

ACCIDENT REPAIRS

When rebuilding the engine compartment as part of an accident repair, the jig may be used to align and assemble any or all of the engine compartment components. Thus, if necessary, a complete engine compartment may be built and welded together as a sub-assembly around the jig. The two longest locating pins which are threaded may be used to hold the body side members and side apron panels to the jig during this operation. To establish a dimension between the stabiliser brackets, utilise the $\frac{1}{16}$ in. (1.6 mm.) spacers attached to the jig.

NOTE.—If a complete engine compartment is built around the jig in this manner, offer the welded assembly to the body **with the jig in position**. When correctly aligned to the body, the sub-assembly may then be welded in position. Do not remove the jig until both front mudguards and the radiator grille panel have been welded in position, otherwise distortion to the engine compartment may occur.

In a similar manner, when changing a radiator grille panel, to avoid the possibility of distortion to the engine compartment during this operation, secure the side apron panels with a temporary tie bar secured to each front suspension unit top mounting stud. (This tool may be improvised from a length of strip steel approximately $\frac{3}{16}$ in. thick by 2 in. wide by 37 in. long, suitably drilled at either end, but accurate dimensions may be obtained by direct measurements taken from an undamaged car.)

BODY ALIGNMENT

Before attempting to repair a damaged body where misalignment is apparent or suspected, it is necessary to check the underbody tolerances

Checking the Underbody

Support the body on suitable stands or adjustable supports on a level floor extending the full length of the vehicle. Check the dimensions shown along the whole length of the body and note any discrepancy outside the allowed tolerances shown on the chart overleaf.

The diagonals marked on the plan view can be checked by using large callipers or a pair of trammels, or alternatively, they may be checked by using a plumb bob and line. The latter method enables a simple and accurate check to be made. Suspend the plumb bob from the appropriate reference points on the body and carefully mark the floor at each location. Connect these points by a chalk line and then draw a line through the intersecting points of the diagonals.

Finally, check the dimensions between the front and rear side members.

Wheel Alignment (unladen)

Castor	1° 12' to 2° 42'
Camber	0° 40' to 2° 10'
King Pin Inclination	4° 26' to 5° 56'
Toe-out on 20° turns	1° 8' to 2° 38'
Toe-in	$\frac{1}{16}$ in. to $\frac{1}{8}$ in. (1.58 mm. to 3.17 mm.)

METRIC EQUIVALENTS (IN DIMENSIONAL SEQUENCE)

Inches	Centimetres	Inches	Centimetres	Inches	Centimetres
$\frac{1}{64}$	0.04	$13\frac{25}{64}$ to $13\frac{13}{32}$	34.01 to 34.05	$39\frac{39}{64}$ to $39\frac{43}{64}$	100.61 to 100.77
$\frac{1}{16}$	0.16	$13\frac{33}{64}$	34.33	$40\frac{9}{64}$	101.96
$\frac{3}{32}$ in 18	0.24 in. 45.72	$17\frac{1}{4}$	43.81	$45\frac{51}{64}$	116.32
$\frac{1}{2}$	1.27	$20\frac{1}{16}$	50.96	$45\frac{13}{16}$ to $45\frac{15}{16}$	116.36 to 116.68
$\frac{5}{8}$	1.39	$20\frac{25}{32}$	52.78	$47\frac{7}{32}$	119.93
$2\frac{3}{8}$	6.67	$21\frac{1}{2}$	54.61	$47\frac{9}{16}$	120.17
$3\frac{5}{32}$	8.02	$22\frac{7}{32}$	56.43	$47\frac{39}{64}$	120.93
$7\frac{9}{32}$	18.49	23	58.42	$48\frac{9}{64}$	122.28
$8\frac{31}{64}$	21.55	$24\frac{55}{64}$	63.14	$49\frac{9}{16}$	125.89
$9\frac{7}{16}$	23.97	$30\frac{49}{64}$	78.14	$49\frac{57}{64}$	126.72
$10\frac{1}{16}$	25.56	$31\frac{35}{64}$	80.12	$51\frac{23}{64}$	130.45
$11\frac{11}{32}$	28.81	$31\frac{61}{64}$	81.16	$78\frac{61}{64}$ to $79\frac{3}{16}$	200.54 to 201.13
$11\frac{9}{16}$	29.37	$33\frac{21}{64}$	84.65	98	248.92
$13\frac{17}{64}$ to $13\frac{29}{64}$	33.69 to 34.17	$37\frac{7}{8}$	96.20	$159\frac{15}{16}$	406.24