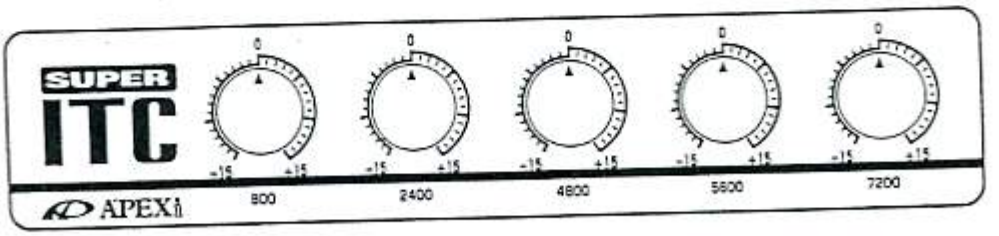
SUPER ITC

SUPER IGNITION TIMING CONVERTER



APEXi

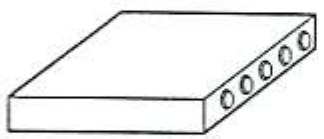
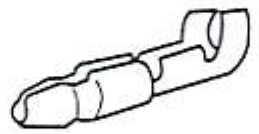
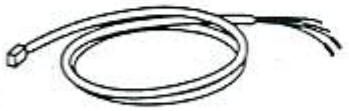
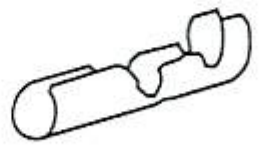
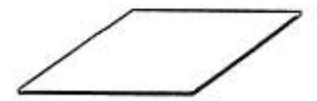
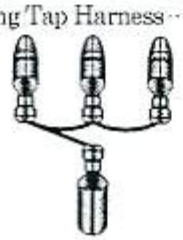
1 Introduction

Thank you for purchasing the A'PEXi SUPER ITC (Super Ignition Timing Converter).
This product allows easy adjustments of ignition timing by modifying the engine crank angle sensor signal.
The ECU (Engine Control Unit) receives the crank angle sensor signal and determines crank angle position. The ECU then determines the correct ignition timing for the spark plugs. This unit modifies the crank angle sensor signal output and allows the ignition timing to be modified.

CAUTION!

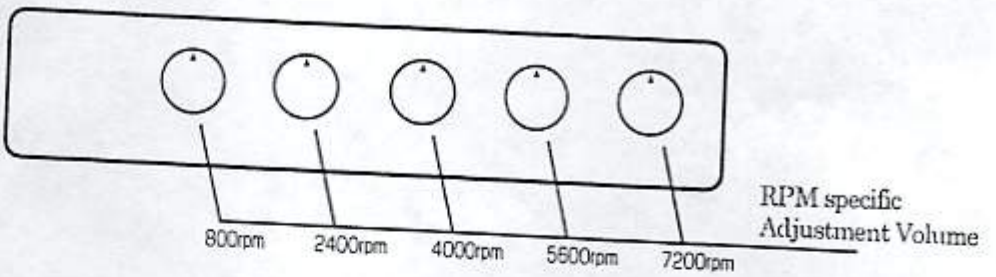
* This unit may not be installed or used on any vehicle which is not listed in this manual.
* Please do not use this unit for any other purpose than the functions stated above.
* Please be sure to thoroughly read this instruction manual before attempting installation.

2 Parts List

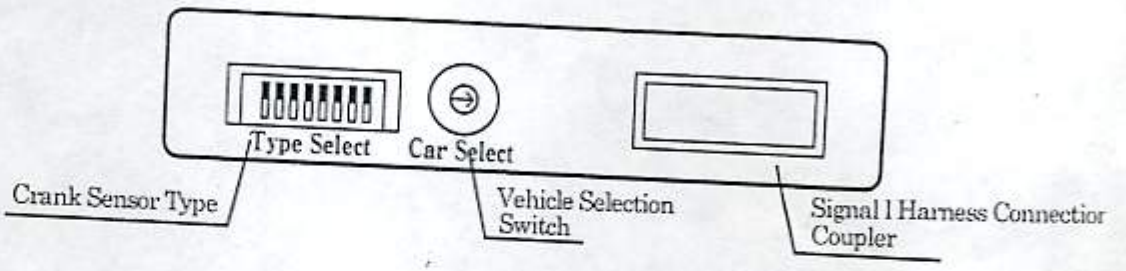
1. Control Unit ····· 1 	5. Male Connector ····· 6 	9. Splitting Tap ····· 2
2. Single Harness ····· 1 	6. Female Connector ····· 6 	10. Instruction Manual ····· 1
3. Splitting Tap Harness ····· 1	7. Male Connector Sleeve ····· 6	11. Double Sided Tape ····· 1 
4. Splitting Tap Harness ····· 1 	8. Female Connector Sleeve ····· 6	

3 Part Names

Front Side



Back Side



4 For the Installer

Warning!

* Please be sure to disconnect the negative terminal of the battery before installation.
* Please mount the unit in the vehicle approx. 50 cm away from the reach of the reach of the driver or at a distance where the driver cannot adjust the unit while the vehicle is in motion.
* Please be sure to secure all unused connectors with electrical tape.

[1] Installation

1. Disconnect the negative terminal of the battery
2. Please locate the vehicle ECU location by using the Vehicle Specific ECU Location Diagram and the Vehicle Specific Wiring Diagram
3. While referring to the Vehicle Specific Wiring Diagram connect a connector to each of the signal wires
   * Please use a male fitting on the ECU side of the harness and a female fitting on the vehicle side of the harness

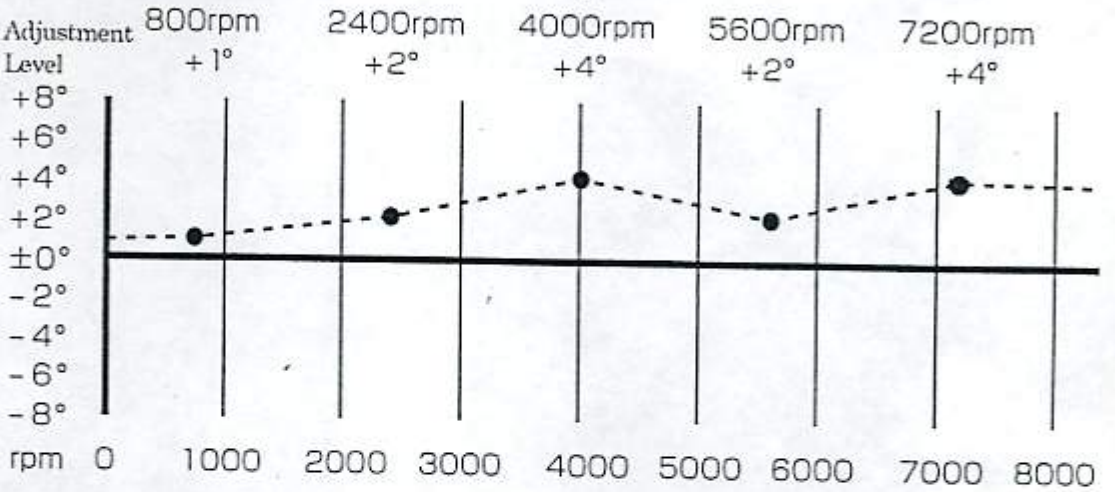
   For NISSAN vehicles, please group two of the same signal wires into one fitting connector.
4. While referring to the Vehicle Specific Wiring Diagram, please connect the red Power (+12V) signal wire. (Please refer to "How to Use the Splitting tap")
   * Be sure to use electrical tape to secure all connections.
5. While referring to the Vehicle Specific Wiring Diagram, please connect the black Ground signal wire. (Please refer to "How to Use the Splitting Taps")
   * Be sure to use electrical tape to secure all connections.

[2] RPM Specific Adjustments

The Super ITC allows the user to adjust the ignition timing with the aid of 5 RPM specific volume knobs on the face of the unit.

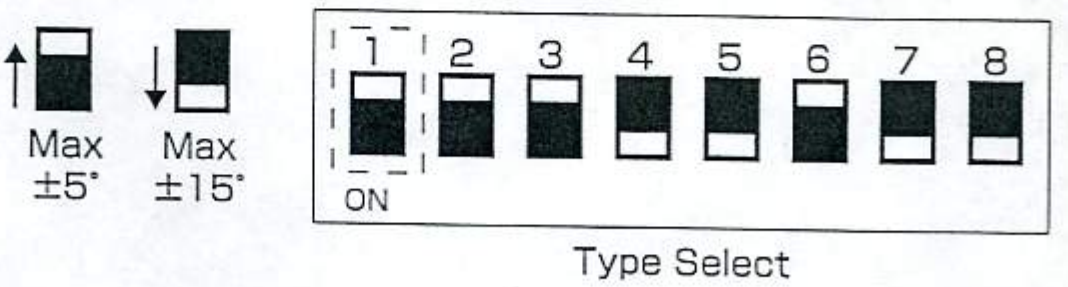
The RPM ranges include 800, 2400, 4000, 5600, 7200rpm. Each knob allows adjustments in 1 degree increments with a maximum of ± 15 degrees. Timing between each RPM knob is determined by the variation between the setting of the previous knob.

EX : If the volumes are set in this setting,



[3] Adjustment Control Feature

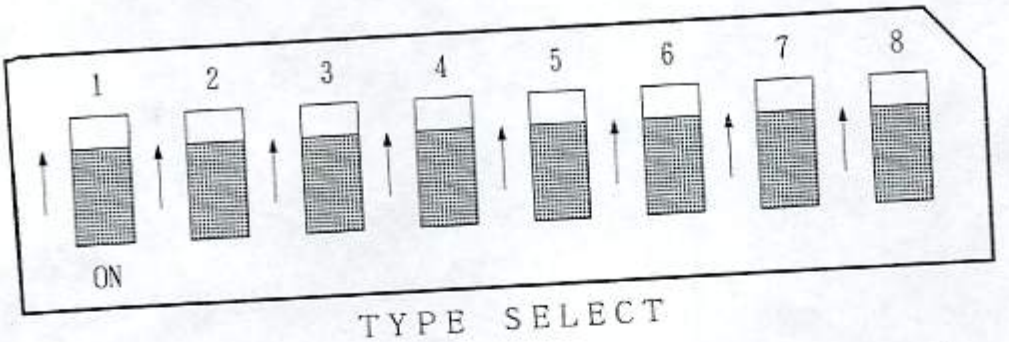
By switching the No. 1 switch of the Crank Angle Sensor Type Switch on the back of the unit, the maximum adjustment of ignition timing becomes ± 5 degree. Even if the volume has been turned up beyond ± 5 degrees, the ignition timing will not exceed ± 5 degrees.



S-ITC CAR SELECT SWITCH APPLICATION TABLE

No.	MANUFACTURER AND ENGINE TYPE	TYPE SELECT 1 2 3 4 5 6 7 8	SENSOR				UNIT				POWER	
			LightBlue	Pink	Green	Brown	Blue	White	Yellow	Orange	Black	Red
0	TOYOTA 1U, 2J, 1J, 7M, 1G, 3S, 4E	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	Ne	G1	G2	G−	Ne	G1	G2	G−	GND	IG
1	TOYOTA 4A (AE86, 92M/C BEFORE)	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	Ne	G		G−	Ne	G		G−	GND	IG
2												
3	HONDA (OLDER MODELS)	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	CRM	TDM	CYM	CRP TDP CYP	CRP	TDP	CYP	CRM TDM CYM	GND	IG
4	HONDA	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	CRM	TDM	CYM	SAME	CRP	TDP	CYP	SAME	GND	IG
5	SUBARU	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	CRK	CAM		CRK- CAM-	CRK	CAM		CRK- CAM-	GND	IG
6	NISSAN DISTRIBUTOR	↑ ↑ ↑ ↓ ↓ ↑ ↓ ↓	1°	180°			1°	180°			GND	IG
7	NISSAN 4CYL	↑ ↑ ↑ ↓ ↓ ↑ ↓ ↓	1°	180°			1°	180°			GND	IG
8	NISSAN 6CYL	↑ ↑ ↑ ↓ ↓ ↑ ↓ ↓	1°	120°			1°	120°			GND	IG
9	NISSAN VQ	↑ ↑ ↑ ↑ ↓ ↑ ↑ ↓	1°	REF	PH		1°	REF	PH	GND	GND	IG
A	MITUBISHI ECLIPSE	↑ ↑ ↓ ↓ ↑ ↓ ↓ ↑		CRANK	CAMPOS			CRANK	CAMPOS		GND	IG
B	MAZDA FD	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	Ne	G		G−	Ne	G		G−	GND	IG
C	MITSUBISHI 4CYL MAZDA NA6CE	↑ ↑ ↓ ↓ ↑ ↓ ↓ ↑		CRANK	CAMPOS			CRANK	CAMPOS		GND	IG
D	MITSUBISHI CN9A	↑ ↑ ↓ ↓ ↑ ↓ ↓ ↑		CRANK	CAMPOS			CRANK	CAMPOS		GND	IG
E	MITSUBISHI 6CYL	↑ ↑ ↓ ↓ ↑ ↓ ↓ ↑		CRANK	CAMPOS			CRANK	CAMPOS		GND	IG
F	TEST MODE											

S-ITC TYPE SELECT SWITCH SETUP



INITIAL SETUP

TYPE SELECT

SENSOR OUTPUT SELECT SWITCH

	6	7	8
PICKUP	↑	↑	↑
0～5	↓	↓	↓

SENSOR INPUT SELECT SWITCH

	3	4	5
PICKUP	↑	↑	↑
0～5	↓	↓	↓

THRESHOLD

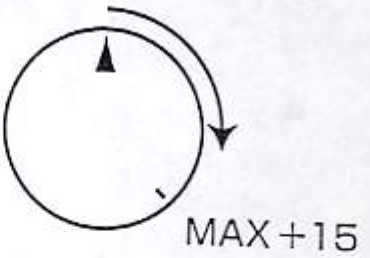
	2
STANDARD	↑
LOW	↓

LIMIT SWITCH

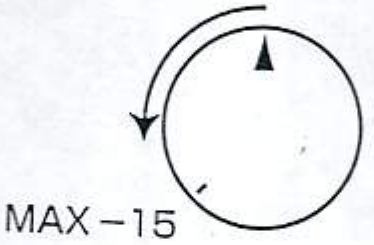
	1	
ON	↑	±5°
OFF	↓	±15°

6 Volume Knob Operation

1. Turning the volume knob to the right(clockwise) will advance the timing. 1 notch represents 1 degree of advance with a maximum of 15 degrees.



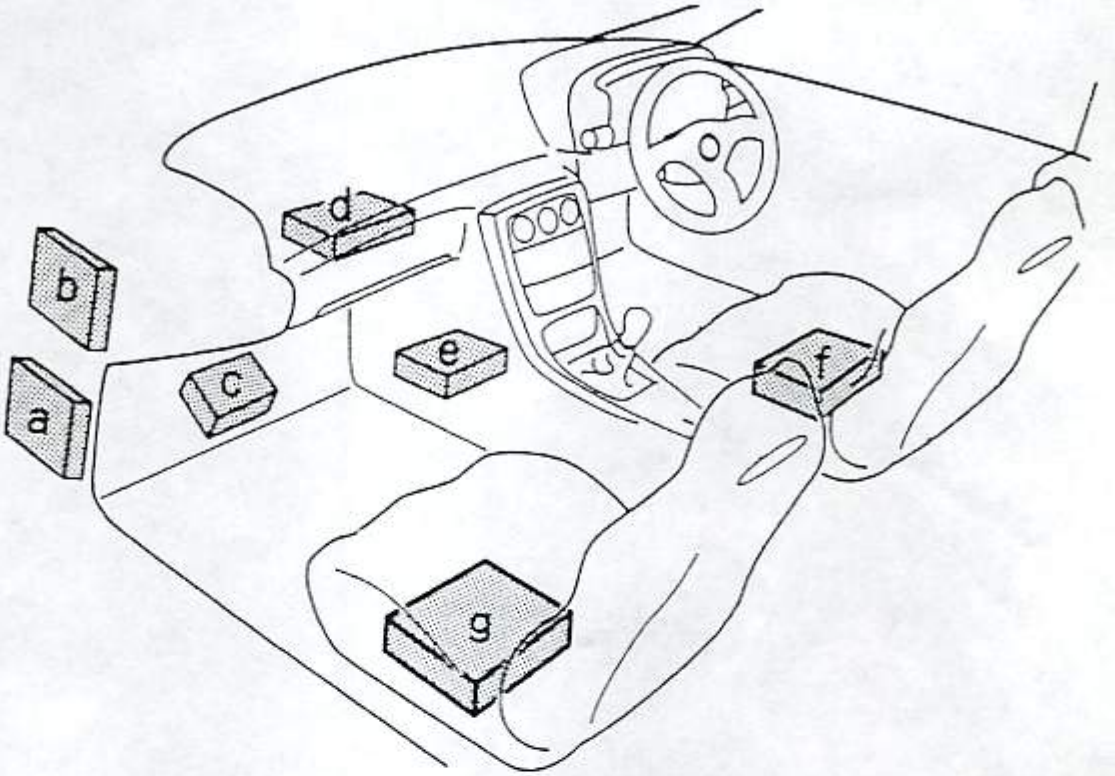
2. Turning the volume knob to the left (counter-clockwise) will retard the timing. 1 notch represents 1 degree of retard with a maximum of 15 degrees.

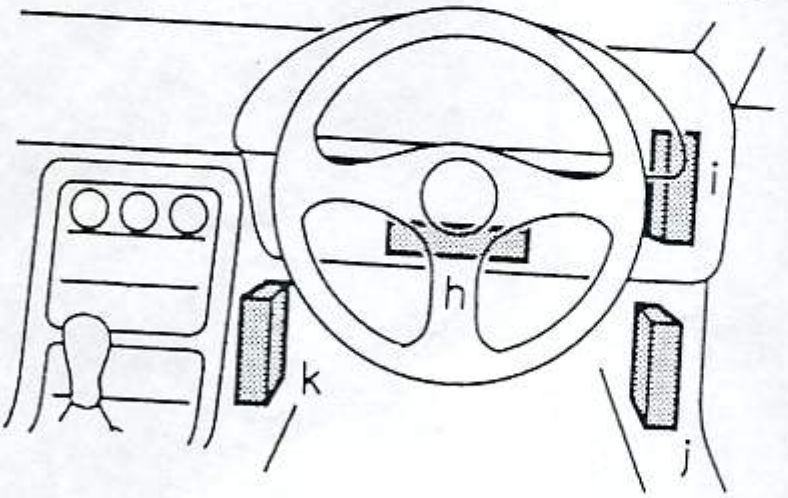


Warning!

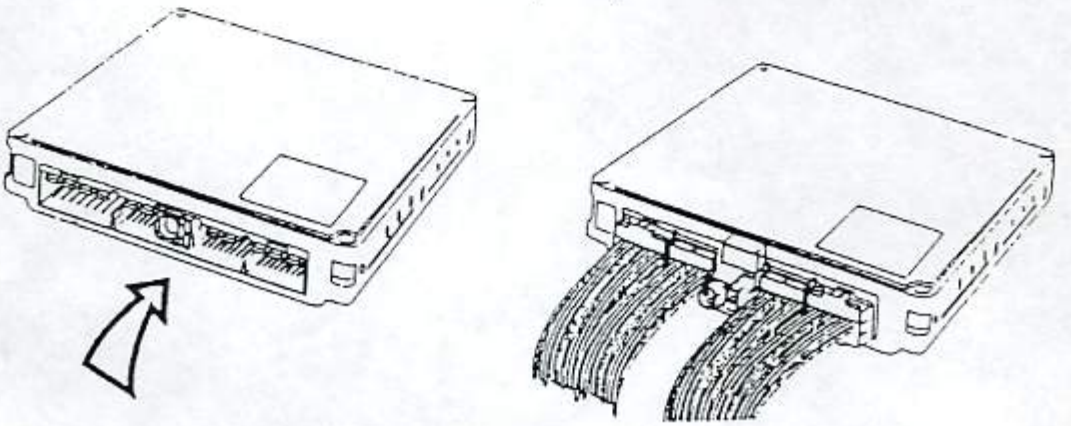
* Advancing of the ignition timing may cause knocking or detonation which may cause destructive damage to the engine. Please be sure to set the ignition timing so that detonation or knocking KOES NOT occur.
* Retarding of the ignition timing may cause the exhaust gas temperature to rise dramatically causing extreme damage to the engine and turbo. Please be sure to set the ignition timing so that the exhaust gas temperature DOES NOT rise excessively.

7 Vehicle Specific ECU Wiring Diagram





*This Arrangement of ECU is for only Right Handle Car.

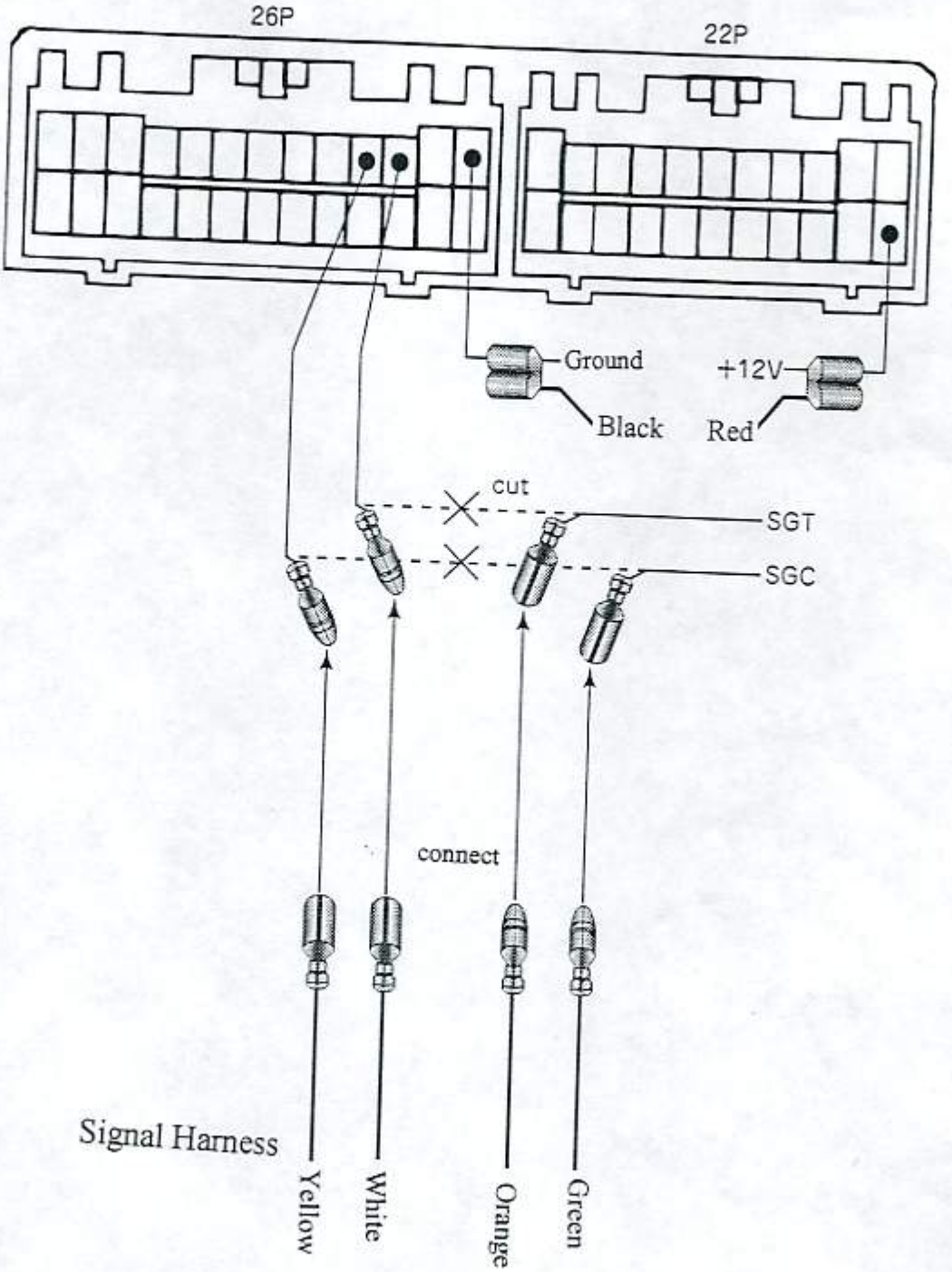


*The Following Diagrams View the Coupler form the Same Angle as the Diagram.
Please be Careful Not to make Improper Connections or Short Out the Unit.

MAZDA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Roadster	NA8C	BP-ZE	'93.8～'95.8	C		C
Roadster	NA6CE	B6-ZE	'89.9～'93.8	C		C

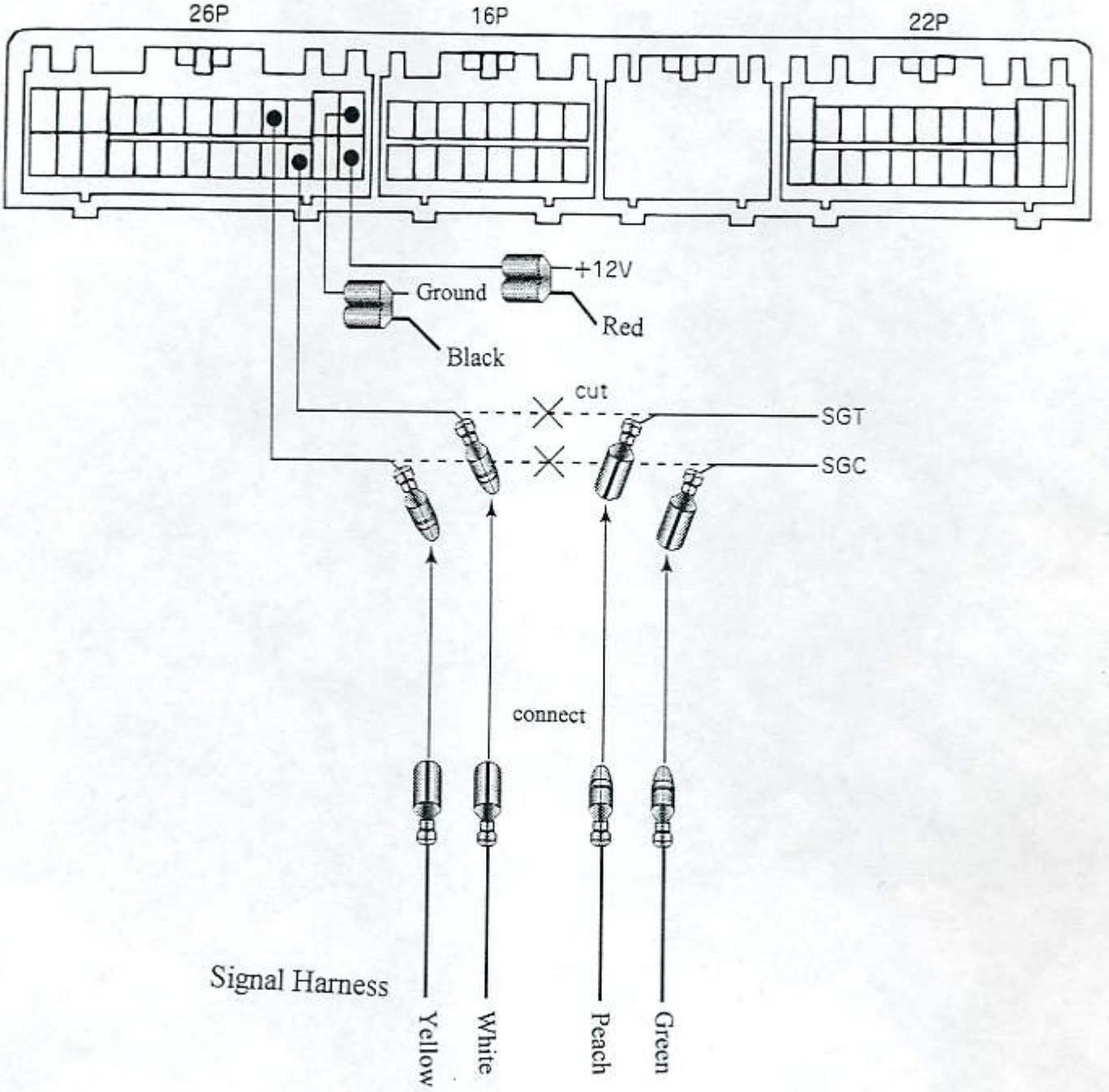
* The No.1 dip-switch on the left side is to limit timing adjustments



MAZDA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Roadster	NA8C	BP-ZE	'95.8~	C		C

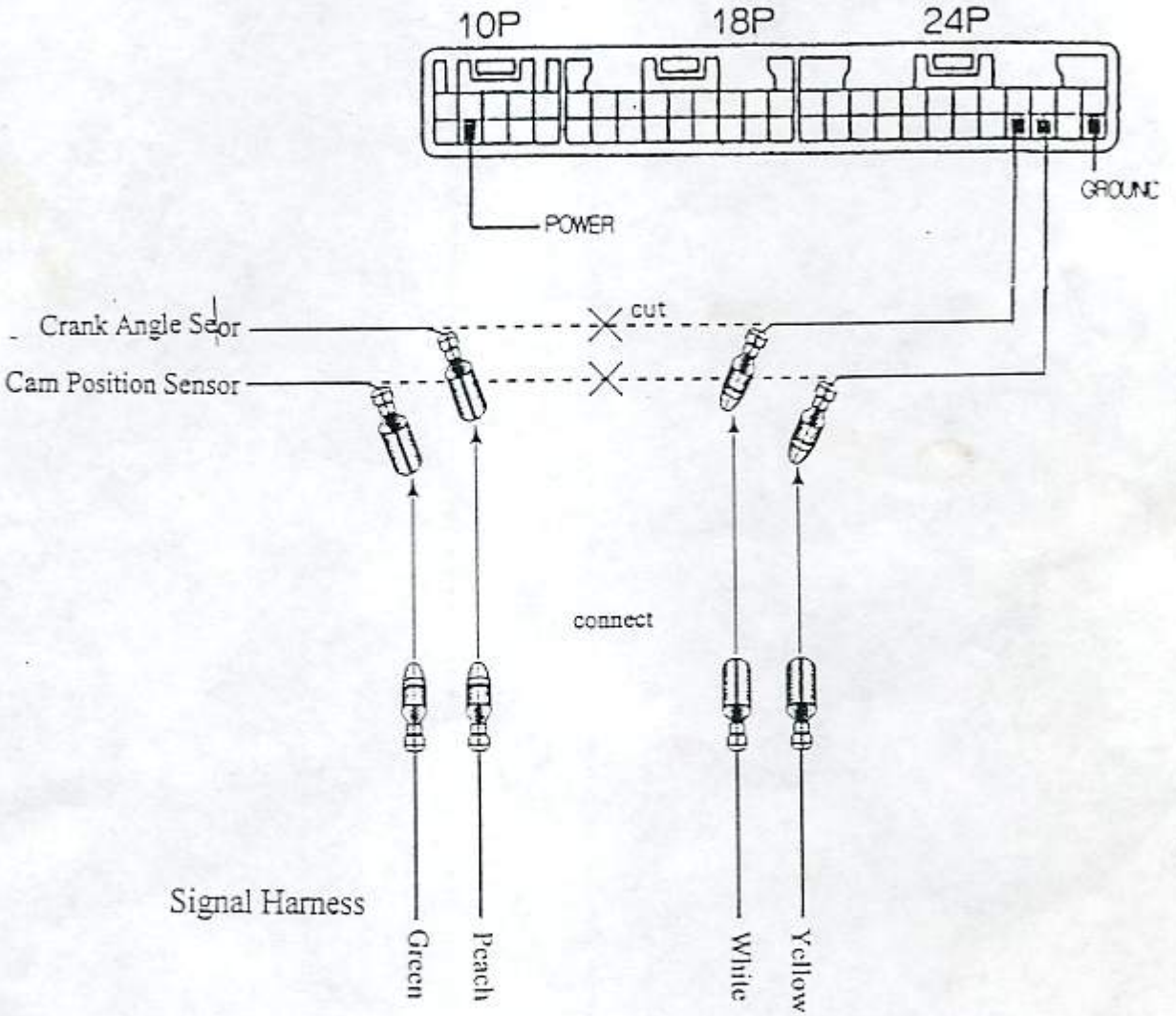
* The No.1 dip-switch on the left side is to limit timing adjustments



APEX
A'PEX Integration, Inc.
130 McCormick Ave., Suite 107, Costa Mesa, CA 92626
Tel: (714) 444-4378 Fax (714) 444-4379

MITSUBISHI

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Eclipse Turbo	D22/27A	4G63	89-94	b	■■□□■■■■	C

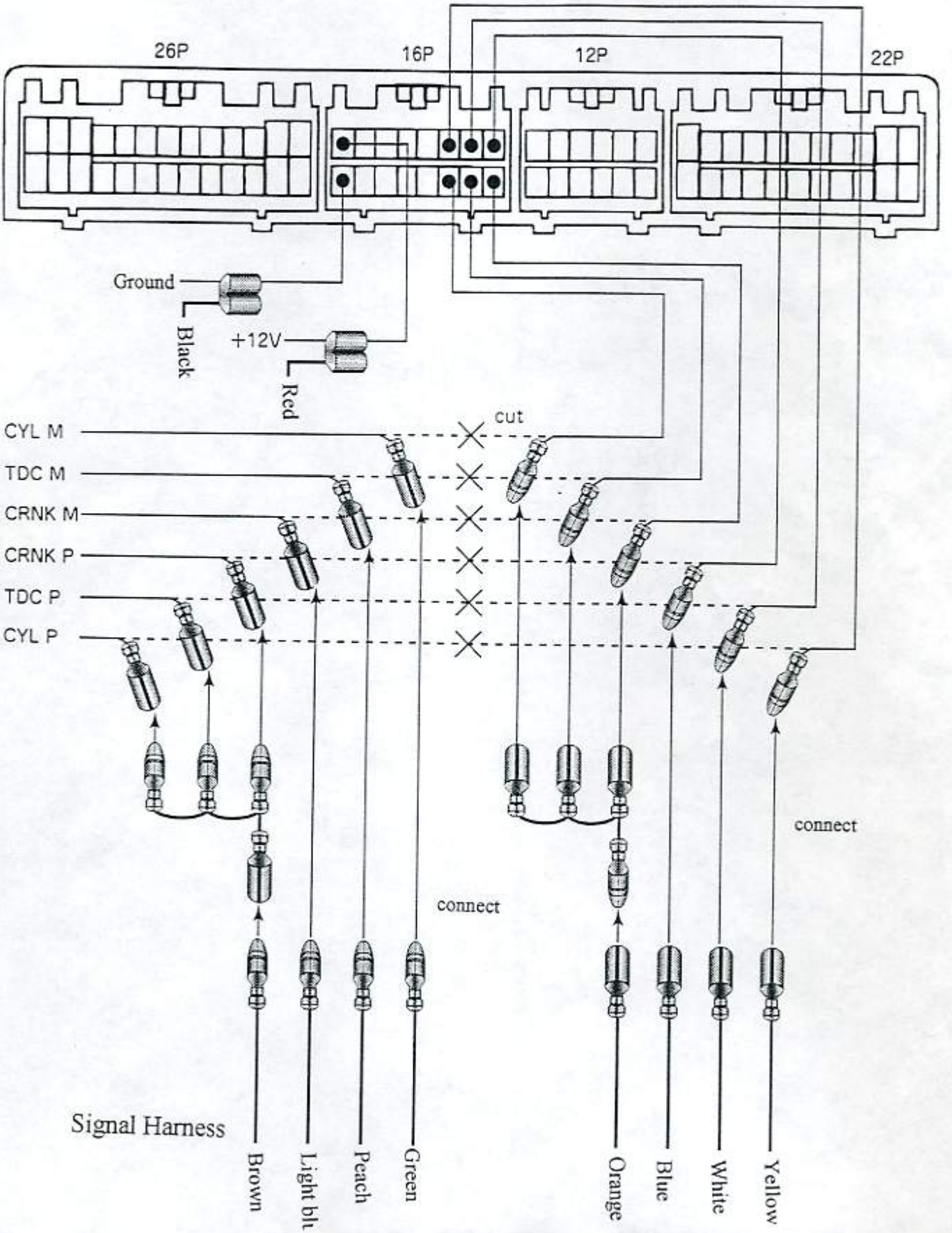


89-94 Mitsubishi Eclipse GS-T/GSX Super ITC Wiring

HONDA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Integra	DC2(A/T)	B18C	'95.9~	a	■■■■■■■■	4

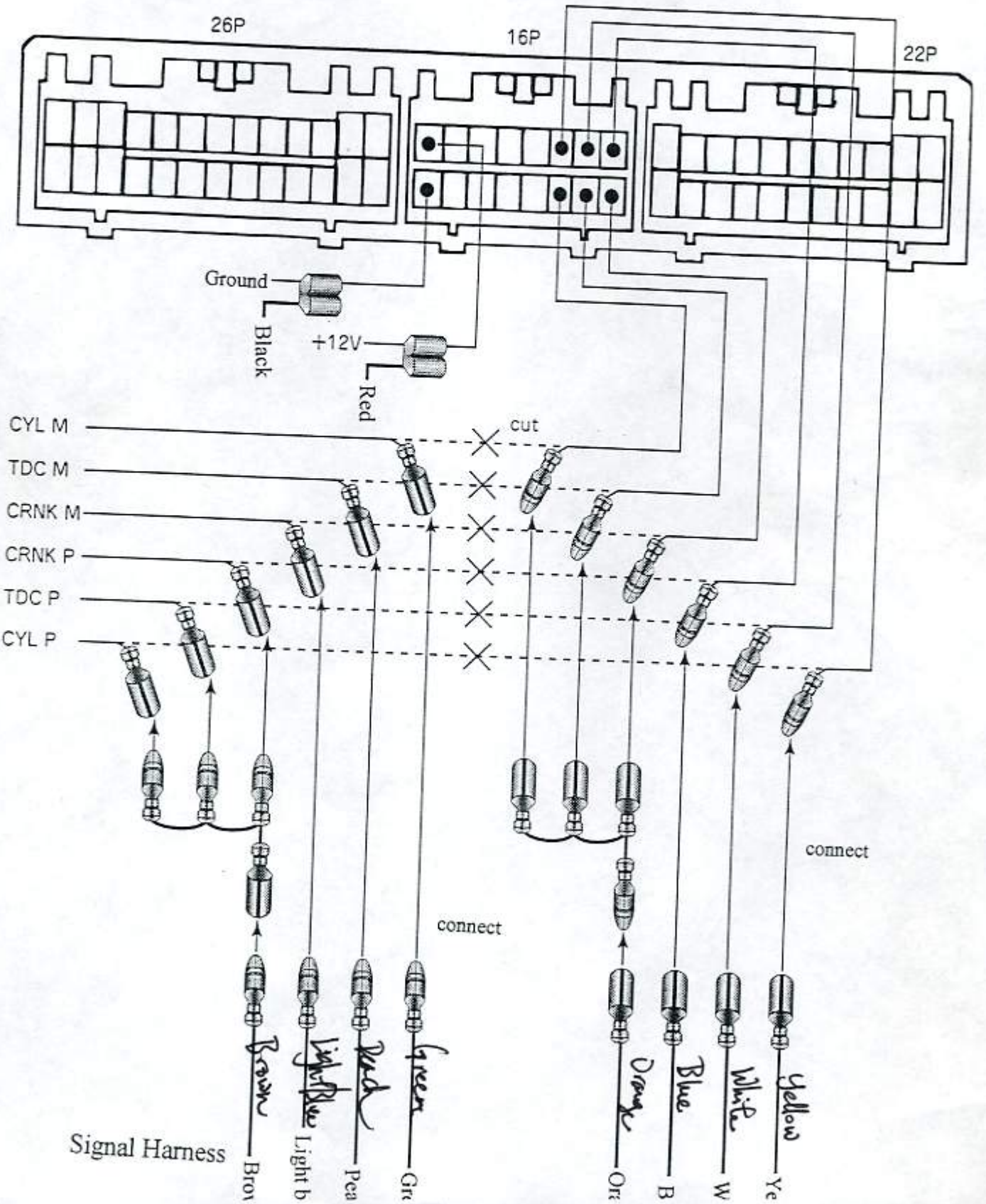
* The No.1 dip-switch on the left side is to limit timing adjustments



HONDA

Vehicle	Code	ECU Location	Year	ECU 場所	Type Select SW	Car Sel SW
Oddessey	RA1,2	F22B	'94.9～	c	■■■■■■■■	4
Civic	EG6	B16A	'91.9～'95.9	a	■■■■■■■■	4

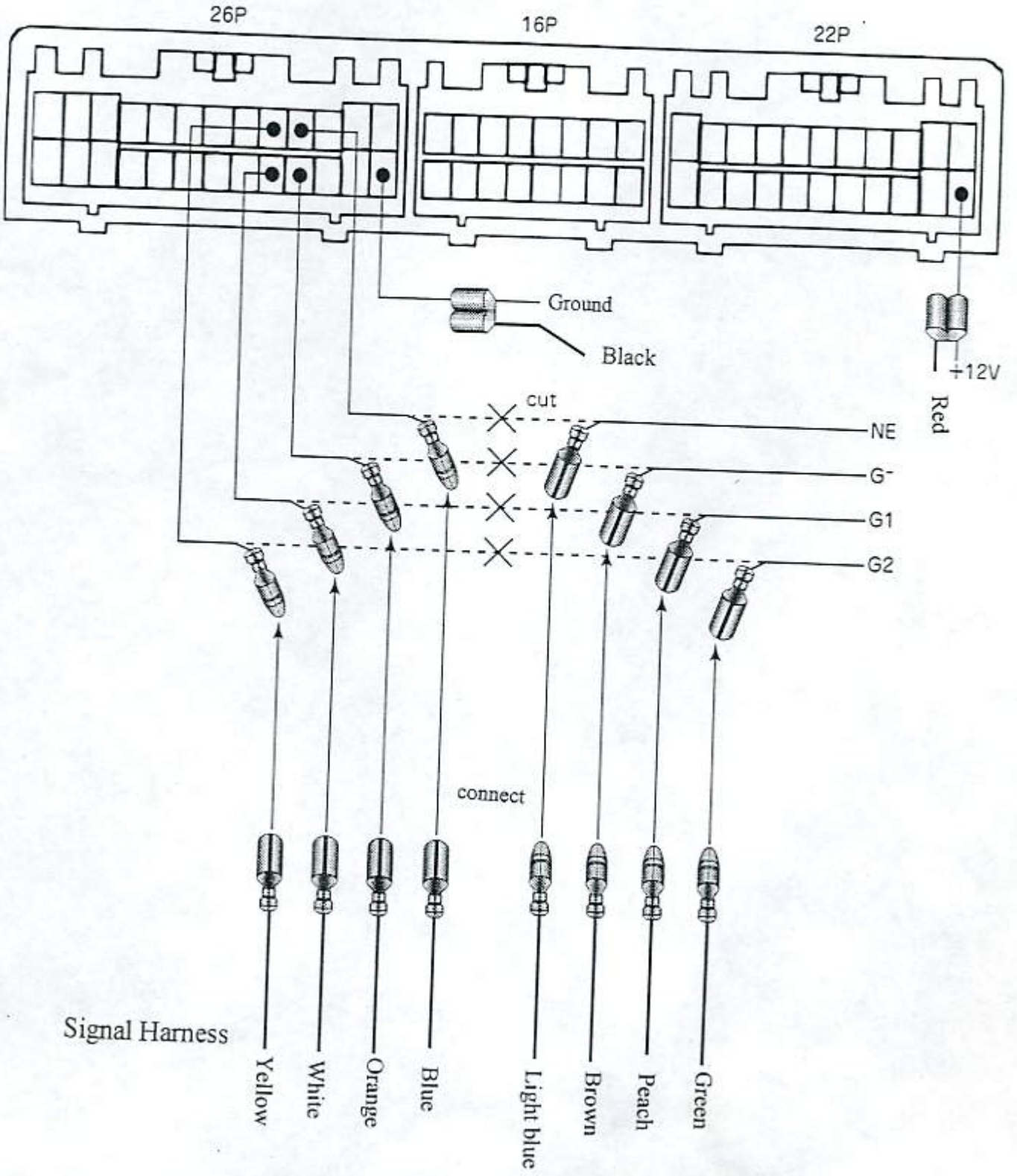
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
MR-2	SW20	3S-GTE	'91.12～	トランク前	■■■■■■■	0
Celica	ST205	3S-GTE	'94.2～	e	■■■■■■■	0
Levin*Trueno	AE111	4A-GE	'95.5～	e	■■■■■■■	0
Levin*Trueno	AE101	4A-GZE	'91.6～'95.5	e	■■■■■■■	0
Levin*Trueno	AE101(A/T)	4A-GE	'91.6～'95.5	e	■■■■■■■	0

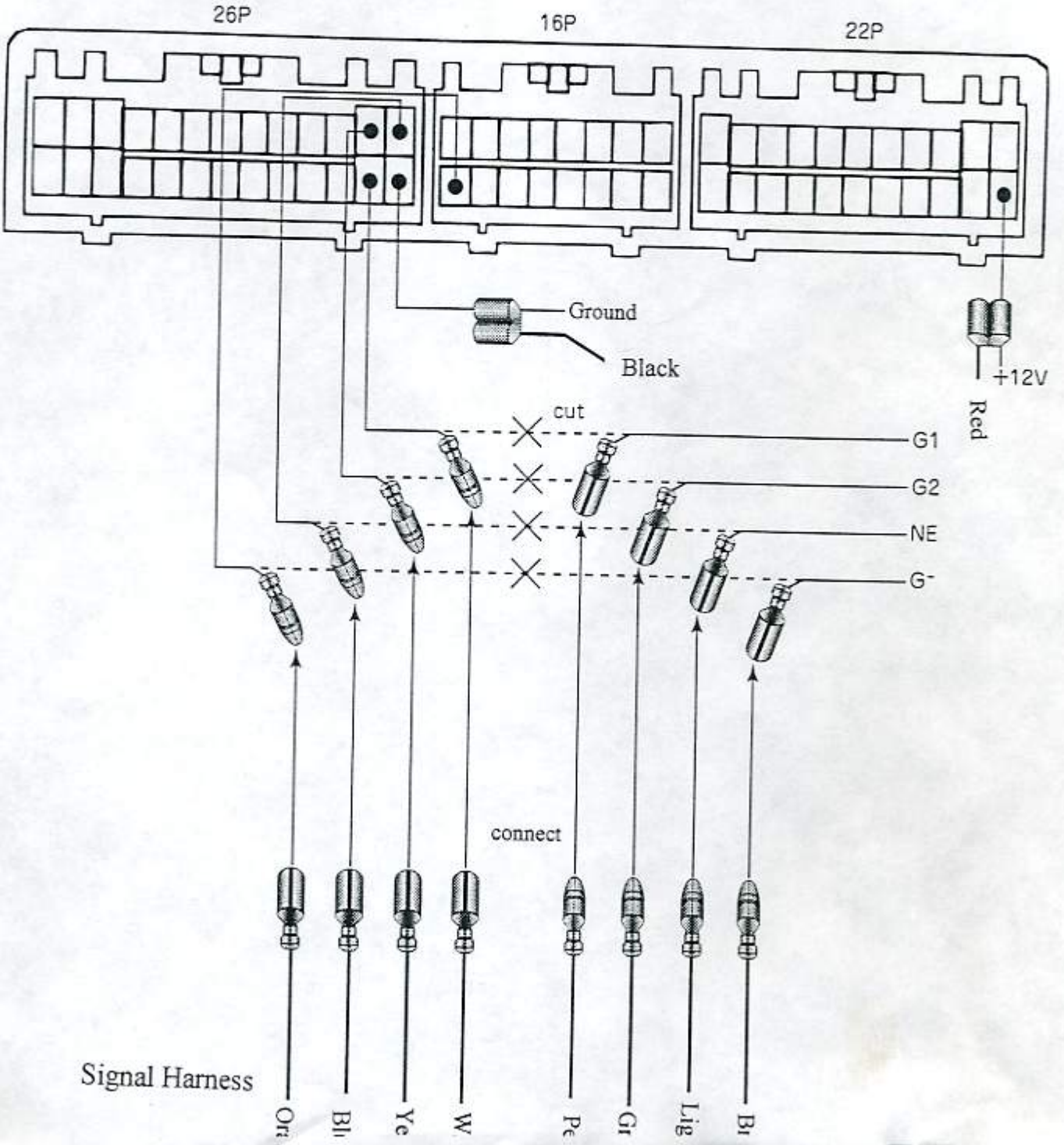
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Supra	MA70	7M-GTE	'88.8～'90.7	d	■■■■■■■■	0
Soarer	MZ20	7M-GTE	'88.1～'91.4	d	■■■■■■■■	0
Supra	GA70	1G-GTE	'88.8～'93.4	d	■■■■■■■■	0
Soarer	GZ20	1G-GTE	'98.1～'91.4	d	■■■■■■■■	0
MR-2	SW20	3S-GTE	'89.10～'91.2	トランク前	■■■■■■■■	0
Celica	ST185	3S-GTE	'89.9～'94.2	e	■■■■■■■■	0
Levin*Trueno	AE92	4A-GZE	'89.5～'91.5	e	■■■■■■■■	0

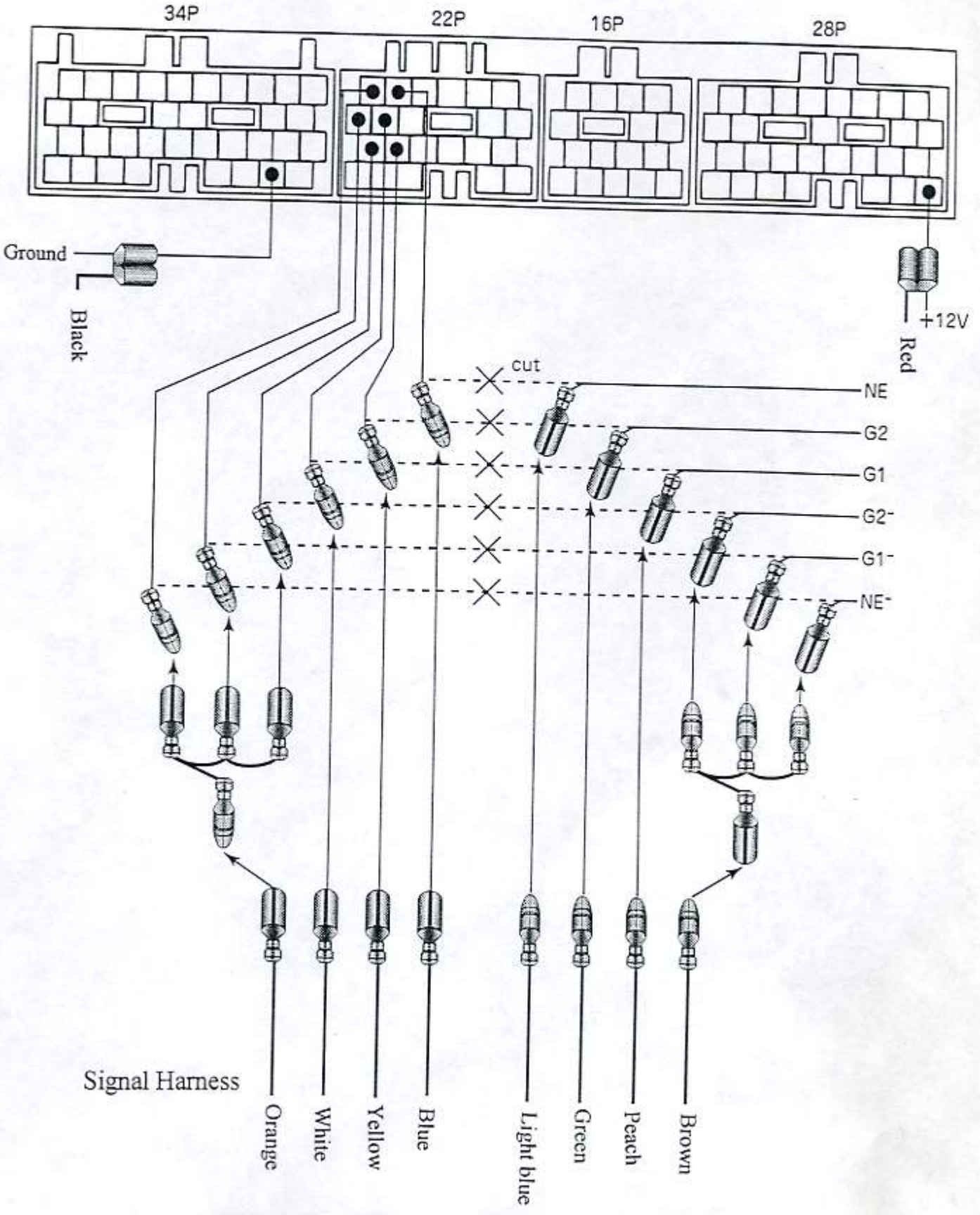
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Soarer	JZZ30	1JZ-GTE	'91.5～'96.8	C	■■■■■■■■	0

* The No.1 dip-switch on the left side is to limit timing adjustments

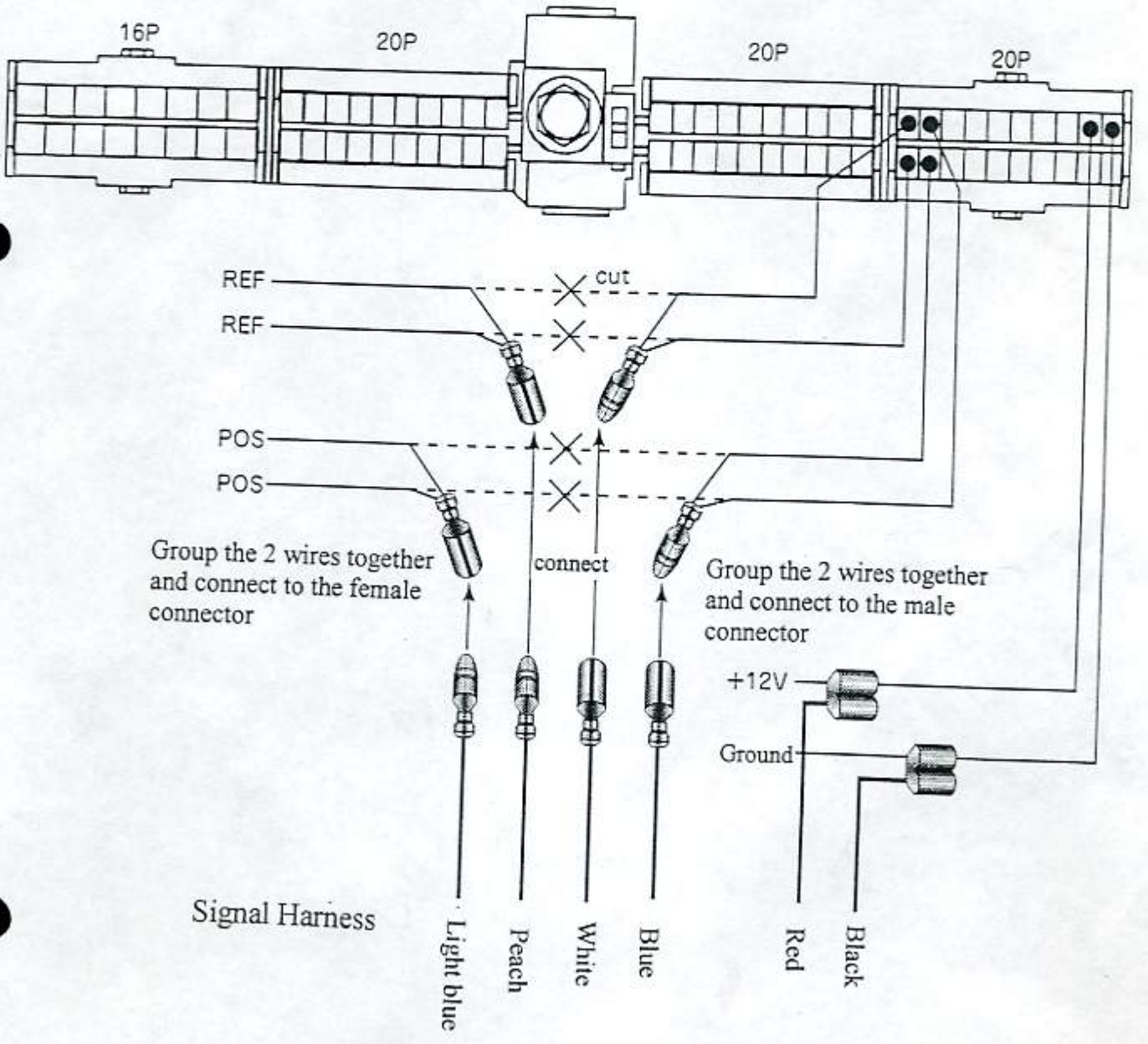


8 Vehicle Specific Wiring Diagram

NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
300ZX	Z32	VG30DETT	'89.7~'97.1	c		8
Skyline GT-R	BCNR33	RB26DETT	'89.8~'95.1	a		8
Skyline GT-R	BNR32	RB26DETT	'95.1~'97.1	a		8
Skyline	R33	RB25DET	'93.8~'96.1	a		8
Skyline	R32	RB20DET	'89.5~'93.8	a		8
Silvia	S14	SR20DET	'93.10~'96.6	a		7
Silvia	S13	CA18DET	'88.5~'91.1	a		7
180SX	RS13	CA18DET	'89.3~'91.1	a		7

* The No.1 dip-switch on the left side is to limit timing adjustments

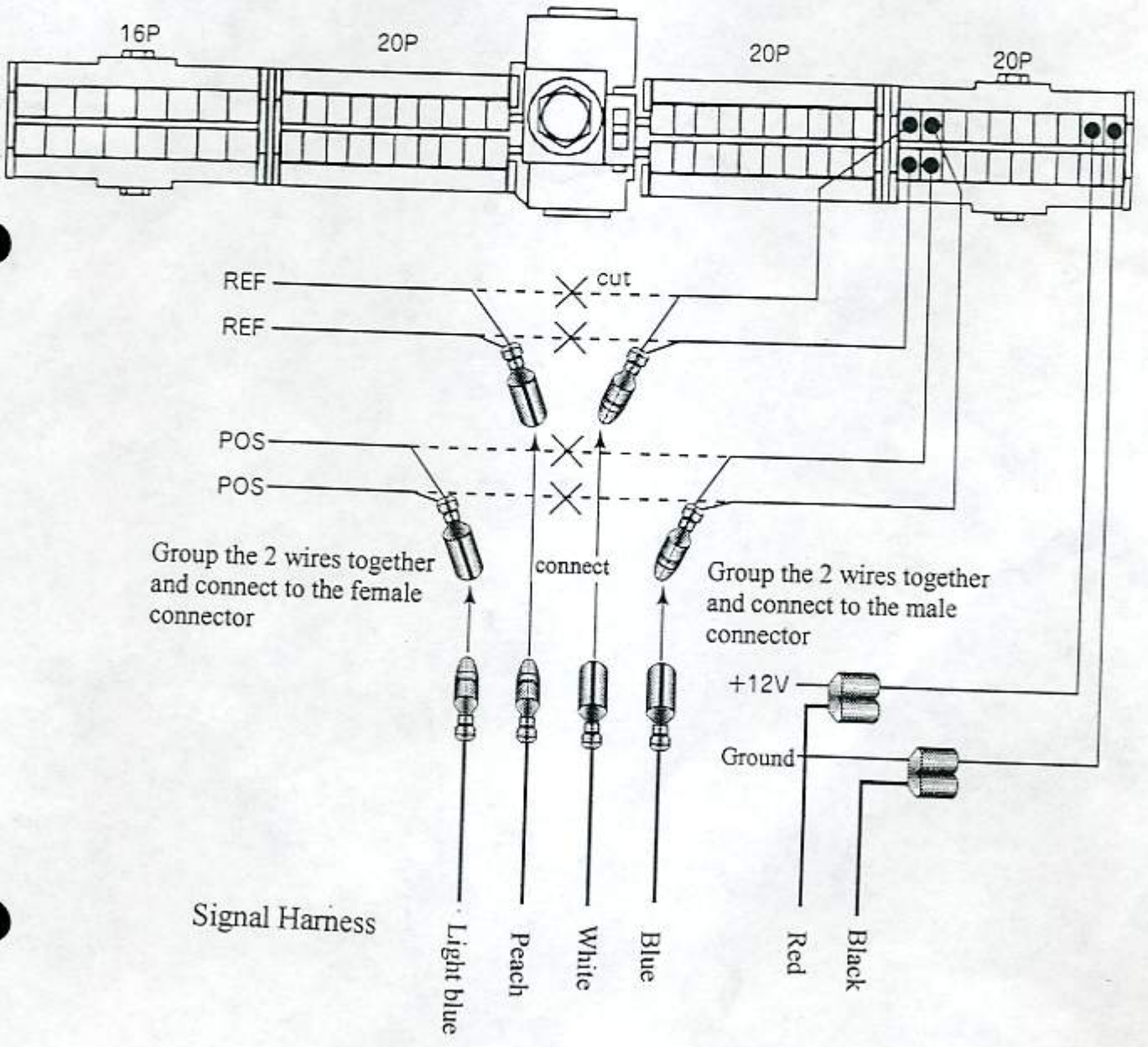


8 Vehicle Specific Wiring Diagram

NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
300ZX	Z32	VG30DETT	'89.7~'97.1	c		8
Skyline GT-R	BCNR33	RB26DETT	'89.8~'95.1	a		8
Skyline GT-R	BNR32	RB26DETT	'95.1~'97.1	a		8
Skyline	R33	RB25DET	'93.8~'96.1	a		8
Skyline	R32	RB20DET	'89.5~'93.8	a		8
Silvia	S14	SR20DET	'93.10~'96.6	a		7
Silvia	S13	CA18DET	'88.5~'91.1	a		7
180SX	RS13	CA18DET	'89.3~'91.1	a		7

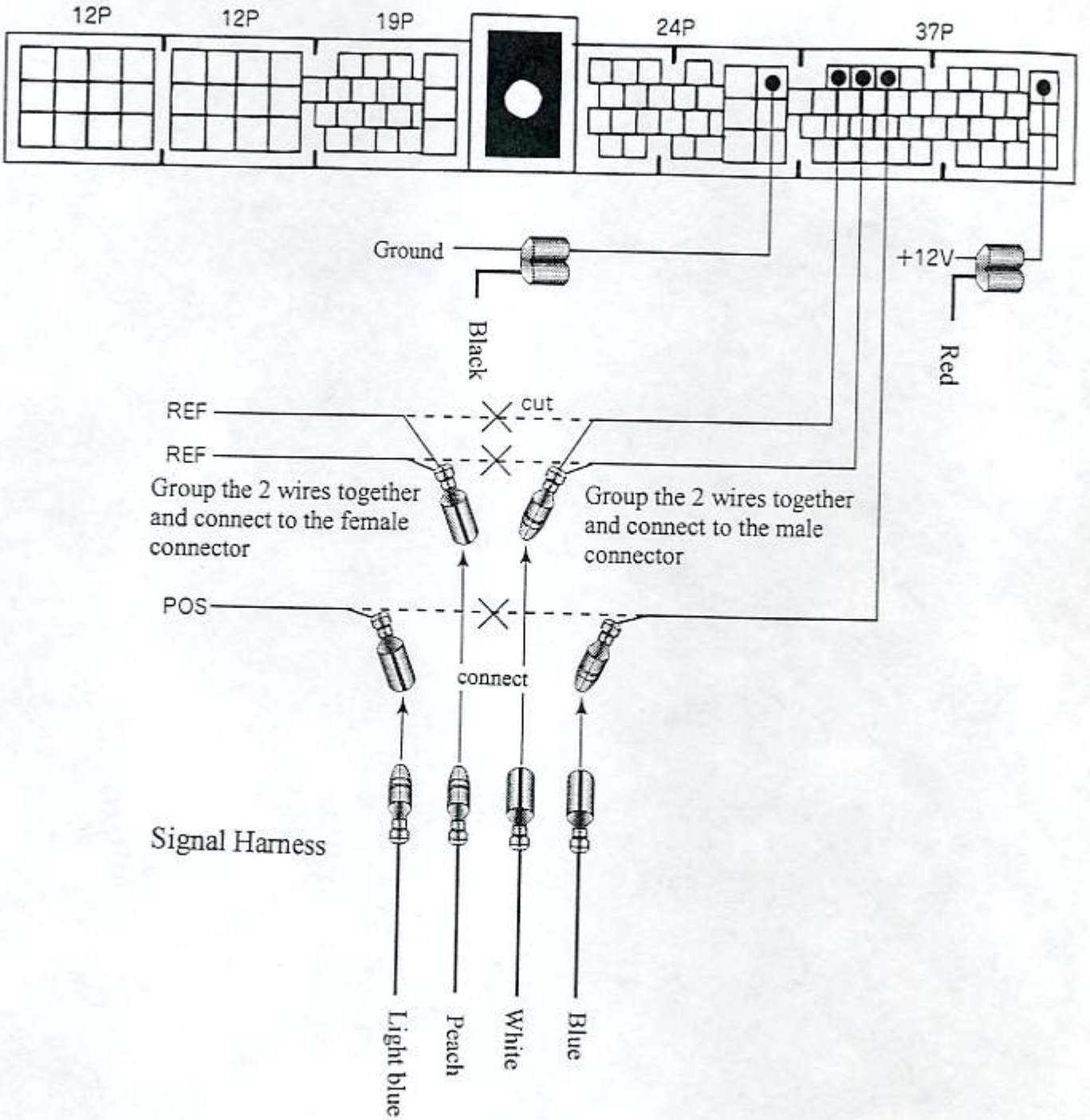
* The No.1 dip-switch on the left side is to limit timing adjustments



NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Stagia	WGNC34	RB25DET	'96.9～	a	■■■□□■□□	8

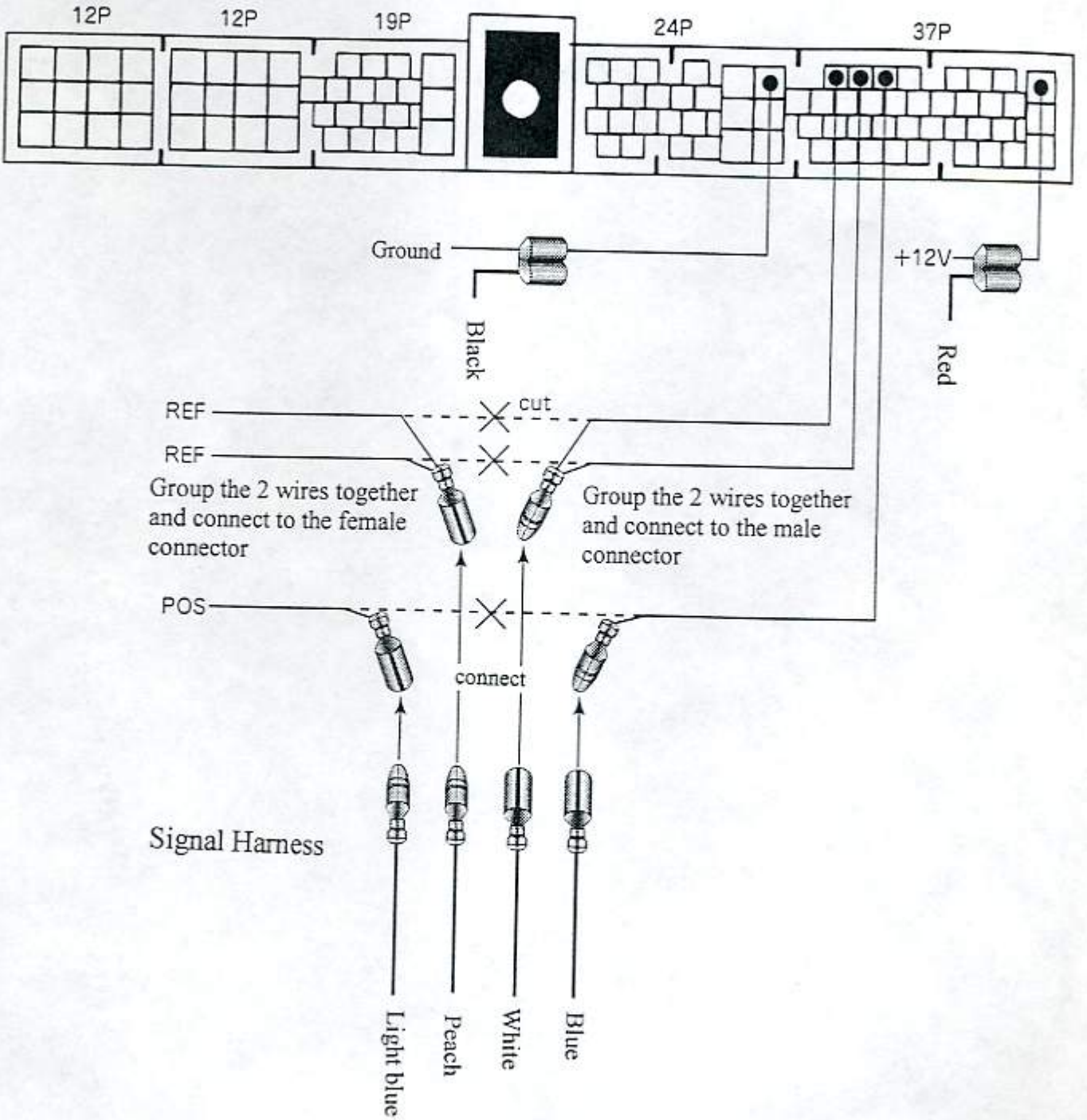
* The No.1 dip-switch on the left side is to limit timing adjustments



NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Stagia	WGNC34	RB25DET	'96.9～	a	■■■□□■□□	8

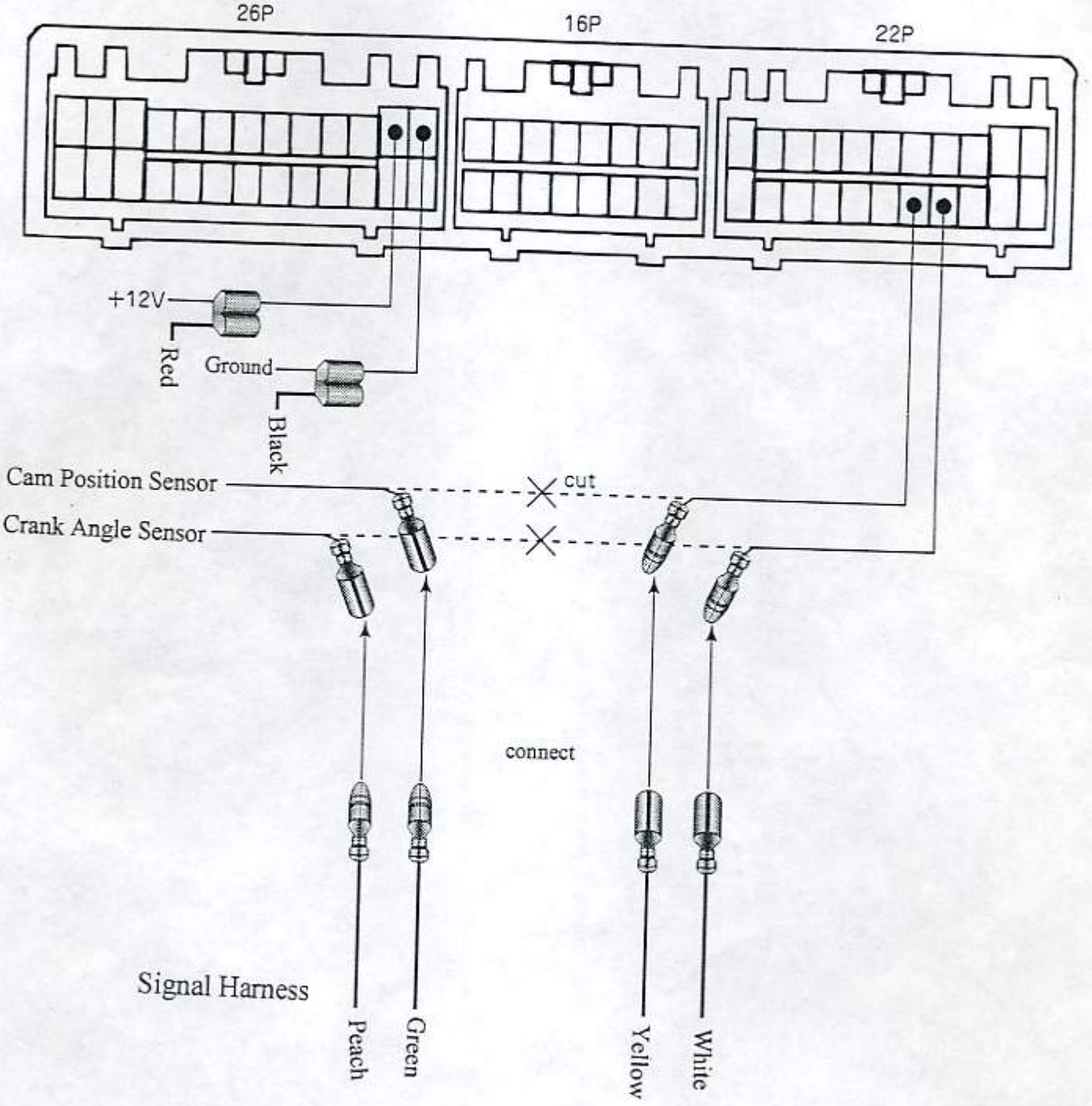
* The No.1 dip-switch on the left side is to limit timing adjustments



MITSUBISHI

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Lancer EVO II*III	CE9A	4G63	'93.10～'95.10	b		C
Lancer EVO I	CD9A	4G63	'92.10～'93.10	b		C
GTO	Z16A	6G72	'90.10～	b		E

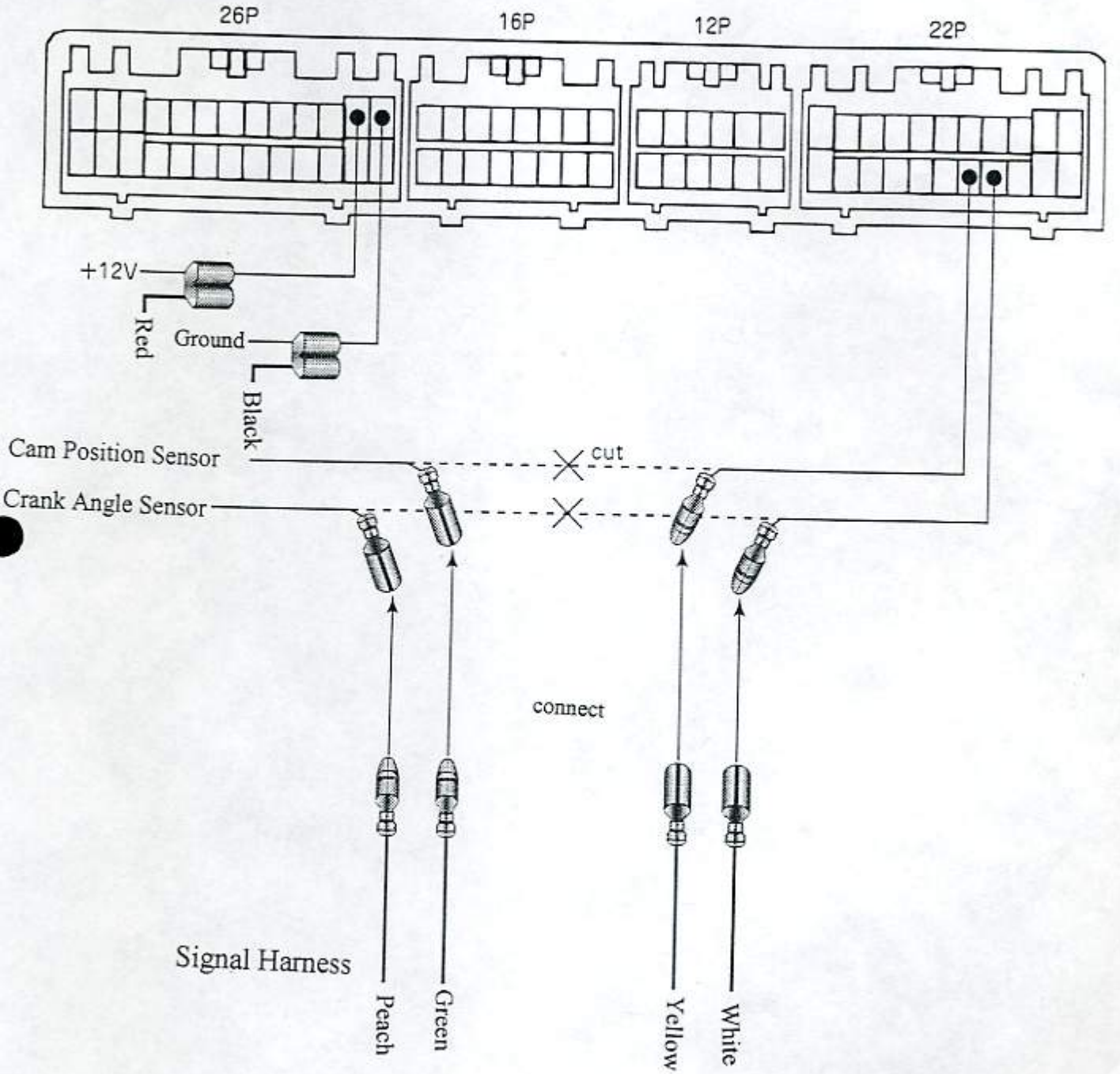
* The No.1 dip-switch on the left side is to limit timing adjustments



MITSUBISHI

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Lancer EVO IV	CN9A	4G63	'96.8~	b	■■■■■■■■	

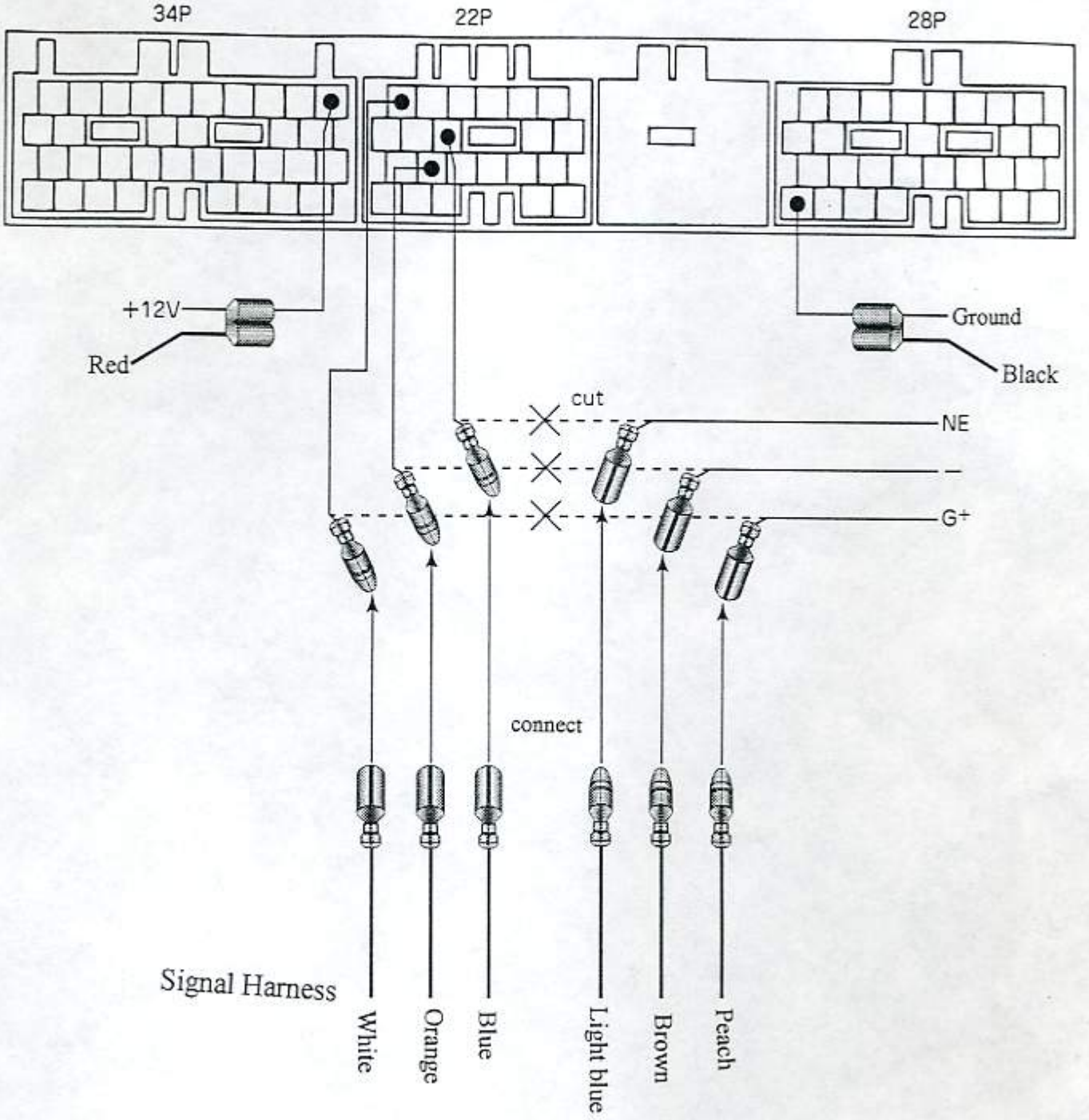
* The No.1 dip-switch on the left side is to limit timing adjustments



MAZDA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
RX-7	FD3S	13B-REW	'96.1～	a	■■■■■■■■	B

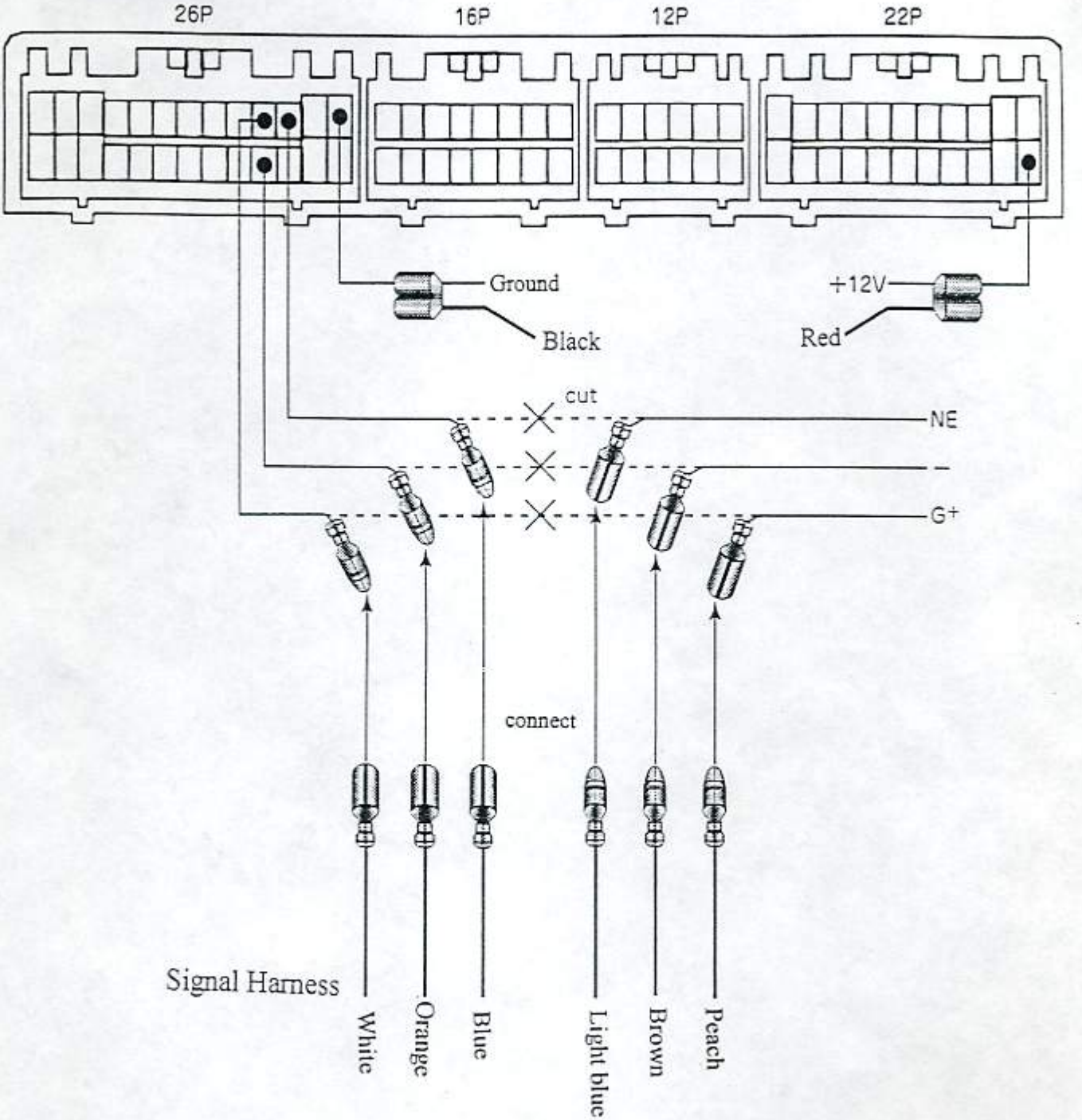
* The No.1 dip-switch on the left side is to limit timing adjustments



MAZDA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
RX-7	FD3S	13B-REW	'91.12～'95.12	a	■■■■■■■■	B

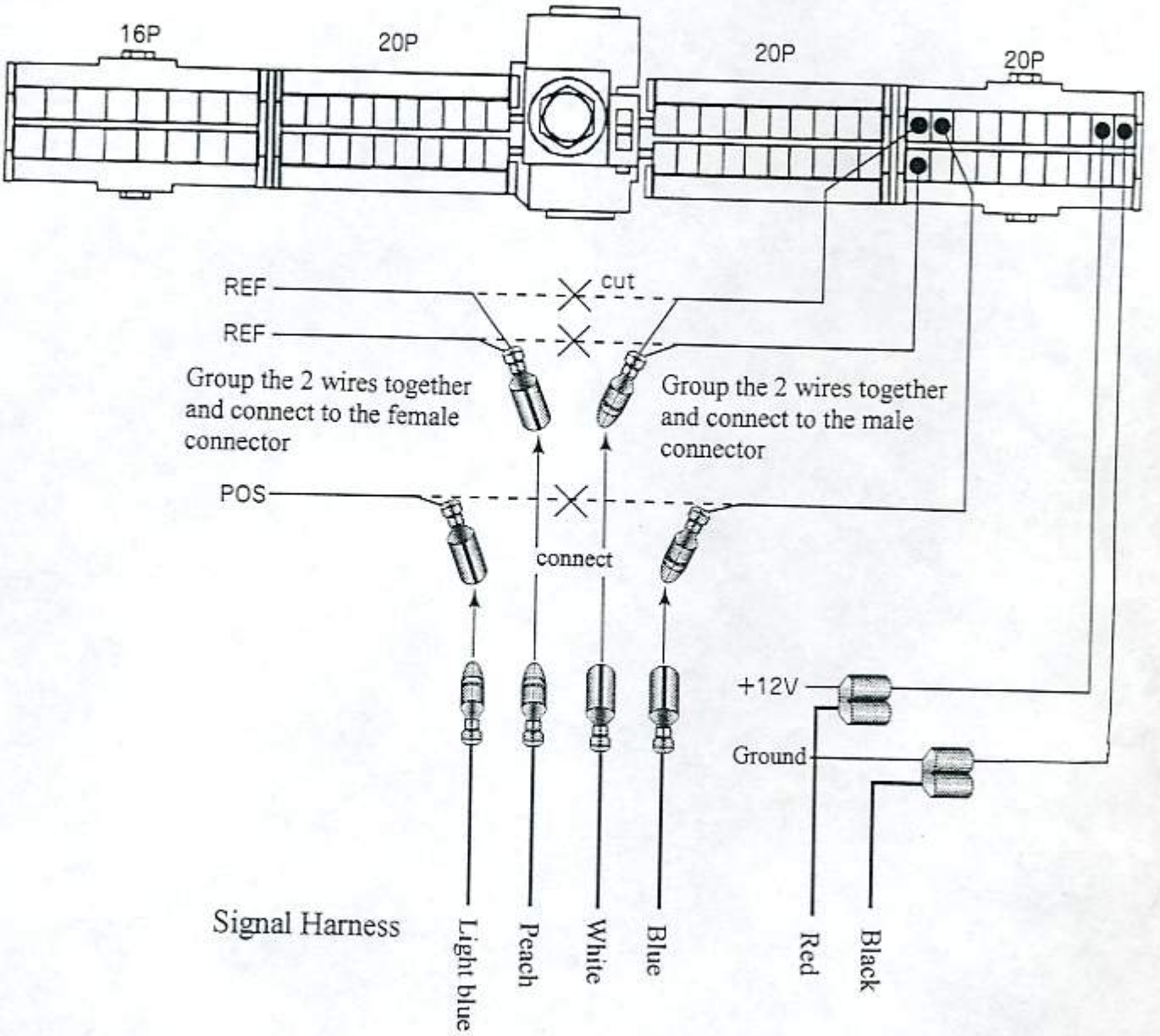
* The No.1 dip-switch on the left side is to limit timing adjustments



NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
300ZX	Z32	VG30DETT	'97.1～	c		8
Skyline	R33	RB25DET	'96.1～	a		8

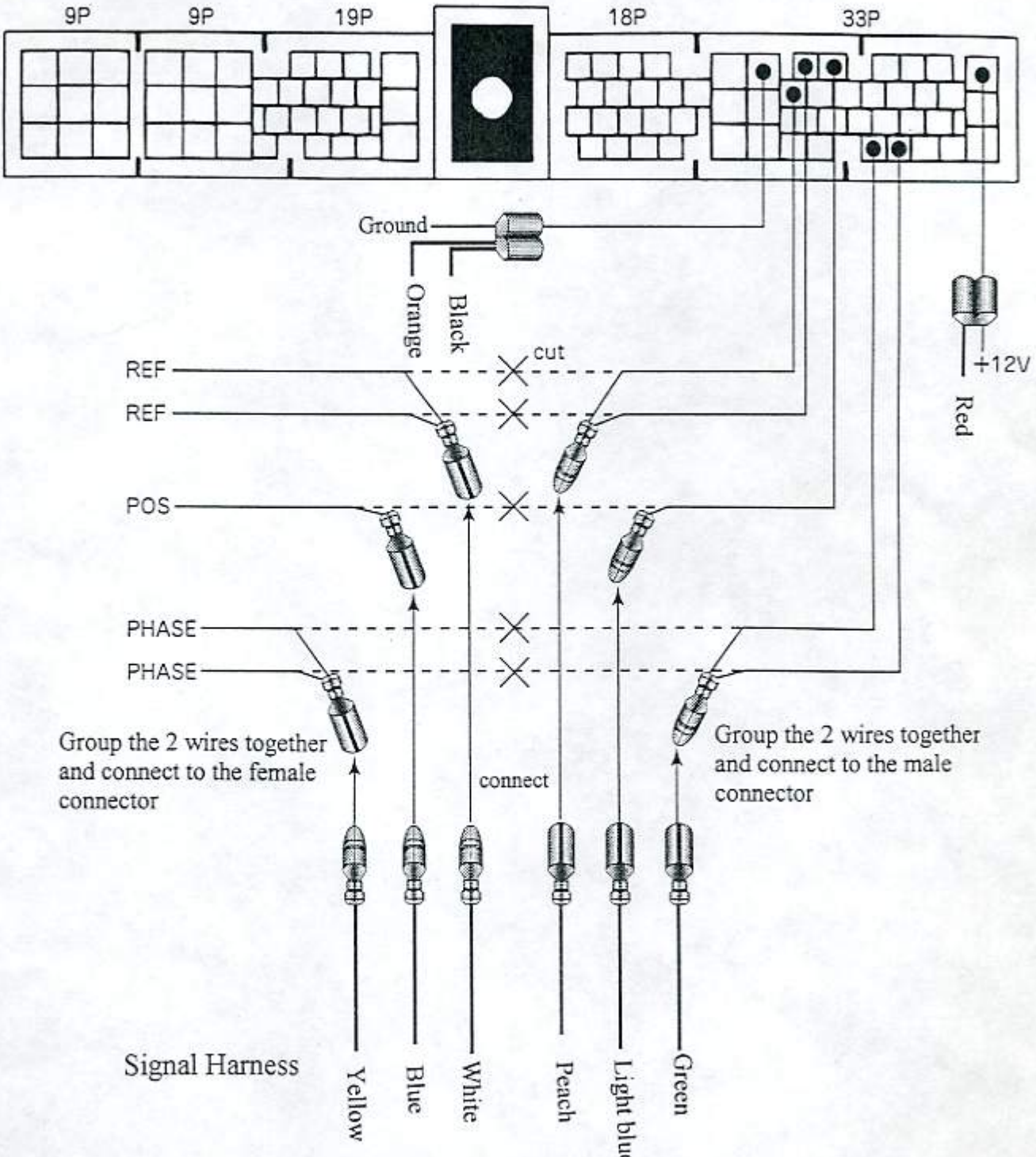
*The No.1 dip-switch on the left side is to limit timing adjustments



NISSAN

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Cedric*Gloria	Y33	VQ30DET	'95.6~	a		9

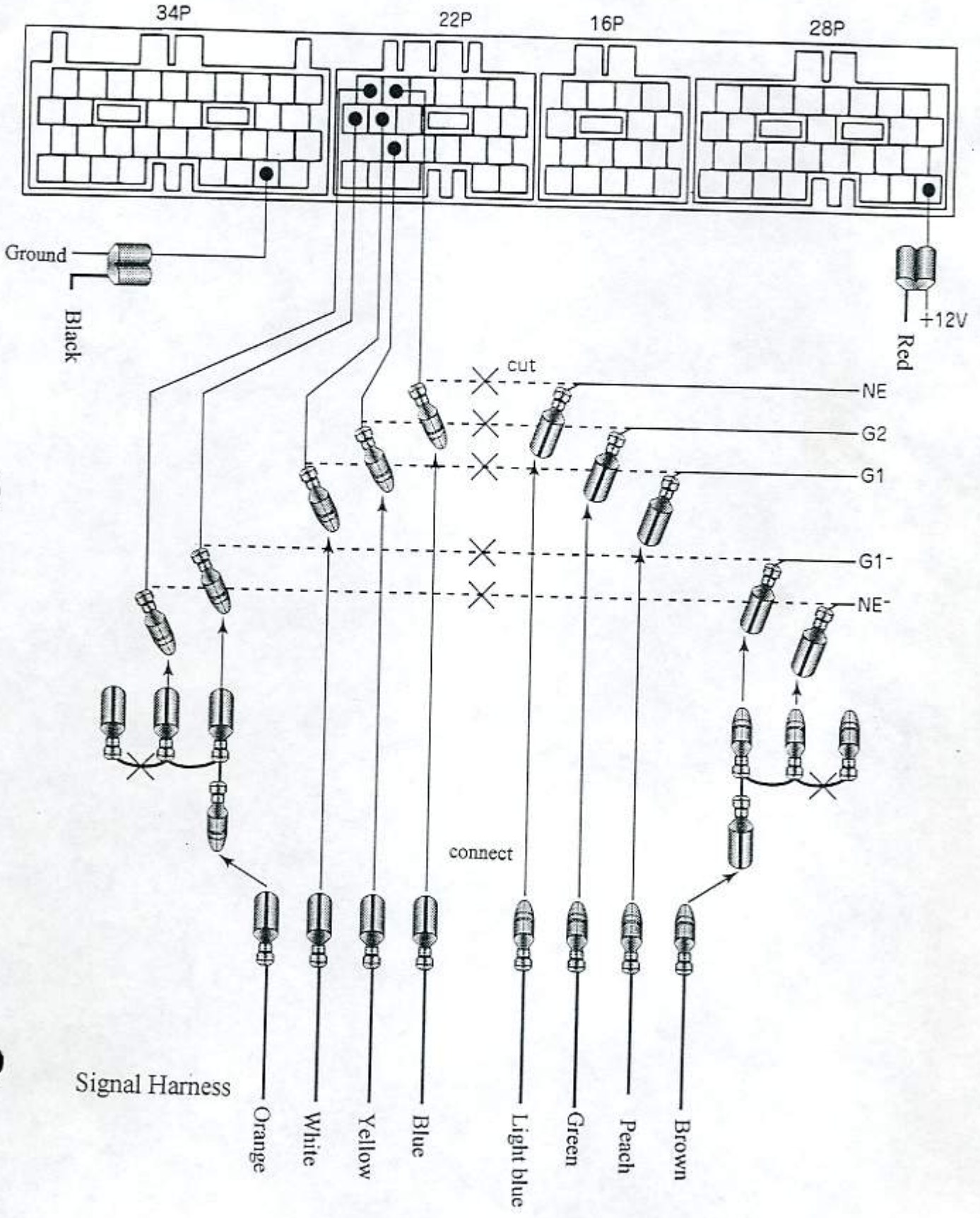
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
MarkII	JZX90	1JZ-GTE	'92.10~'96.9	e	■■■■■■■■	0

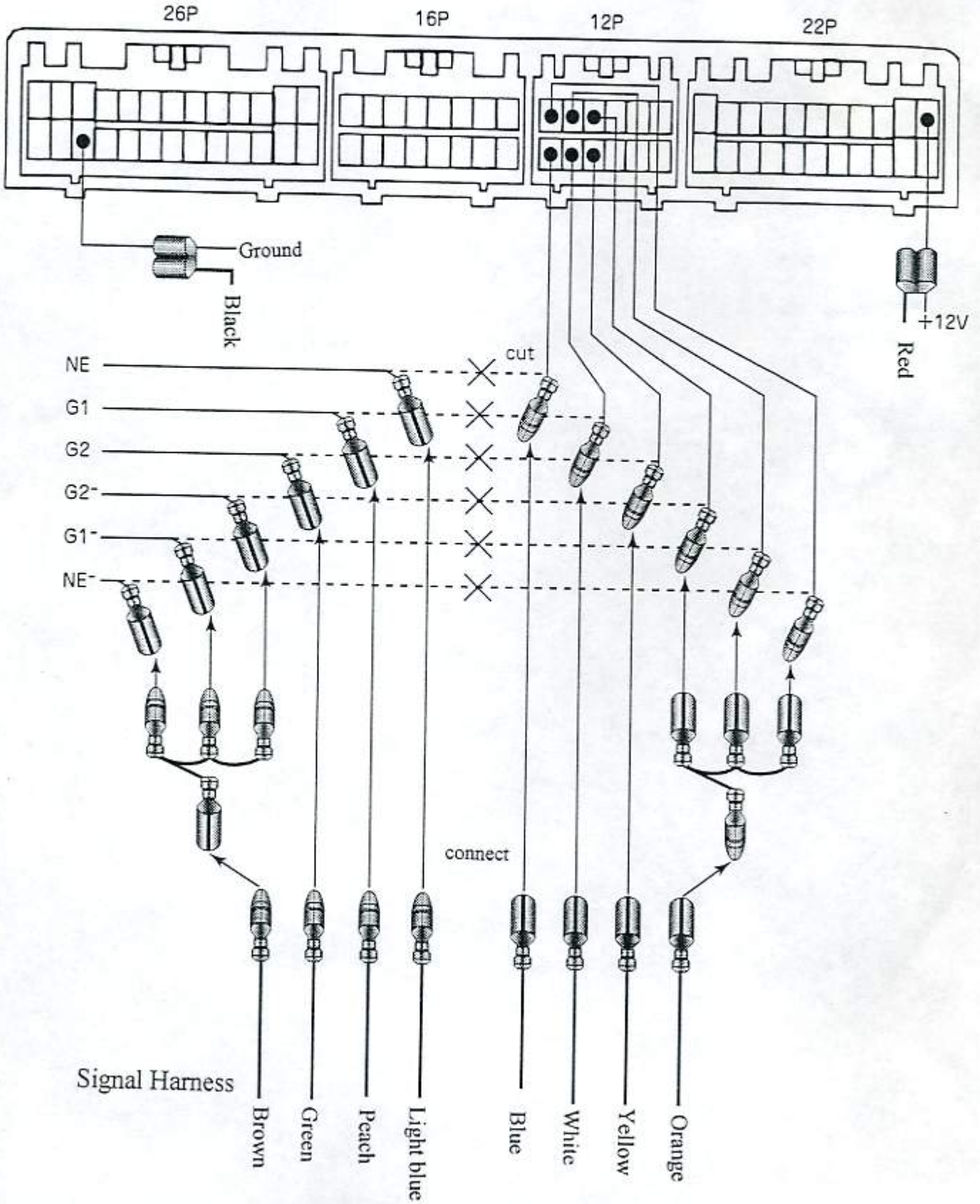
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Supra	JZA70	1JZ-GTE	'90.8~'93.4	d	■■■■■■■■	0

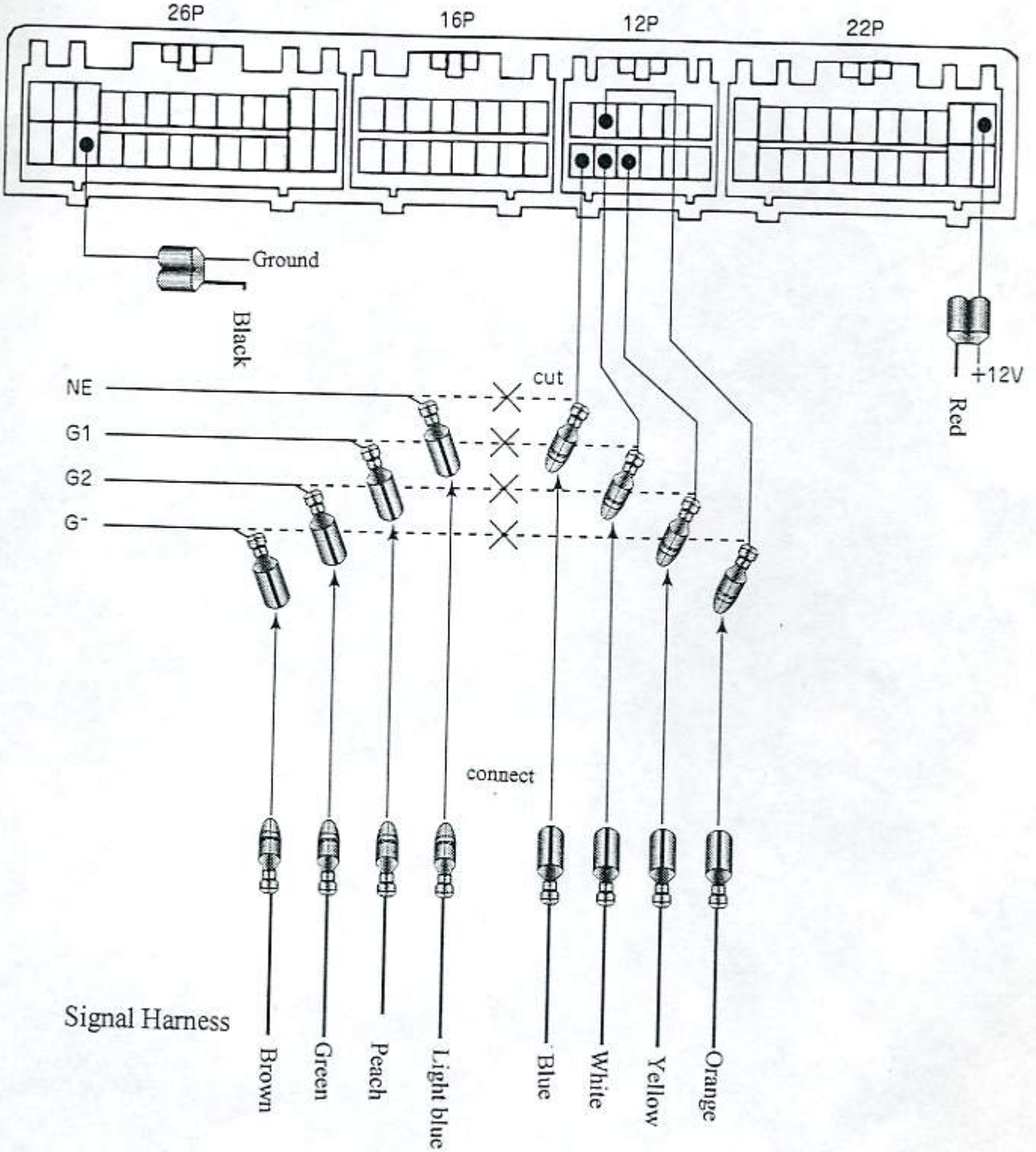
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
MarkII	JZX81	1JZ-GTE	'90.8～'92.9	e	■■■■■■■■	0

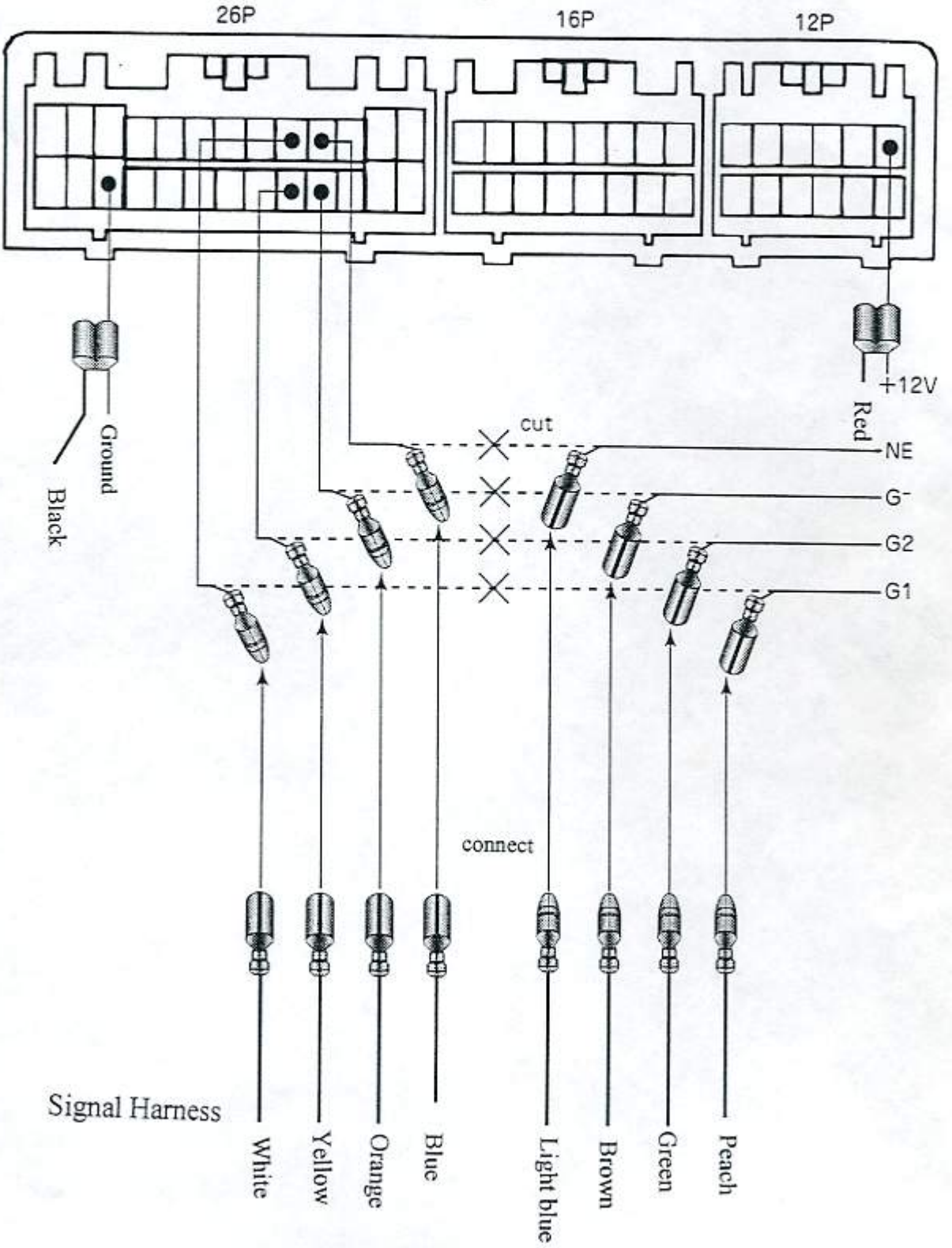
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Levin*Trueno	AE101(M/T)	4A-GE	'91.6～'95.5	e		0
Starlet	EP91	4E-FTE	'95.12～	d		0
Starlet	EP82(A/T)	4E-FTE	'92.1～'95.12	e		0

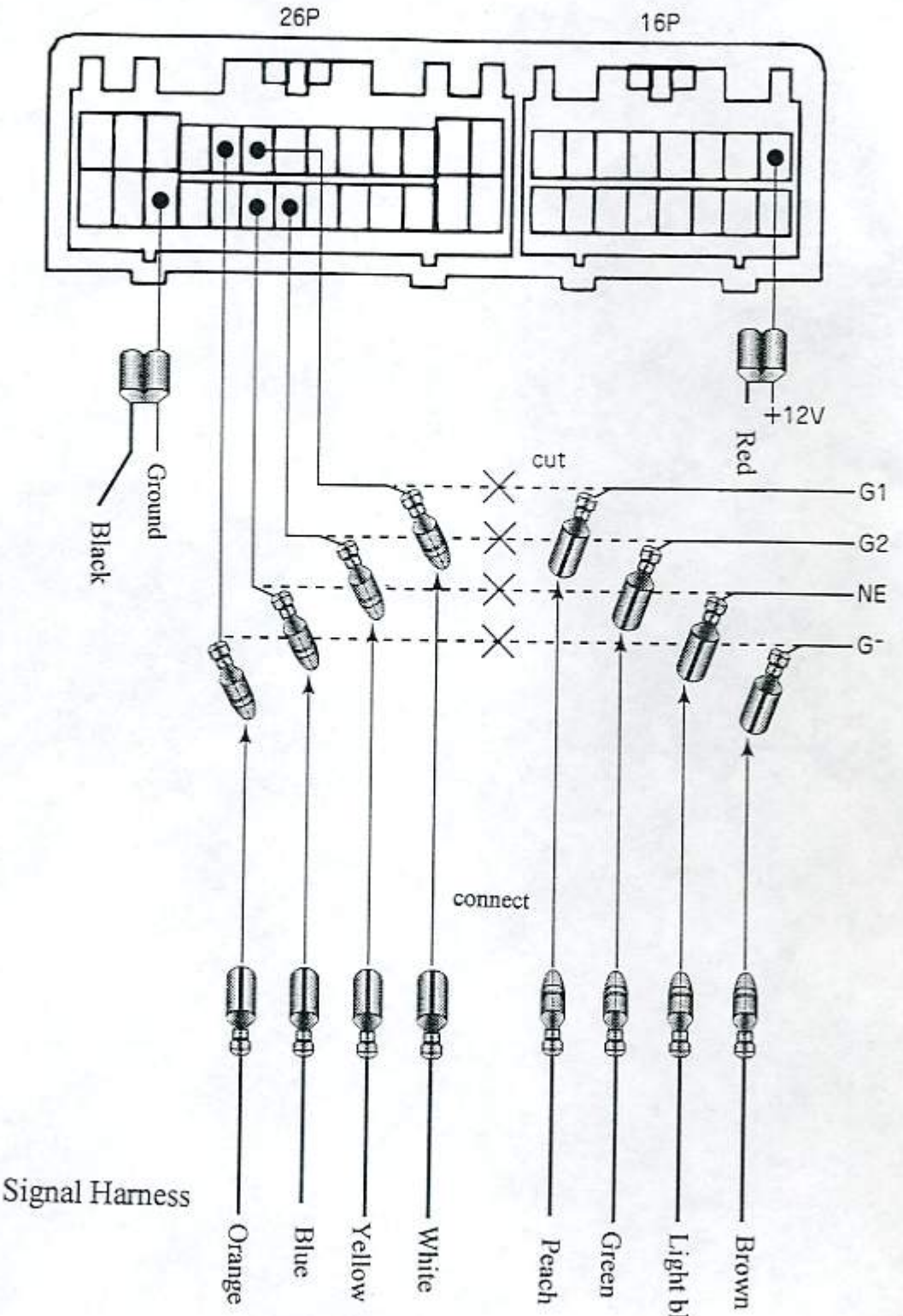
* The No.1 dip-switch on the left side is to limit timing adjustments



TOYOTA

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Starlet	EP82(M/T)	4E-FTE	'89.12～'95.12	d	■■■■■■■■	0
Starlet	EP82(A/T)	4E-FTE	'89.12～'92.1	e	■■■■■■■■	0

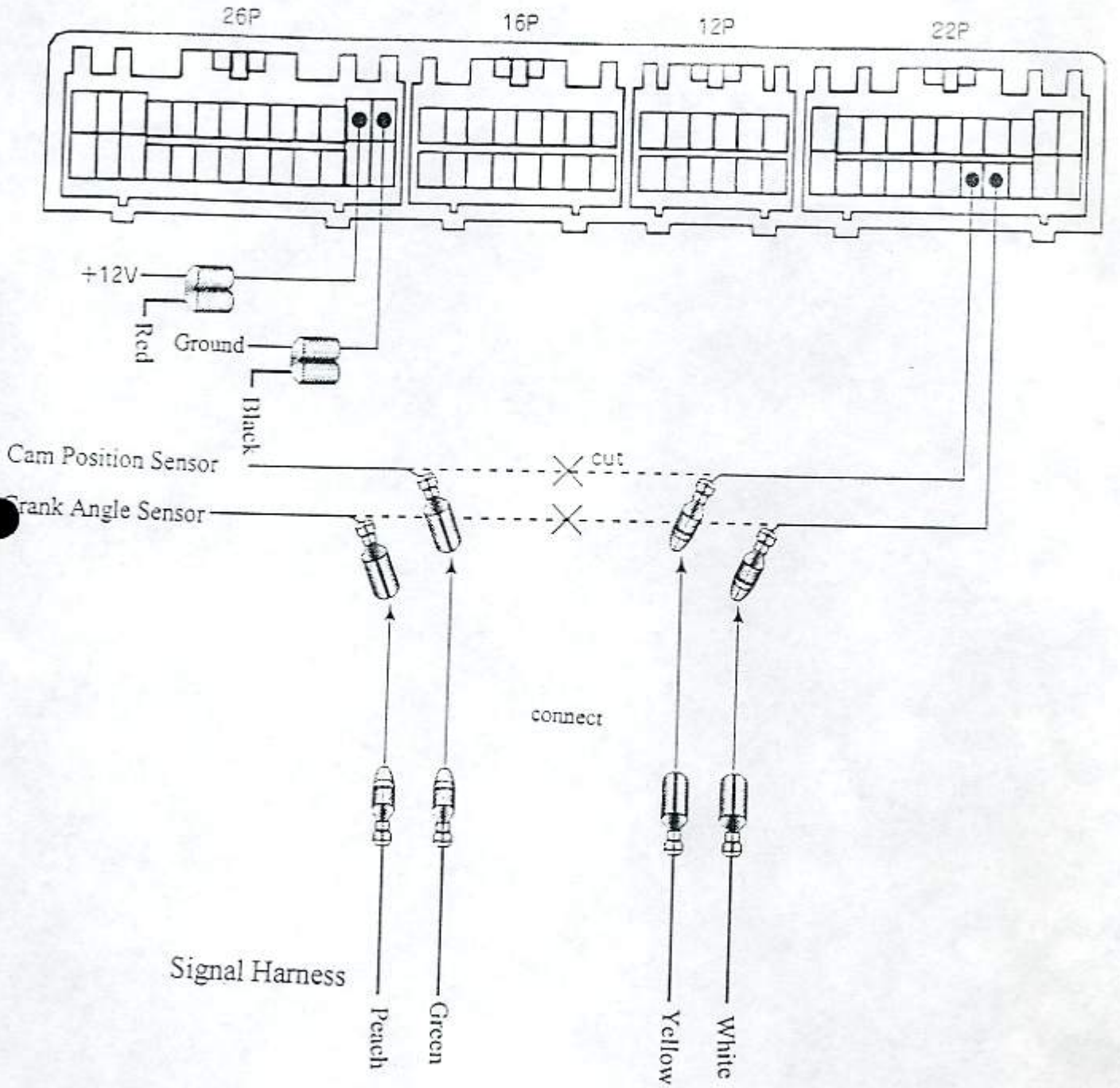
* The No.1 dip-switch on the left side is to limit timing adjustments



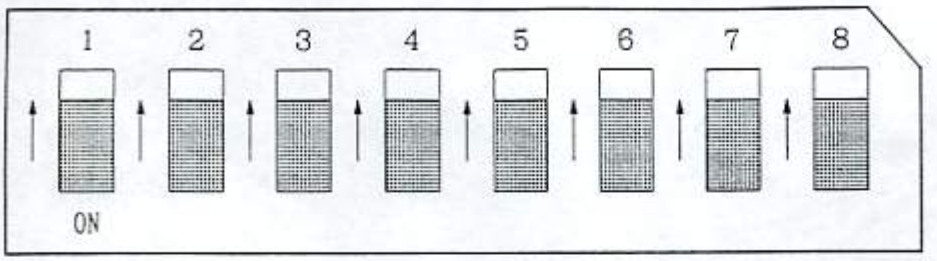
MITSUBISHI

Vehicle	Code	Engine Type	Year	ECU 場所	Type Select SW	Car Sel SW
Lancer EVO IV	CN9A	4G63	'96.8~	b	■■■■■■■■	D

* The No.1 dip-switch on the left side is to limit timing adjustments



ＩＴＣタイプセレクトスイッチ設定



初期設定（出荷時）

TYPE SELECT

センサー出力切替スイッチ

	6	7	8
ﾋﾞｯｸｱｯﾌﾟ	↑	↑	↑
0～5	↓	↓	↓

センサー入力切替スイッチ

	3	4	5
ﾋﾞｯｸｱｯﾌﾟ	↑	↑	↑
0～5	↓	↓	↓

スレッシュホールド

	2
標準	↑
低	↓

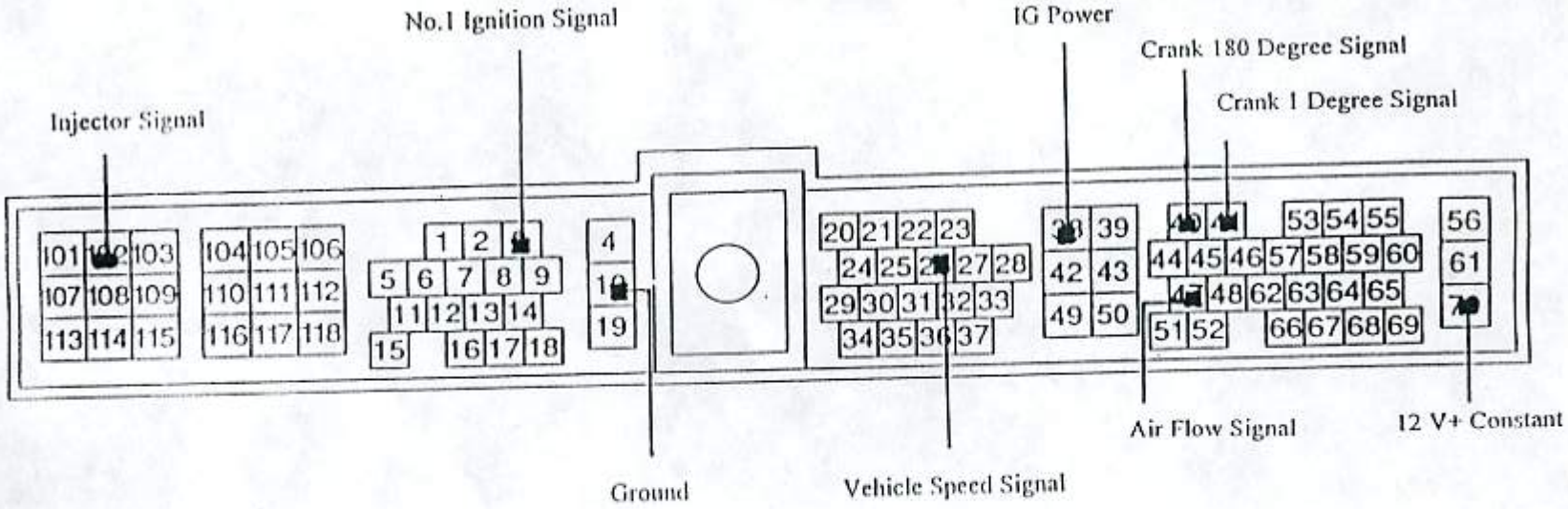
リミット

	1	
有	↑	±5°
無	↓	±15°

ＩＴＣカーセレクトスイッチ対応表

'97. 9. 9 Ver2. 2

No	メーカー及びエンジン型式	TYPE SELECT 1 2 3 4 5 6 7 8	センサー 水	桃	緑	茶	ユニット 青	白	黄	橙	電源 黒	赤
0	TOYOTA 1U, 2J, 1J, 7M, 1G, 3S, 4E	↑↑↑↑↑↑↑↑	Ne	G1	G2	G−	Ne	G1	G2	G−	GND	IG
1	TOYOTA 4A(AE86, 92M/C前)	↑↑↑↑↑↑↑↑	Ne	G		G−	Ne	G		G−	GND	IG
2												
3	HONDA (旧車)	↑↑↑↑↑↑↑↑	CRM	TDM	CYM	CRP TDP CYP	CRP	TDP	CYP	CRM TDM CYM	GND	IG
4	HONDA	↑↑↑↑↑↑↑↑	CRM	TDM	CYM	同上	CRP	TDP	CYP	同上	GND	IG
5	SUBARU	↑↑↑↑↑↑↑↑	CRK	CAM		CRK- CAM-	CRK	CAM		CRK- CAM-	GND	IG
6	NISSAN ﾃｽﾋﾟ	↑↑↑↓↓↑↓↓	1°	180°			1°	180°			GND	IG
7	NISSAN 4CYL	↑↑↑↓↓↑↓↓	1°	180°			1°	180°			GND	IG
8	NISSAN 6CYL	↑↑↑↓↓↑↓↓	1°	120°			1°	120°			GND	IG
9	NISSAN VQ	↑↑↑↑↓↑↑↓	1°	REF	PH		1°	REF	PH	GND	GND	IG
A	MITUBISHI ECLIPS	↑↑↓↓↑↓↓↑		ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ			ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ		GND	IG
B	MAZDA FD	↑↑↑↑↑↑↑↑	Ne	G		G−	Ne	G		G−	GND	IG
C	MITUBISHI 4CYL MAZDA NA6CE	↑↑↓↓↑↓↓↑		ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ			ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ		GND	IG
D	MITUBISHI CN9A	↑↑↓↓↑↓↓↑		ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ			ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ		GND	IG
E	MITUBISHI 6CYL	↑↑↓↓↑↓↓↑		ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ			ｸﾗﾝｸ	ｶﾑﾎﾟｼﾞ		GND	IG
F	検査モード											



1995+ Nissan 240SX Wiring Diagram

Notes:

- Please use the following Multi-Checker wiring schematics for the Nissan 240SX 1995-1998.
- Please also use the dip-switch settings from the Largo W30 KA24DE located on page in the Multi checker instuctions.