BODY AND FRAME ALIGNMENT

CONTENTS

BODY DIMENSIONS AND MEASUREMENT	
METHODS	2
BODY CENTER POINT	3
HOW BODY DIMENSIONS ARE	
INDICATED	2
MEASUREMENT METHODS	2
MEASUREMENT POINTS	3
TYPE A (DDO IECTED DIMENSIONS)	4

TYPE B (ACTUAL-MEASUREMENT	
DIMENSIONS)	. 5
ENGINE COMPARTMENT	. 5
INTERIOR	. 7
SIDE BODY	. 6
UNDER BODY	. 5
UPPER BODY	

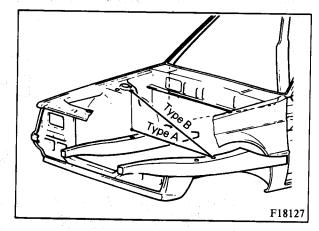




HOW BODY DIMENSIONS ARE INDICATED

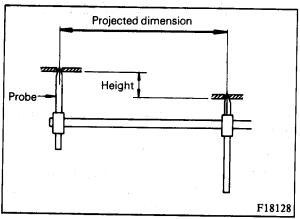
- 1. Type A (Projected dimensions)

 These are the dimensions measured when the measurement points are projected into the reference plane, and are the reference dimensions used for body alterations.
- Type B (Actual-measurement dimensions)
 These dimensions indicate the actual linear distance between measurement points, and are the reference dimensions for use if a tracking gauge is used for measurements.
- 3. The units given for the dimensions of both types (A and B) are mm (in.).

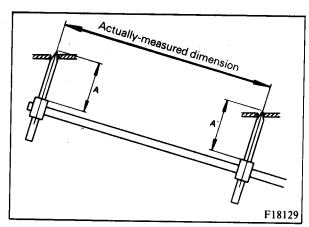


MEASUREMENT METHODS (using a tracking gauge)

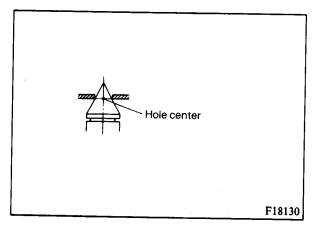
Type A
 How to measure projected dimensions
 If the length of the tracking gauge probes are adjustable, make the measurement by lengthening one probe by the amount equivalent to the difference in height of the two surfaces.



Type B
 Actual-measurement method
 Measure by first adjusting both probes to the same length
 (A = A').



3. If hole diameters are the same and the probes are conical For both A type and B type, insert the probes into the holes, and then make the measurement. This method of measurement should be used if the diameters of the holes in the location to be measured are the same.



BODY DIMENSIONS AND MEASUREMENT METHODS



4. If hole diameters are different, or the probes are pointed Because measurement at the hole centers is impossible, the circumferences must be used instead.

How to Determine Dimensions

Desired dimensions:

$$L = l + \frac{D - d}{2}$$

Example:

mm (in.)

Reference dimensions:

l = 600 (23.6)

Measured hole diameters:

 $D = 20\phi (.79),$ $d = 10\phi (.39)$

Desired dimensions:

$$L = 600 (23.6) \div \frac{20\phi - 10\phi}{2}$$

=605(23.8)

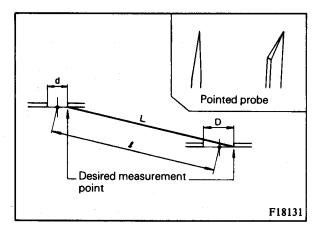
MEASUREMENT POINTS ("P" indicates the measurement point)

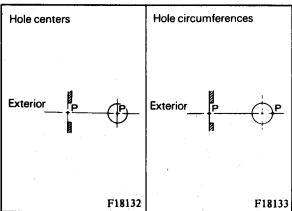
Measurement points are used to indicate the following:

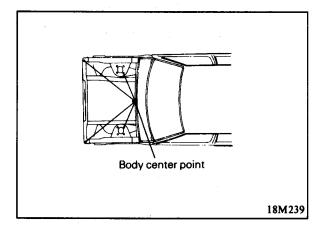
- 1. If a measurement is to be made at a hole center, the point of the surface from which the measuring instrument is applied is the measurement point.
- 2. If a measurement is to be made at the circumference of a hole, the point of the hole circumference of the surface from which the measuring instrument is applied is the measurement point.

BODY CENTER POINT

When measuring locations that should be symmetrical left and right and there are no specific instructions with regard to measurements in "Body Dimensions", the body center point should be used to confirm that the left and right measurements from this point are the same. One body center point is specified for the front of the body and another is specified for the rear.



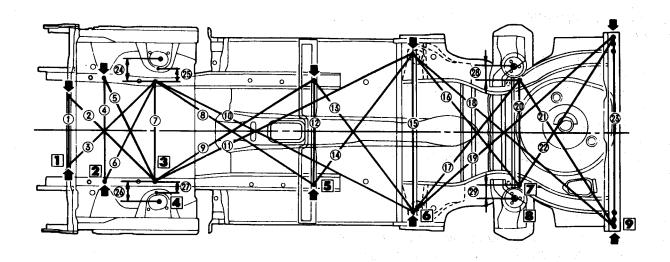


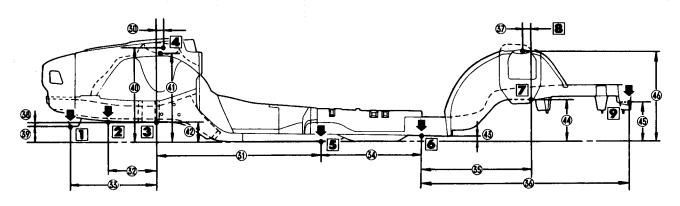




TYPE A (PROJECTED DIMENSIONS)

														mm (in.)
No.	•	2	3	4	(5)	6	7	8	9	100	0	12	13 14	(15)
Length	550 (21.65)	857 (33.74)	842 (33.15)	720 (28.35)	778 (30.63)	760 (29.92)	710 (27.95)	1,324 (52.13)	1,335 (52.56)	1,959 (77.13)	1,967 (77.44)	755 (29.72)	1,096 (43.15)	1,000 (39.37)
No.	16 17	18 19	20)	21) 22	23	24	25	26	27)	28 29	30	31)	32)	33
Length	1,164 (45.83)	1,814 (71.72)	760 (29.92)	1,203 (47.36)	1,254 (49.37)	160 (6.30)	104 (4.09)	140 (5.51)	84 (3.31)	84 (3.31)	36 (1.42)	1,110 (43.70)	284 (11.12)	577 (22.72)
No.	34	35	36	- 37)	38	39	40	40	42	(43)	44)	45	46	
Length	724 (28.50)	771 (30.35)	1,427 (56.18)	58 (2.28)	17 (.67)	117 (4.61)	626 (24.65)	621 (24:45)	130 (5.12)	90 (3.54)	280 (11.02)	239 (9.41)	617 (24.29)	





: Indicates mounting position for the frame centering gauge

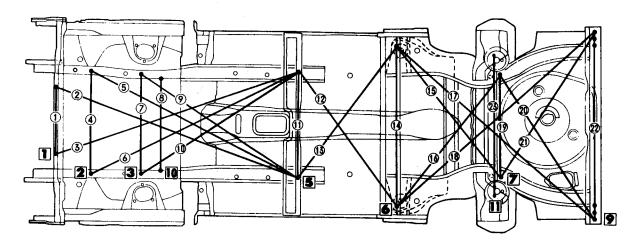
> 18Y1021 18Y1022

TYPE B (ACTUAL-MEASUREMENT DIMENSIONS)



UNDER BODY

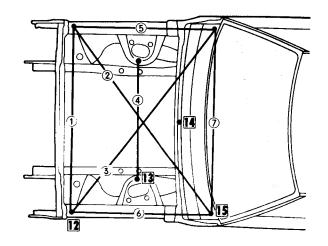
	·								mm (in.)
No.	1	23	4	5 6	7	8	9	100	1
Length	550 (21.65)	1,806 (71.10)	720 (28.35)	1,582 (62.28)	710 (27.95)	652 (25.67)	1,331 (52.40)	1,342 (52.83)	755 (29.72)
No.	12 (3)	14)	15 16	17) (18)	19	20 21)	22)	23)	
Length	1,100 (43.31)	1,000 (39.37)	1,179 (46.42)	1,820 (71.65)	760 (29.92)	1,204 (47.20)	1,254 (49.37)	866 (34.09)	

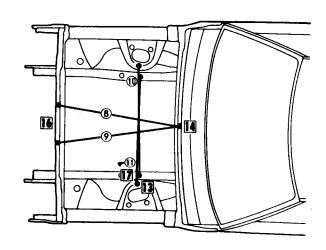


18Y1021

ENGINE COMPARTMENT

									mm (in.)
No.	1	2) (3)	4	(5) · 6.	(7)	(8)	9	(0)	0
Length	1,351 (53.19)	1,729 (68.07)	898 (35.35)	1,028 (40.47)	1,430 (56.30)	885 (34.84)	883 (34.76)	888 (34.96)	906 (35.67)





18Y1019

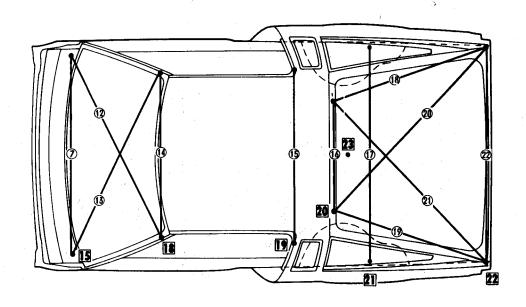


TYPE B (ACTUAL-MEASUREMENT DIMENSIONS)

UPPER BODY

mm (in.)

No.	12 13	14	15	16	1 17	18 19	20 21	22
Length	1,426	1,078	1,146	776	1,193	1,092	1,497	1,333
	(56.14)	(42.44)	(45.12)	(30.55)	(46.97)	(42.99)	(58.94)	(52.48)

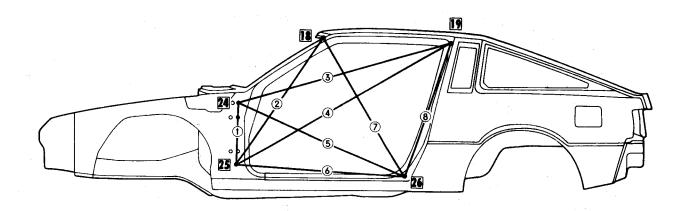


18Y1019

SIDE BODY

mm (in.)

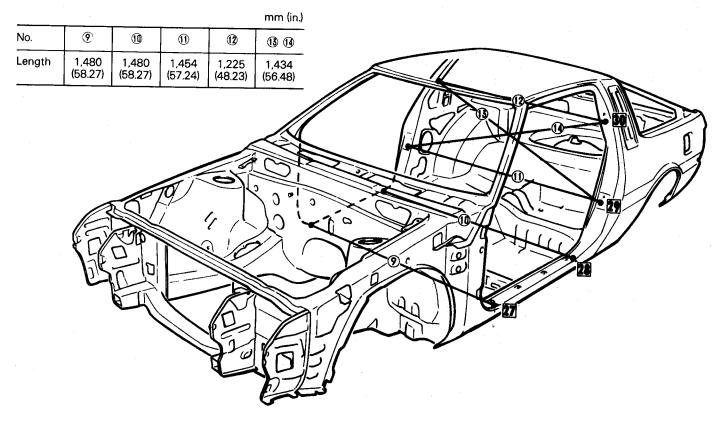
No.	1	2	3	4	· (5) 1	6	7	8
Length	415 (10.34)	1,027 (40.43)	1,475 (58.07)	1,650 (64.96)	1,218 (47.95)	1,133 (44.61)	1,075 (42.32)	954 (37.56)

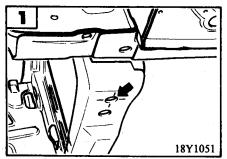


18Y1020

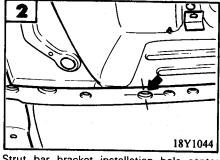


INTERIOR

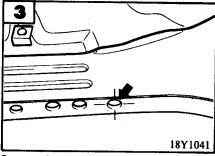




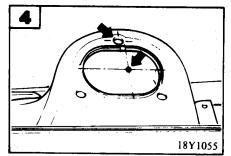
Strut bar bracket installation hole center [diameter 11 mm (43 in)]



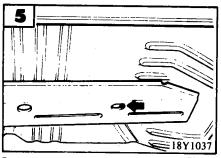
Strut bar bracket installation hole center [diameter 11 mm (43 in.)]



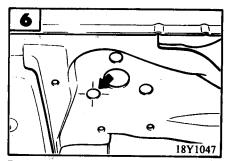
Center of mounting hole of crossmember [diameter 14.5 mm (.57 in.)]



Strut insulator center Strut insulator installation hole center [diameter 11 mm (.43 in.)]



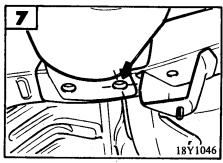
Rear portion of water drainhole of front sidemember, rear



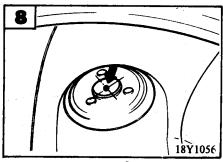
Front support pin installation hole center [diameter 13 mm (51 in.)]

18Y1033

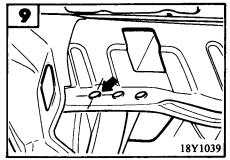




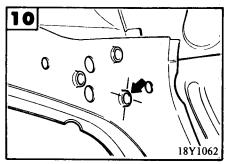
Crossmember installation hole center [diameter 16 mm (.63 in.)]



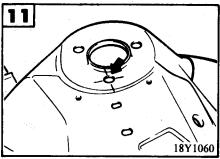
Strut insulator center [diameter 36 mm (1.42 in.)]



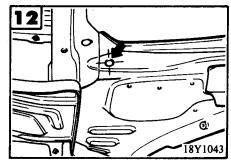
Towing hook installation hole center [diameter 13 mm (.51 in.)]



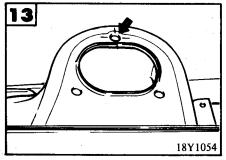
Steering gear box and idler arm installation hole center [diameter 11 mm (.43 in.)]



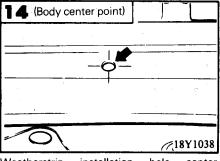
Center of mounting hole of strut insulator [diameter 11 mm (.43 in.)]



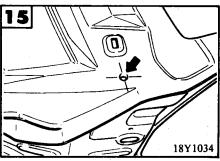
Fender installation hole center [diameter 6.5 mm (.26 in.)]



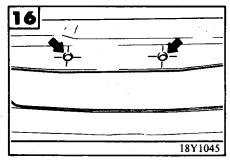
Strut insulator installation hole center [diameter 11 mm (.43 in.)]



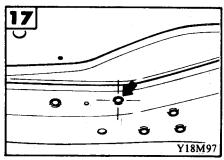
Weatherstrip installation hole center [diameter 6 mm (.24 in.)]



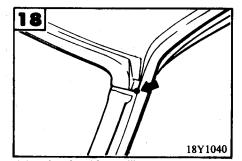
Fender installation hole center [diameter 6.5 mm (.26 in.)]



Center of mounting hole of engine hood lock plate [diamter 8 mm (.31 in.)]



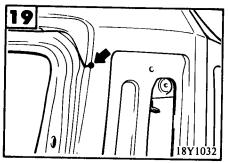
Center of mounting hole of crossmember [diameter 14.5 mm (.57 in.)]



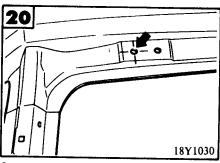
Joint of roof and front pillar

TYPE B (ACTUAL-MEASUREMENT DIMENSIONS)

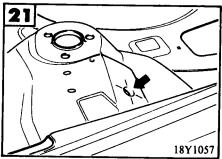




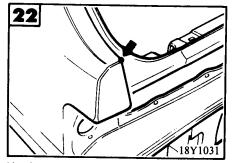
Joint of roof and quarter panel



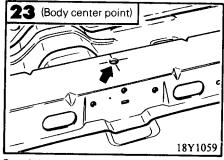
Center of hatch hinge mounting hole [diameter 10 mm (.39 in.)]



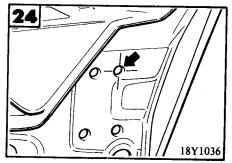
Seat belt retractor installation hole center [diameter 12.5 mm (.49 in.)]



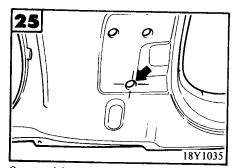
Hatch corner



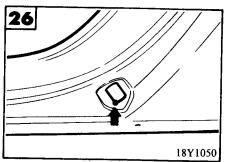
Board installation hole center [diameter 3 mm (.12 in.)]



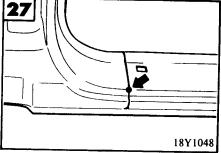
Center of front door hinge installation hole [diameter 9 mm (.35 in.)]



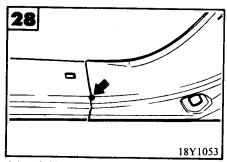
Center of front door hinge installation hole [diameter 9 mm (.35 in.)]



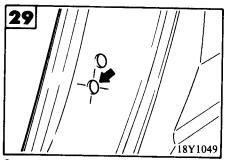
Door switch installation hole



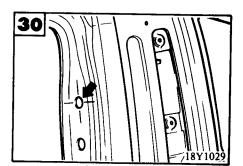
Joint of side sill and front pillar



Joint of side sill and quarter panel



Center of door striker mounting hole [diameter 14 mm (.55 in.)]



Center of seat belt anchor catch mounting hole [diameter 18 mm (.71 in.)]