	10876	10876	10969	11055	11015	10876	10608	10182	10182
	-0.05	8771	8720	8788	8811	8640	8432	8432	8960	10636	12000	11610	11407	11205	11255	11305	11710	11603	11488	11033	10861	10861
	-0.03	9164	9040	9120	9086	8928	8640	8471	9280	10939	12264	11870	11584	11405	11433	11565	11912	11863	11748	11293	11121	11121
	0.00	0007	0040	0453	0000	0400	0000	0040	0.407	40004	40504	44077	44504	44400	44500	44004	44700	44000	44740	44453		11101

★Actual signal output duration is the sum of (standard injection time x fuel correction) + Injector dead time setting.

Vehicle Setup Points (Setup on Chassis Dynamo Meter)

■ Creating the Standard Injection Map (Supplement)



The Standard injection time map on the previous page shows a large spike in injection time around \Rightarrow 5000 rpm. This is due to the Dual VVT-I acting in this range and the fuelling is increased to suit.

When creating this Start Data, the stock ECU fuel map was analysed using F-Con iS and the stock ECU fuelling also increases fuel injection around 5000 rpm also.

The Start Data map is designed to trace the stock ECU injection map as close as possible.

■ F-CON iS• Log Data This is RPM•Injection Time•A/F comparison log data. The Start Data map has been designed to reflect the stock map as close as possible.

Please reset the map to suit your hardware setup.



Vehicle Setup Points (Setting Items, etc.) ■ OTHER

Parameter Setting								— X	
Basic Crankshaft/Camshaft				Fu	iel 1				
✓ Input Setting	-Fuel Control 1	ype			-Fuel Group Di	stribu	tion		
- Voltage - Throttle/Accel	Port 1	Main x1	•		Port 1	Group	o1 ,		
Pressure	Port 2	Main x1	•		Port 2	Group	o1 🗸		
Others	Port 3	Main ×1	•		Port 3	Group	VPm		
Frequency	Port 4	Main x1	•		Port 4	Group	3.4 Unit Da	ta DATAIn	form
A/F - Knock	Port 5	OFF	•		Port 5	Group	🗗 (F3) Fuel	Control	
	Port 6	OFF	•		Port 6	Group	🗗 (F3) Fuel	Map 1	
Frequency	Port 7	OFF	•		Port 7	Group	<		
Switch (LSL1)	Port 8	OFF	•		Port 8	Group	BEE Standard	Uniectic	p Time
- Switch (LSH1)	Injector Coeffic	ient	12800000		Fuel Coefficien	t	E Injectio	n Time at	. Start
Switch (HS)	Injector Volume	,	Main	300 [Su	📰 None Pha	ise Inject	ion Time
▲ Fuel	First Injection	Time	[10000 [usec]			lant Iniar	ton Time

■ Fuel control during engine starting has been modified in Parameter · Fuel 1. Whilst there are difference between each vehicle, if the engine is starting to an acceptable level, please retain the default data and continue setup.

1657

-0.65

-0.40

Port 3	Main x1	-		Port 3	Group	7 Unit Data DATA Inform	ก		-20	-10	0	10	201	301	40	50	60	70	80	901	100	110	120	130
Port 4	Main x1	•		Port 4	Group		11-	1	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
Port 5	OFF	•		Port 5	Group	🐴 [F3] Fuel Control 🛛 🐴 [F3]]6 —	2	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
Port 6	OFF	•		Port 6	Group	🞒 [F3] Fuel Map 1 🛛 🐴 [F3]]6 —	3	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
Port 7	OFF	•		Port 7	Group	4 III >		4	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
Port 8	OFF	•		Port 8	Group		417	5	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
					-	E Standard Injection lime		6	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
jector Coeffic	ient	12800000		Fuel Coefficien	t	ET Injection Time at Start		7	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
jector Volume		Main	300 [i	mL/min]	Su	menter Phase Injection Time		8	109800	67600	30800	20850	15000	13200	11400	9720	7920	7920	7920	7920	7920	7920	7920	7920
			10000 F			IBP Independent Injector Time																		

🔭 Unit Data DATA Inform... 🕀

🐴 (F7) Boost 🐴 [F8] Valve Timins ■ For the parameter setting for the airflow meter process and wiring 🐴 [F9] Option Output modification, refer to page 3.SXE10 STARTDATA was prepared based on a vehicle equipped with the factory airflow meters For the vehicle without the airflow meter, edit the parameter shown in the diagram on the right.

Use "RPM \times Pressure" and input a 0 \sim 5V signal to suit.

	•		5															
	Parameter S	Setting				СТАГ		× (Paramete	r Setting					エア	חל	7	Δ
	Basic	haft/Camshaft			Voltage	STAP	(IDAI)	1	Basic	: kshaft/Camshaft				Voltag	le エノ			
	Input S	Setting	Voltage Outp	ut					⊳ Inpu	t Setting	Voltage O	utput						1
	Volt	tage		X Axis		Y Axis	Output Maximum Valu	e	V	oltage			X Axis		Y Axis	Max	Output imum Value	1
	Swi	uency tch (LSL1)	#1 PIN 56 I	nput_Value(AirFlow1)	l → Input_V	/alue(AirFlow1)	▼ 5000 [m\	a	- Fr - Si	equency witch (LSL1)	#1 PIN 56	RPM		👻 Inta	ake_Air_Pressure	•	5000 [mV]	1
	Swit	tch (LSL2)	#2 PIN 57 (DFF	✓ OFF		- 5000 [m\	a	S	witch (LSL2)	#2 PIN 57	OFF		▼ OF	F	-	5000 [mV]	1
7 Unit Data DATA Inform	ເໝໄ	Port	1	2	3	4	5		6	7	8	3						
34 01100000 00100111011110		Cut	7800	7550	7800	7550	20000	200	00	20000	20000							
🛋 [F3] Fuel Cut 🖉	[F51:	Gut	1000	7000	7000	7000	20000	200		20000	20000	-						
	Cee 1	Return	7500	7500	7500	7500	20000	200	00	20000	20000							
	[[-5].																	
		■R	PM Fue	el Cut Ma	ар													
	- P	For	those	vehicles	equipr	hed wit	h the fa	octor	~v (AT or N	Metal (Cata	alvzer t	the	rev limit	er ig	conti	rolled h
				venicies	cquip				,		ictui	Cutt	, uny 2017			51 15		oneu b
📰 Deceleration Fuel Cut		fuel	cut.															
TTT DOW Fund Out		For	START	IDATA †	he imr	pact fro	m the f	iuel	cut	is redu	ced b	v th	e settin	na st	nown ab	ove		
E KFM FUEL CUT		101	0.7400				in the i	aci	cut	is i cuu		,		9 51		5.0	•	

For those vehicles without CATs, the rev limiter can be controlled by editing Ignition Cut RPM of Parameter Setting as shown in the diagram on the right. Make sure not to perform this setting for the vehicle equipped with a CAT. If neglected, it may cause damage to a CAT by unburnt gas which results in damage to an engine.

Parameter Setting	
Basic Crankshaft/Camshaft	Ignition 2
 Input Setting 	Ignition Cut RPM
Output Setting	Normal 7500 [rpm]
	Start 20000 [rpm]
Ignition 1 Ignition 2	Ignition Cut (Start) Setting

2406

2819 2928

2916 3028

3001 3117

3078 3197 3301 3394 3478 3555 3626

2589 2844

 3693 3755

3186 3256

3392 3467

2759

■ Speed Limiter Cancel Function (Formula is shown on the right.)

The speed signal setting is done in #1 PIN 45 of Frequency Output Setting under Parameter Setting.

For SXE10 STARTDATA, the following setting was done to cancel the speed limiter.

The speed limiter cancel function is set to activate at 116.7[Hz] by input 116.7 to the output maximum value.

For SXE10 STARTDATA, the output maximum value is set to the value shown above, and the ECU's speed recognition is clipped approximately at 165km.

In Frequency of Input Setting under Parameter Setting, "JIS_Speed" was selected for Option Frequency Input's Frequency 1 PIN 58, and "4" was input for Number of JIS Car Speed Signal Pulse.

	Formula to Calculate Frequency In	nput
Val	ue	

 $F=N\times SPD/5,6515$

F=Frequency (HZ) N=Speed Pulse SPD=Car Speed (KM/H)

Parameter Setting				×
Basic Crankshaft/Camshaft	Frequency	Output	Frequency	
 Output Setting Voltage 		X Axis	Y Axis	s Output Maximum Value
Frequency Switch (LSL1)	#1 PIN 45	Input_Value	✓ Input_Value	✓ 116.7 [Hz]
Switch (LSL2)	#2 PIN 46	OFF	✓ OFF	✓ 2000.0 [Hz]

Parameter Setting						×
Basic		Fi	requenc	у		
✓ Input Setting		Option Frequency Inpu	t			
Throttle/Accel		Frequency 1 PIN 58	JIS_Spe	ed	-	
Pressure		Frequency 2 PIN 59	OFF		-	
	Car Speed Contr	ol Data		JIS_Speed	-	
A/F - Knock ▲ Output Setting	Wheel Speed 1 Ti	ire Circumference		0 [mm]		
Voltage	Wheel Speed 1 N	umber of Pulse		0		
-Switch (LSL1)	Wheel Speed 1 T	rim Coefficient		0.0 [%]		
Switch (LSL2) Switch (LSH1) Switch (LSH2)	Wheel Speed 2 Ti	ire Circumference		0 [mm]		
Switch (HS)	Wheel Speed 2 N	umber of Pulse		0		
I Fuel 1	Wheel Speed 2 T	rim Coefficient		0.0 [%]		
- Fuel 2 Twin Injector	Number of JIS Ca	ar Speed Signal Pulse		4		