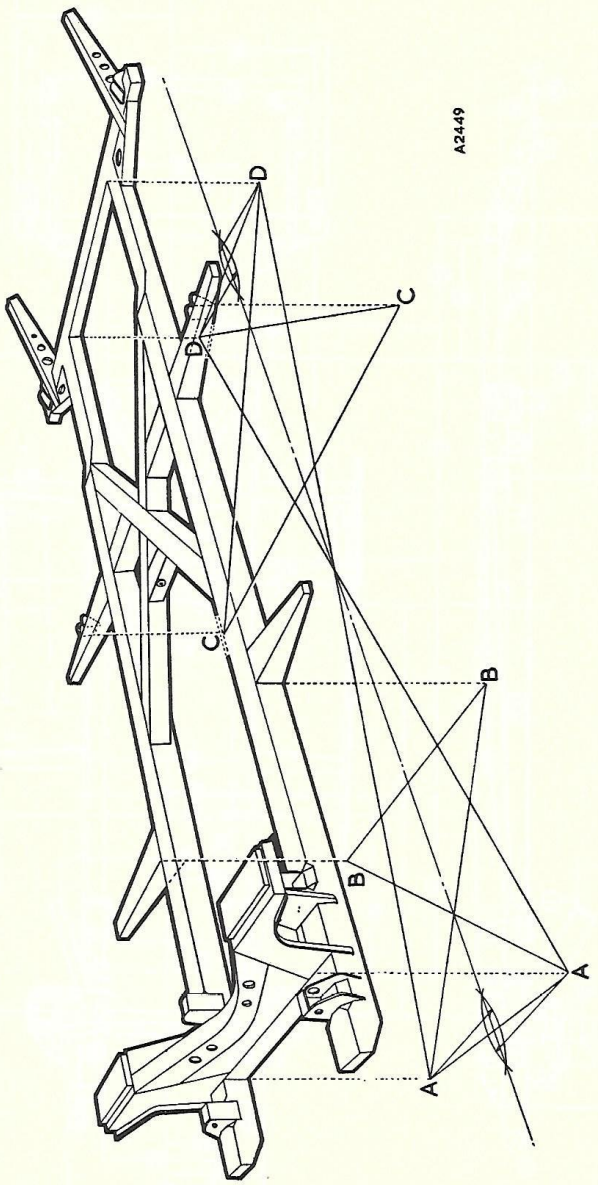
CHASSIS HORIZONTAL ALIGNMENT CHECK



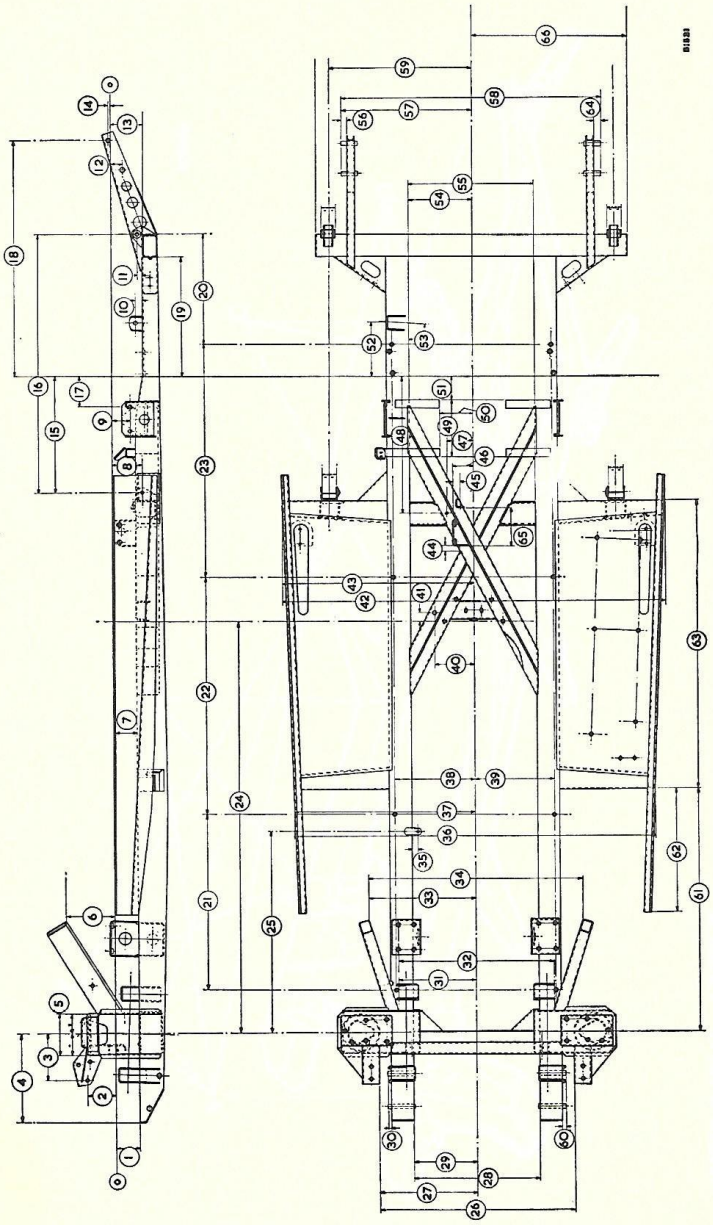
A preliminary check of the alignment can best be carried out by the system of diagonal and measurement checks from points projected on to a level floor by means of a plumb-bob.

A centre-line can then be established by means of a large pair of compasses, and any deviation from correct alignment will be made evident by the failure of the diagonals to intersect on the centre-line or by considerable deviations in the measurements.

A—A	B—B	C—C	D—D
Inside frame width 17 in. (43.2 cm.)	Outside frame width 23 in. (58.4 cm.)	Outside of rear spring front brackets $40\frac{11}{16}$ in. (103.4 cm.)	Inside frame width 17 in. (43.2 cm.)

CHASSIS ALIGNMENT DIAGRAM

(series BN4, BN6, BN7, BT7 and BJ7 cars)



KEY TO THE CHASSIS ALIGNMENT DIAGRAM

(Series BN4, BN6, BN7, BT7 and BJ7 cars)

No.	*Measurement*
1.	3¼ in. (8·26 cm.) parallel.
2.	3·723 to 3·754 in. (9·46 to 9·54 cm.)
3.	6·196 to 6·226 in. (15·74 to 15·81 cm.).
4.	12 in. (30·48 cm.).
5.	5¾ in. (14·6 cm.).
6.	6½ in. (16·51 cm.).
7.	3 in. (7·62 cm.).
8.	4⅛ in. (10·48 cm.)
9.	2½ in. (6·35 cm.).
10.	1 in. (2·54 cm.).
11.	¾ in. (1·91 cm.).
12.	1·55 in. (3·94 cm.).
13.	4¼ in. (10·8 cm.).
14.	11/32 in. (·873 cm.).
15.	16 in. (40·64 cm.).
16.	35½ in. (90·13 cm.).
17.	4⅛ in. (10·48 cm.).
18.	42 11/32 in. (82.15 cm.).
19.	16⅛ in. (41·59 cm.).
20.	15 in. (38·1 cm.).
21.	24 in. (61 cm.).
22.	32½ in. (82·55 cm.).
23.	32 in. (76·2 cm.).
24.	56 9/32 in. (143 cm.)
25.	27½ in. (69·89 cm.).
26.	26⅜ in. (66·72 cm.).
27.	13⅛ in. (33·36 cm.).
28.	17 in. (43·18 cm.).
29.	8½ in. (21·59 cm.).
30.	½ in. (1·27 cm.).
31.	10½ in. (26·67 cm.).
32.	21 in. (53·34 cm.).
33.	14 13/32 in. (36·6 cm.).

No.	*Measurement*	
34.	28 13/16 in. (73·2 cm.).	
35.	¾ in. (1.91 cm.).	
36.	48¾ ± 1/16 in. (123·9 ± ·16 cm.).	
37.	24⅜ ± 1/32 in. (61·95 ± ·08 cm.).	
38.	10¾ in. (27·31 cm.).	
39.	10¾ in. (27·31 cm.).	
40.	5¼ in. (13·34 cm.).	
41.	1¼ in. (3·18 cm.).	
42.	51½ ± 1/16 in. (130·89 ± ·16 cm.).	
43.	25¾ ± 1/32 in. (65·45 ± ·08 cm.).	
44.	¾ in. (1·91 cm.).	
45.	⅞ in. (2·22 cm.).	
46.	2⅞ in. (7·3 cm.).	
47.	3½ in. (8·89 cm.).	
48.	18¾ in. (47·61 cm.).	
49.	7 13/16 in. (19·84 cm.).	Series BN6 and BN7 cars only.
50.	4½ in. (11·43 cm.).	
51.	3 5/16 in. (8·41 cm.).	
52.	7⅜ in. (18·73 cm.).	
53.	87°	
54.	8½ in. (21·59 cm.).	
55.	17 in. (43·18 cm.).	
56.	⅞ in. (2·22 cm.).	
57.	17 9/16 in. (44·61 cm.).	
58.	35⅛ in. (89·22 cm.).	
59.	19¼ in. (48·88 cm.).	
60.	½ in. (1·27 cm.).	
61.	33⅜ in. (84·77 cm.).	
62.	17 in. (43·18 cm.).	
63.	39 7/16 in. (100·13 cm.).	
64.	⅛ in. (2·22 cm.).	
65.	5 5/16 in. (13·49 cm.).	
66.	21 in. (53·32 cm.).	

Section R.1

CHASSIS ALIGNMENT

To check the chassis alignment of a car which has been damaged a system of diagonal and measurement checks from points projected from the underframe on to a level floor is used (see pages R.1 and R.2).

To ensure that the alignment check is performed accurately the chassis must first be raised so that its datum line (o) (see page R.2) is parallel with the floor. Use the comparative measurements given on page R.2 to achieve this condition. Elevate the rear of the chassis to a convenient working height, and then adjust the height of the front of the chassis until the points given on page R.2 for the front and rear on both sides of the frame are in the correct vertical position **relative to each other;** for example, if the rear point is 36 in. (91·4 cm.) from the floor and is quoted as 2 in. (5·1 cm.) above the chassis datum line, the front point, quoted as 1 in. (2·54 cm.) below the datum line, must be 33 in. (83·8 cm.) above the floor.

At the same time, it will be helpful to check the **relative** heights of all the intermediate points given on page R.19 so that any distortion of the car in the vertical plane will be ascertained.

Chalk over the area of the floor directly below the points shown on page R.1. Using a plumb-line, project the points from the chassis on to the floor, marking the positions with a pencilled cross. The centre between each pair of points can be established by means of a large pair of compasses and the central points marked on the floor. In addition, diagonals can be determined between any two pair of points and the points of intersection marked on the floor. At this stage a length of thin cord covered with chalk can be held by two operators in such a position that it passes through as many of the central points and intersections marked as possible. While the cord is held taut a third operator raises the centre of it and then allows it to spring back smartly to the floor. If the resulting white line passes through all the points the chassis alignment is satisfactory. Any points through which the white line does not pass will be in a position where the underframe is out of alignment.

Considerable deviations in the transverse and longitudinal measurements given on page R.2 confirm chassis misalignment. It must be understood that allowance must be made for normal manufacturing tolerances and that a reasonable departure from nominal dimensions can be permitted without detriment to road performance.