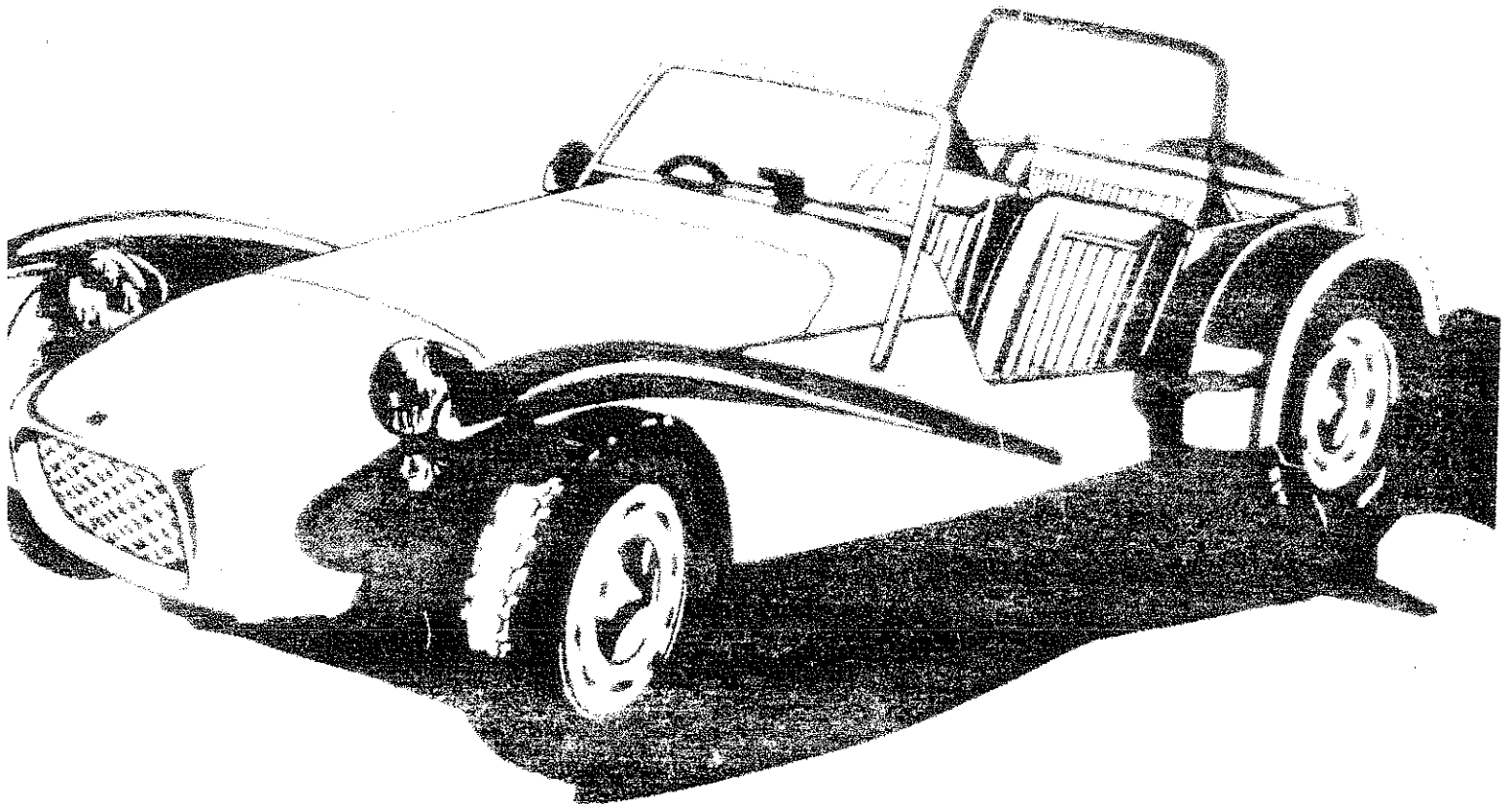


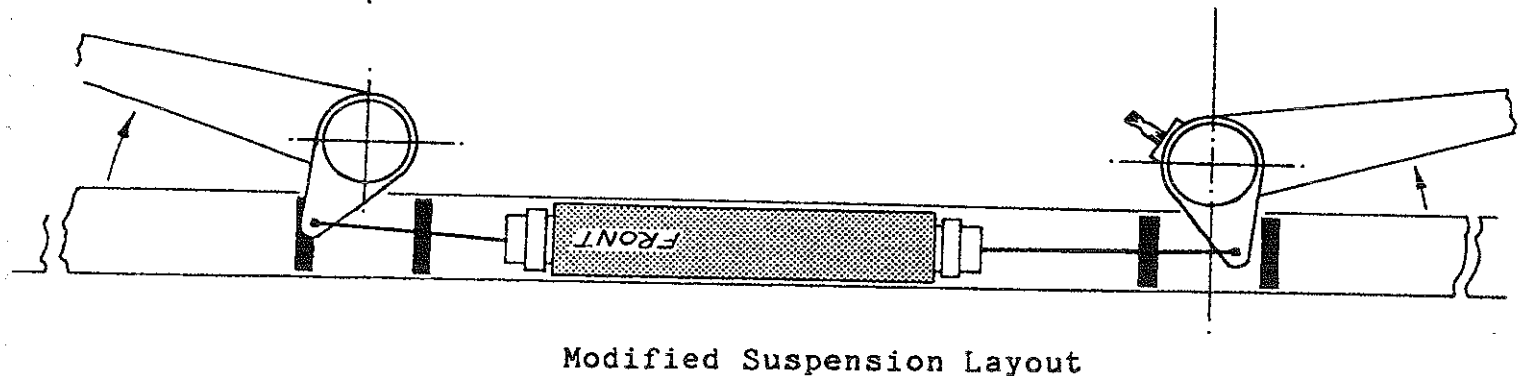
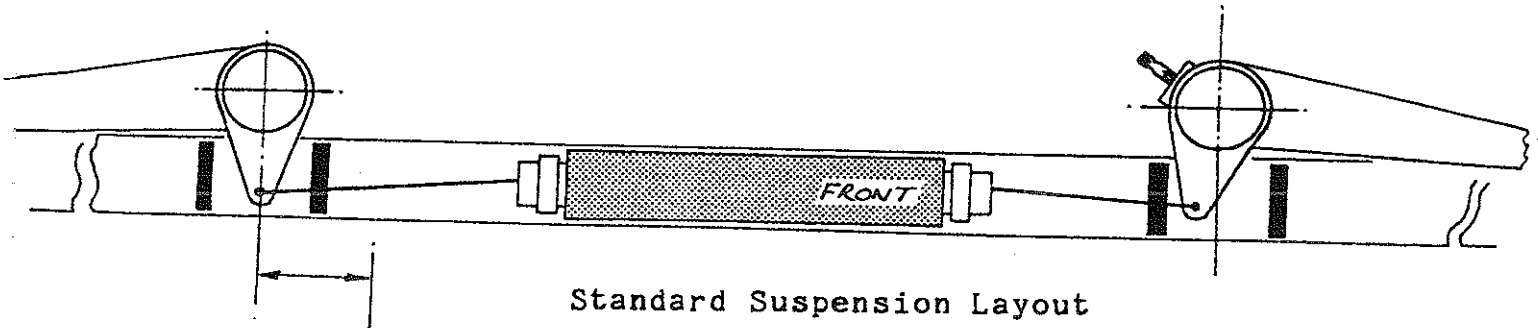
falcon cars ltd



Handyman plans
Build manual

Suspension and Wheelbase Resetting

Suspension height may be substantially lowered in two ways. The first, suitable for the 2CV and Dyane models only, involves removing the suspension cylinders on each side, which are held in place by large nuts, and then reversing the cylinders so the fronts are now at the rear, and vice versa (see below).

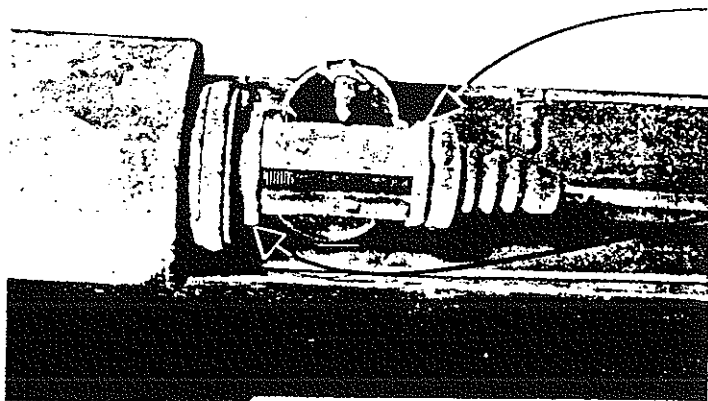


Removal of the spring canisters is often troublesome, so apply plenty of penetrating oil at least a day before. The canisters are held on with large nuts either side of the chassis tubes. The inner ones (those nearest the canister) should be undone first, as these are lock nuts. Then the outer nuts should be tightened. This acts as an extractor to pull the threaded sections out of these tubes. Use your workshop manual for specific details and reassembly tolerances.

TIP: When refitting these units inject with old engine oil to stop them squeaking; I use an old washing up bottle for this.

To compliment this reversal, the rear suspension arms and axle are moved forward by about 100mm, i.e. one bolt hole, so that the foremost of the pair of bolt holes becomes the rearmost. Drill a new pair of forward holes.

IMPORTANT: The flanges around these new holes should be spaced as before to prevent them from being crushed when the bolts are tightened.



The outer nut can be tightened to be used as an extractor to pull the threaded section out.

The inner nut is a lock nut & should be undone totally.

Removal of the spring canisters

Reconnect the suspension tie rods and adjust the height to suit with the screw adjusters, which have spanner flats for this purpose. The rear ones are likely to be wound most of the way in and it may be necessary to cut off the first 25mm (1") of thread to achieve the desired ground clearance. FRONT sets of dampers should also be used on the rear, as well as on the front.

Ami and Ami Super Models

The lowering is similar, but you DO NOT reverse the spring mounting canisters for these models, and only shorten the wheelbase by 50mm (half way between the existing holes). All the holes will need respacing to prevent the flanges from being crushed when the bolts are tightened up. Use the screw adjusters to effect further adjustment. The front suspension can be lowered by simply adjusting the tie rods, which have spanner flats for this purpose.

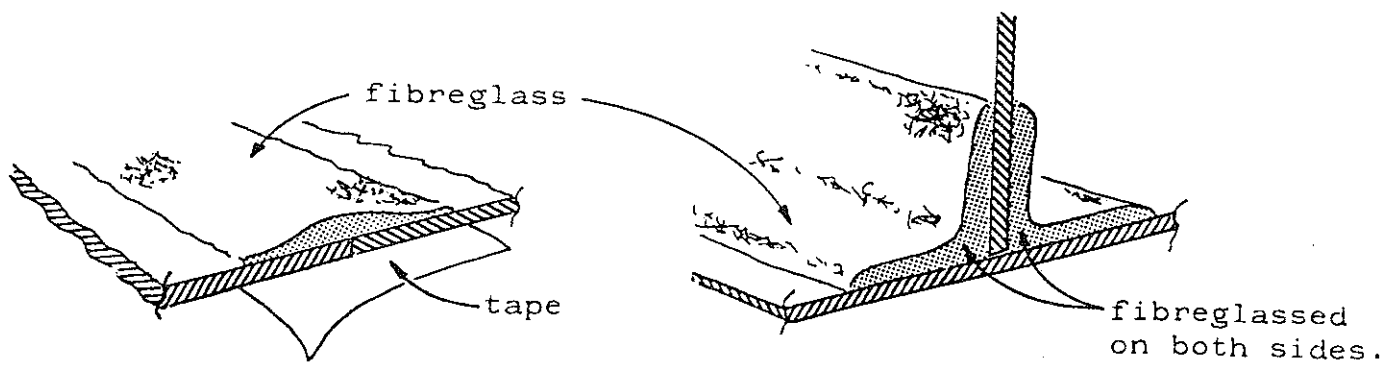
IMPORTANT: Ensure that there is at least 15mm (5/8") of thread holding (this can be done by removing the complete thread and marking from the end before resetting). Degrease and paint this thread to prevent movement and rust. Where close to this minimum, use loc-tight on the threads.

Ground Clearance

125mm (5") under the front, measured from the suspension mounting bolts to the floor and 150mm (6") under the rear mounting bolts is needed. These figures are for a finished trimmed car; in its bare mechanical state the figures will be an extra 35mm (1.5").

The ratio for adjustment is 2:1 i.e., 20mm lowering adjustment at the wheel is effected by 10mm lengthening of the tie rods OR shortening the wheelbase by 10mm. To raise the suspension, i.e. for off road style vehicles, reverse the exercise, i.e. shorten the tie rods and/or lengthen the wheel base.

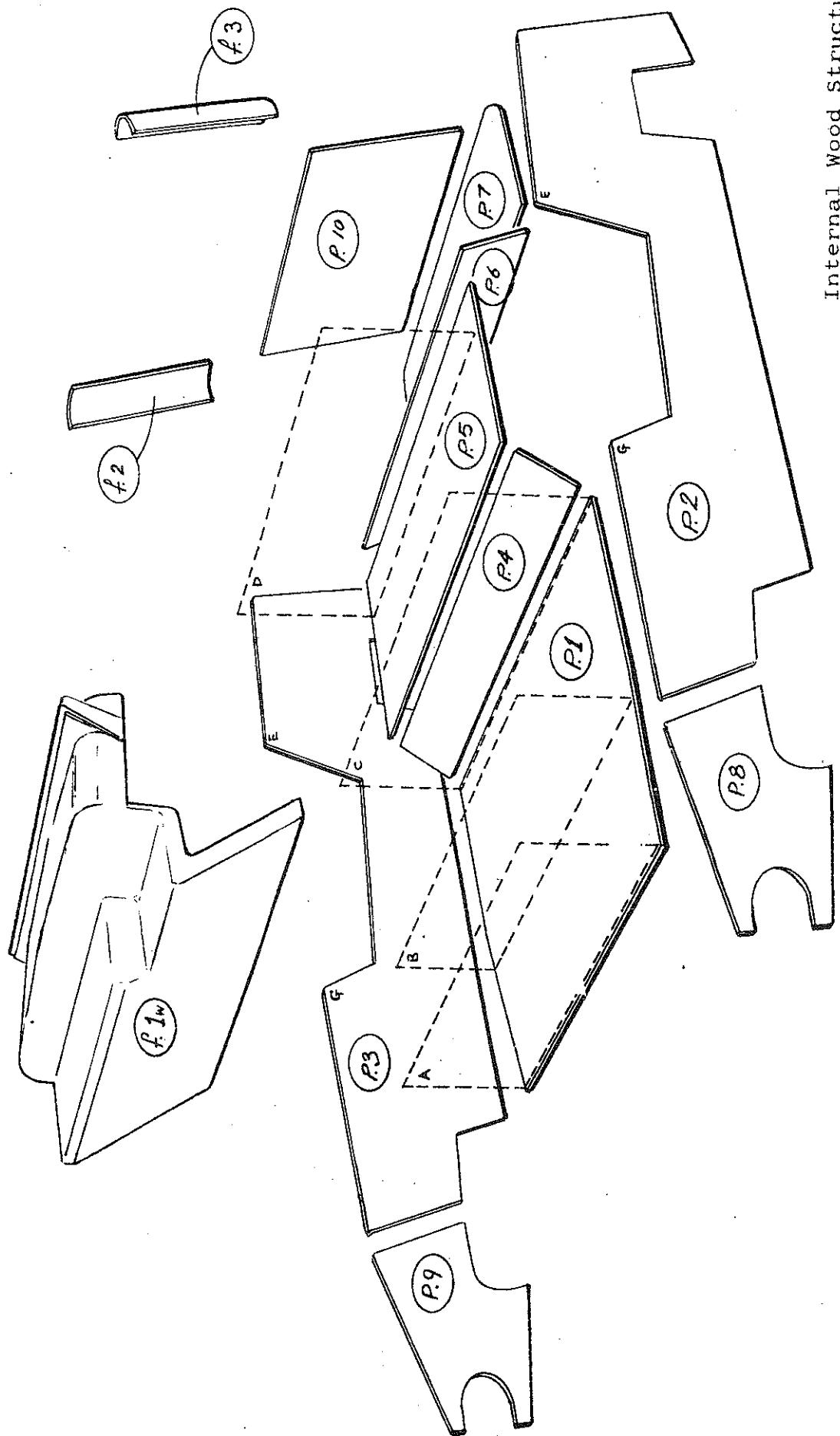
IMPORTANT: The angles of 'camber' and the 'caster angle' is directly affected by the height of the suspension, therefore the STEERING WILL BE AFFECTED BY ANY CHANGE from the standard. Extreme cases may be dangerous for road use.



Butt joint
ie., at the rear corners
(Tape used on the outside)

'T' joint
ie., at the sides / floor

Fibreglassing wood to fibreglass panels are done in the same way as wood to wood. In all cases make sure the surfaces are oil-free and where the wood or fibreglass panel is to be bonded, score well with coarse sand paper to key the resin.



Internal Wood Structure

To make the alignment of all the panels easier and more accurate transfer the following markings onto the inside of each side panel P.2 and P.3.

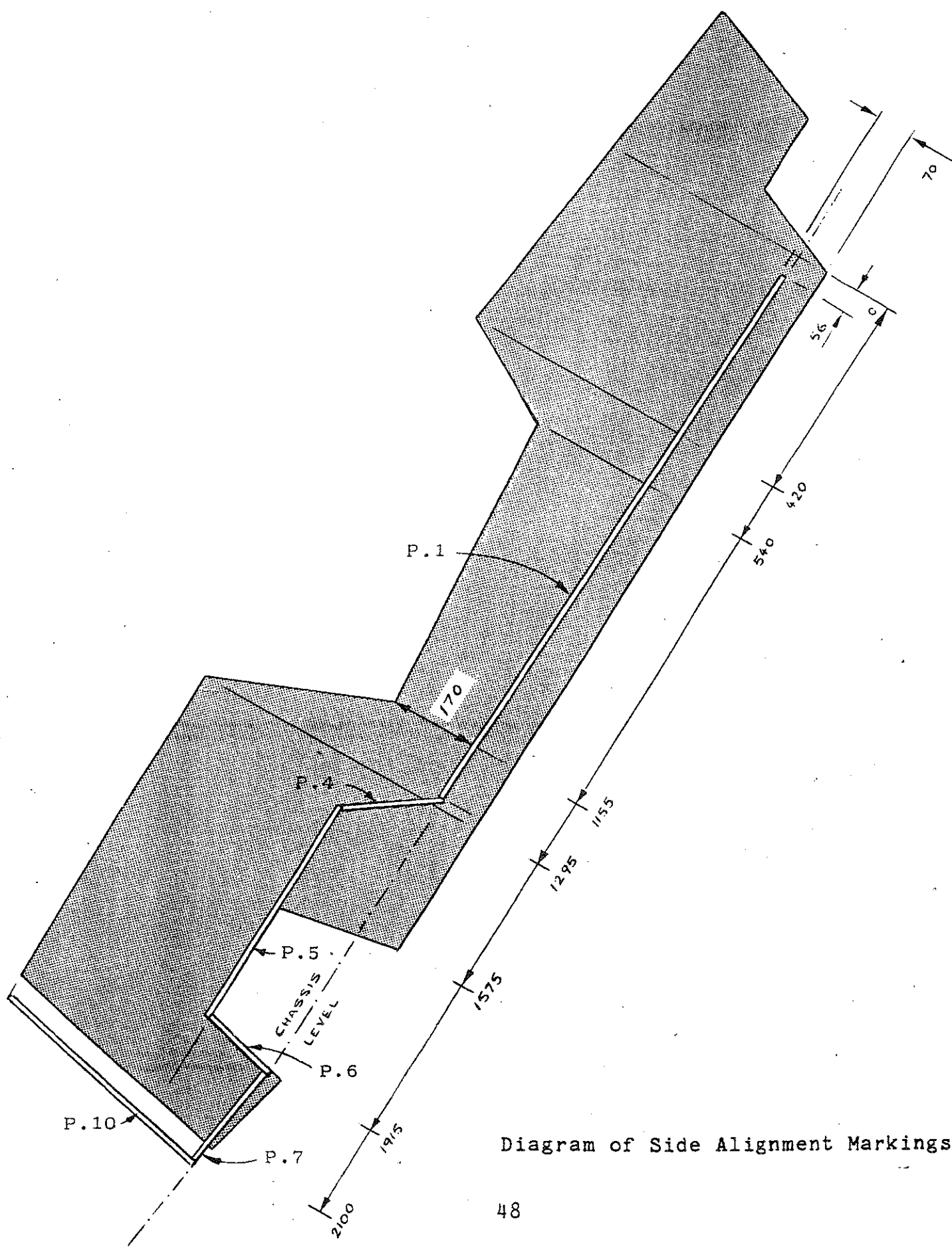


Diagram of Side Alignment Markings

P.33 is the size of a number plate and is to be the mounting for the same. It is fitted on to the END of the side panels and holds these together. To enable the sides to bend around the shape of the boat-tail it is necessary to cut 'V' slots through the inner laminate of the plywood. These are best cut with a saw, vertical and regularly every 35mm (1 3/8") around the curve.

The assembly, pinning together and fibreglassing of the wood, should be as directed on the 'S' kit and likewise when hard, the temporary former B should be removed and replaced with your choice of bulkhead. The fitting of the f.1w type bulkhead is described on page 49 and like this, the bulkhead type f.1a should rest on the sides P.2 and P.3, but this time butting up to it's already bonded in dashboard panel P.11. The bottom of the bulkhead edges up to P.1a & is pushed down hard onto the chassis.

The sides of the bulkhead should be flush with, not overlapping, the top edges of the sides P.2 and P.3, ensuring that it's square with both the chassis and tub and that the front edges of the sides are pulled in tight. Fibreglass on the inside only, using 4 layers of matting.

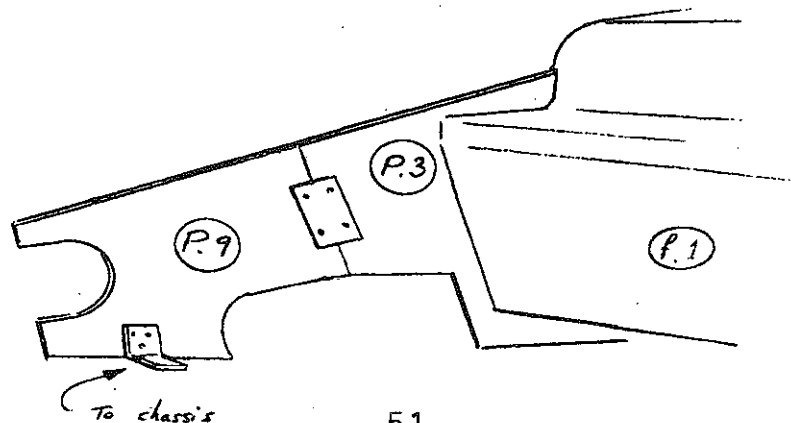
When the structure has fully set, turn the tub over to fibreglass and paint underneath, as instructed above for the 'S' kit, but in addition the slotted curved sides should be given a covering layer of glassfibre support, on the inside only and before painting, to restore the strength.

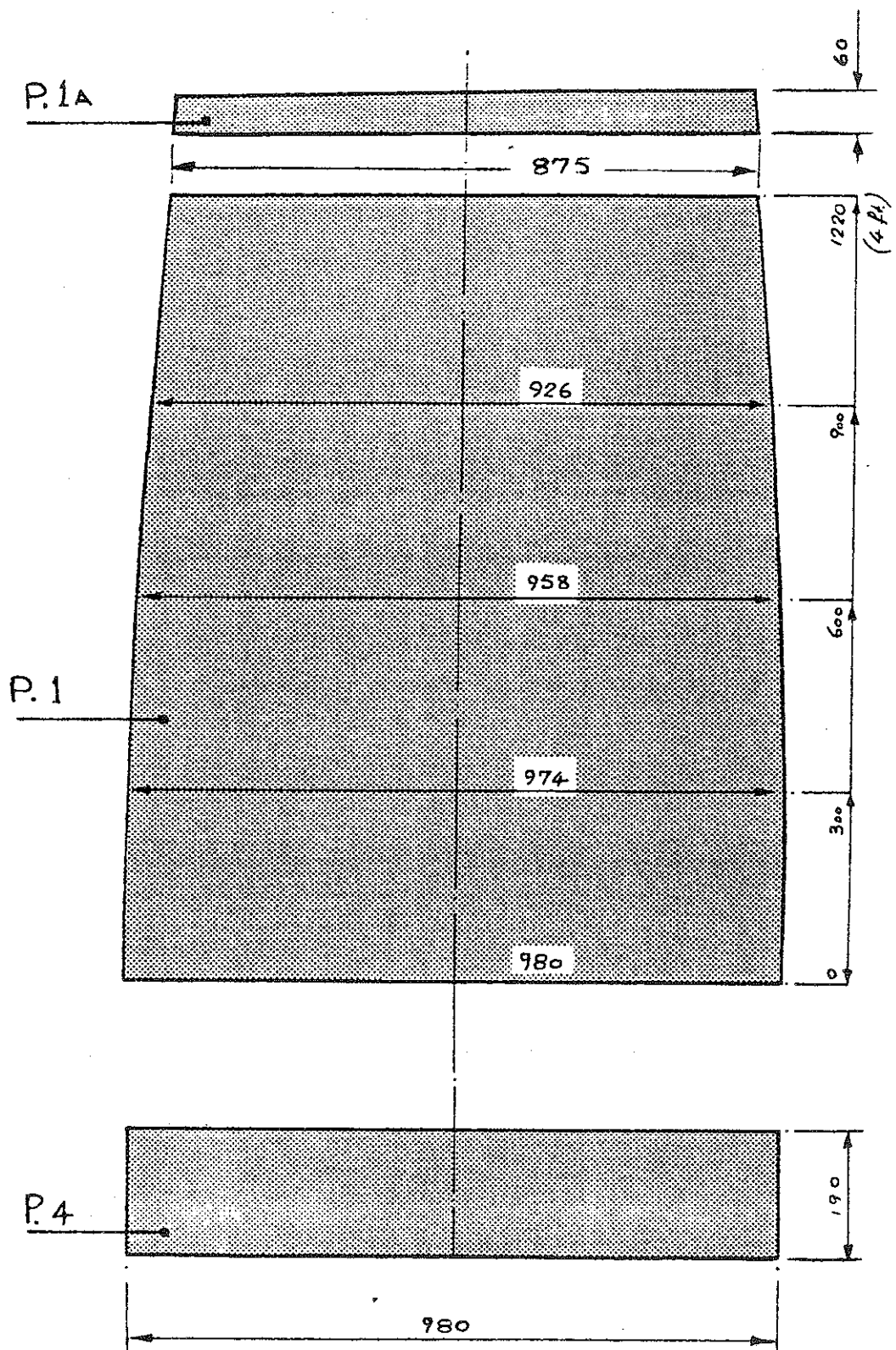
IMPORTANT: When fitting the boat-tail that it should be **SECURELY** hinged (and locked) or bolted down to P.35. Remembering that in an accident, all the loads of two persons pulling on their seat-belts will try to rip your fixings out.

The Engine Side Panels

These are to be removeable, for ease of access in the case of major work being required. Lightweight strips of metal are used, screwed to the inside and overlapping the forwardmost edges of the body panels P.2 and P.3. so that the corresponding rear edges of the side panels, when also mounted off these, are butted upto and flush with the outside of the body. To support and align the front of the panels, use angle brackets, screwed to the chassis.

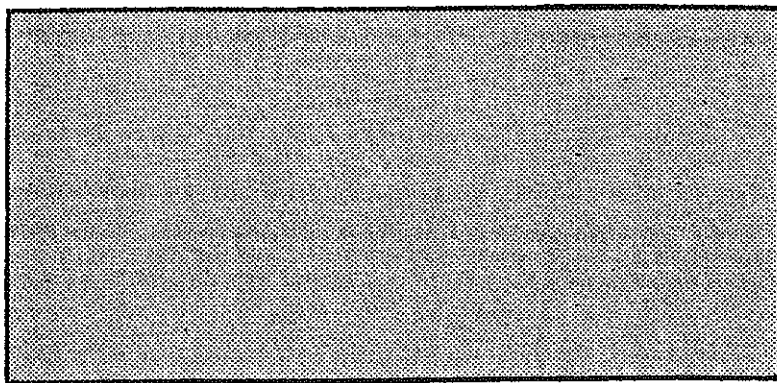
Clearance around the engine rocker covers should be 10 - 15mm (1/2") to allow for engine movement. The top edges of the side panels may be braced with a length of tube, to stop them twisting outwards, if required.





FLOOR PIECES P.1 and P.4

Plywood 9mm Thk.



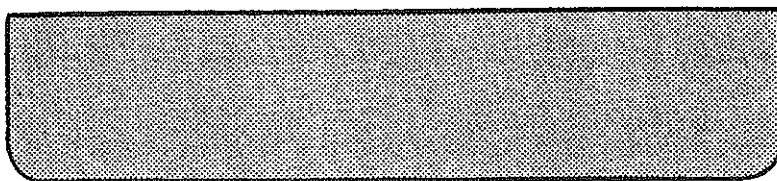
P.5 - 980 x 490mm

(Ami versions of P.5
- 980 x 710mm.)



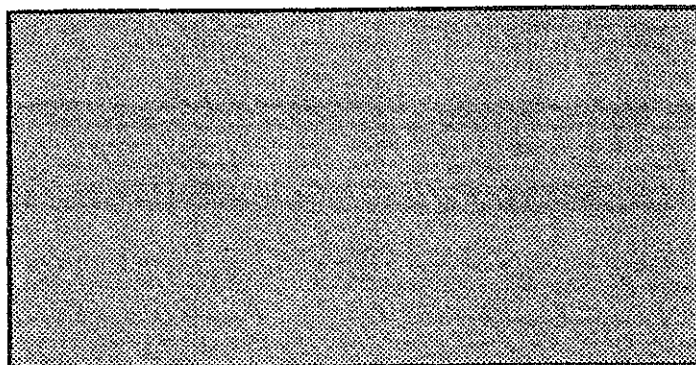
P.6 - 980 x 155mm

(not used on Ami.)



P.7 - 980 x 220mm

(combined with P.5 for
Ami versions.)



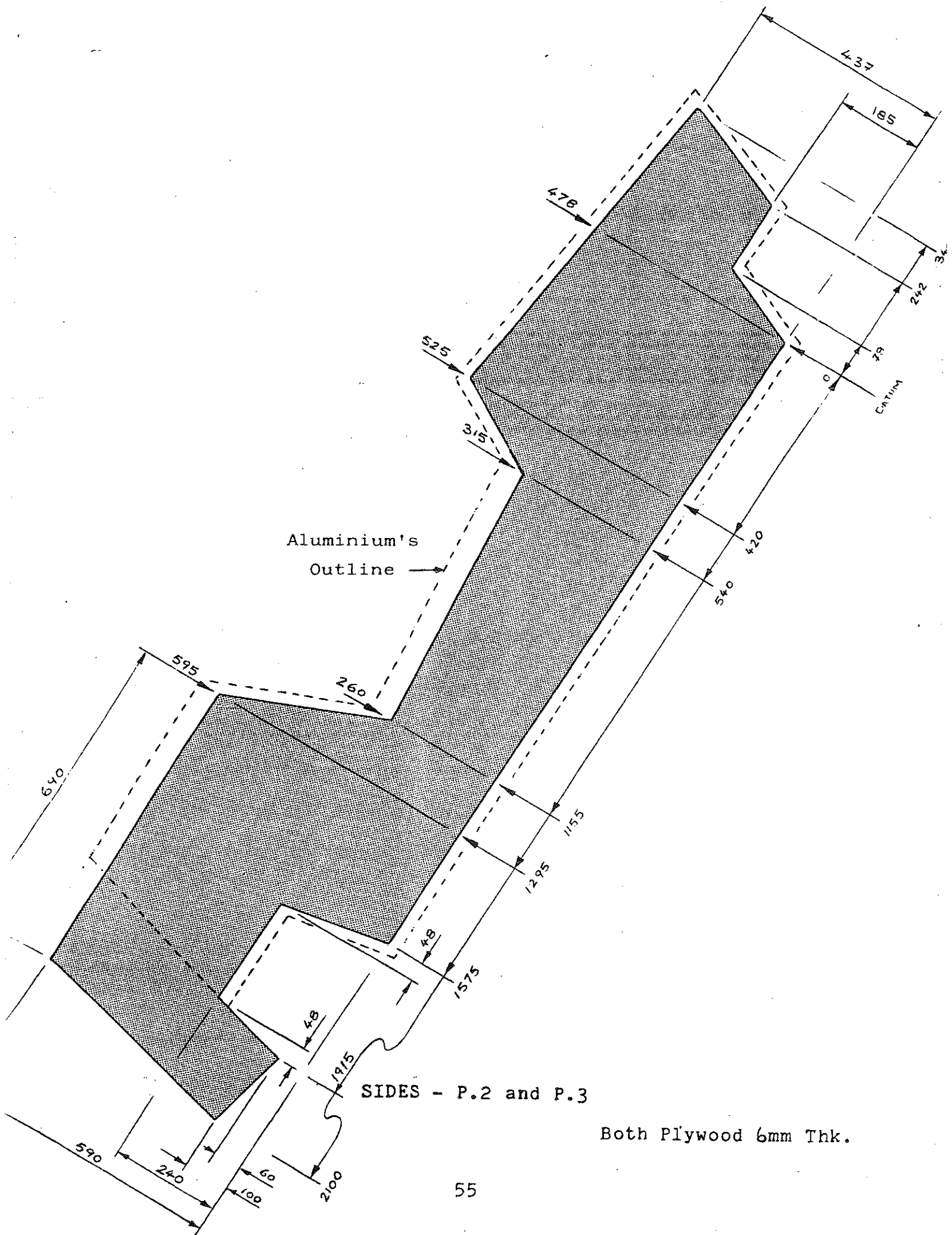
P.10 - 880 x 485mm

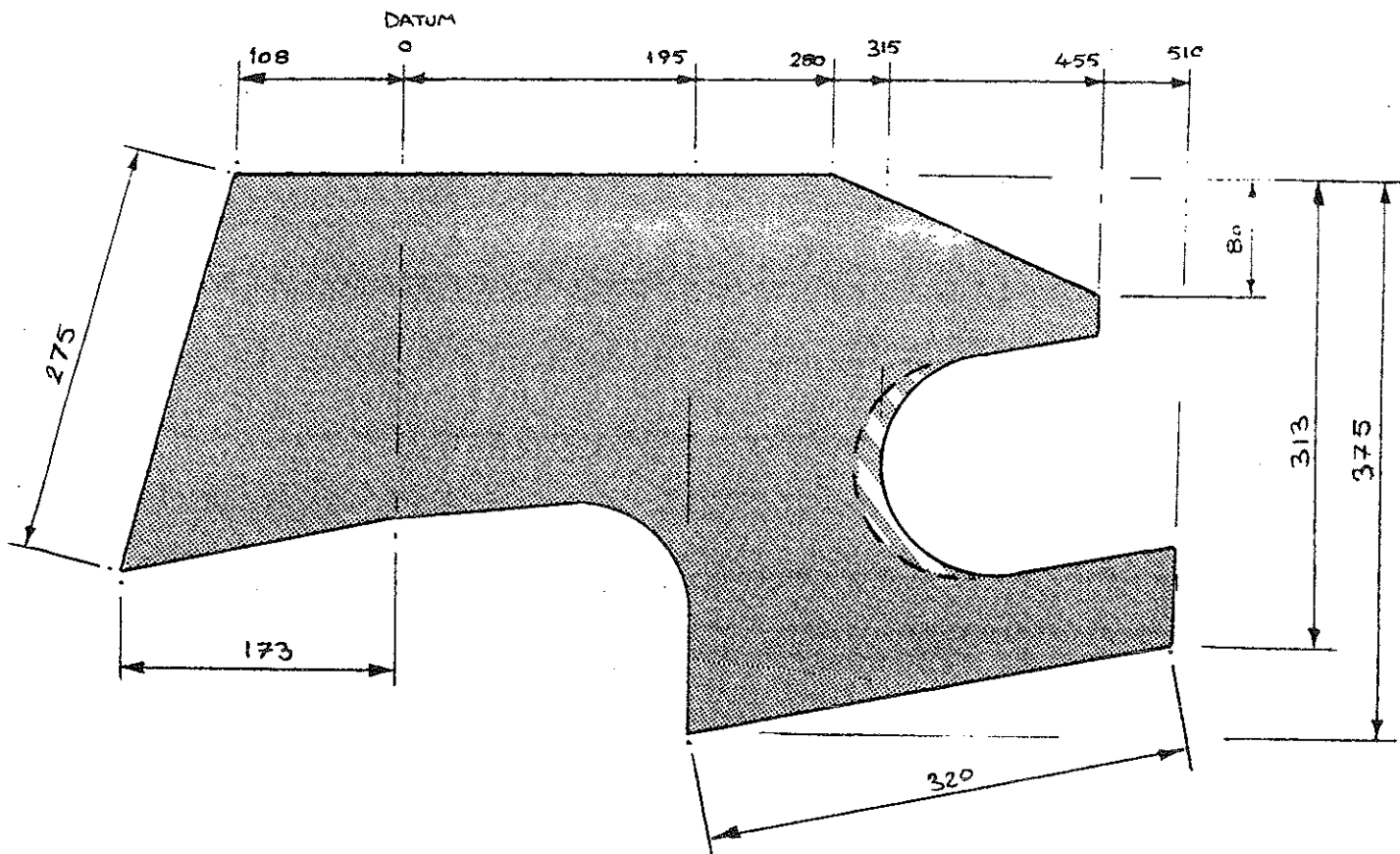
(Ami versions of P.10
- 880 x 495mm.)

FLOOR PIECES - P.5, P.6, P.7 and P.10

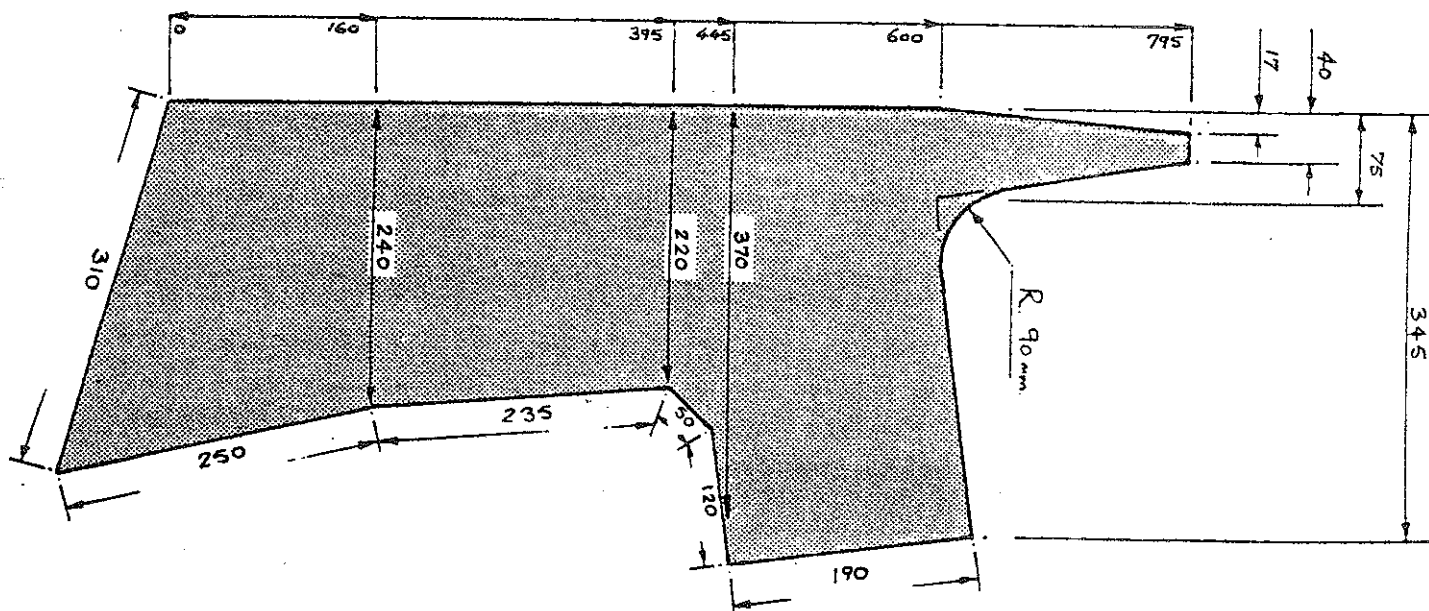
IMPORTANT: For Ami & Ami Super based cars P.5 and P.7 are to be one piece (ie = 710mm long) P.6 is not used because of the larger fuel tank.

All are Plywood 9mm Thk.



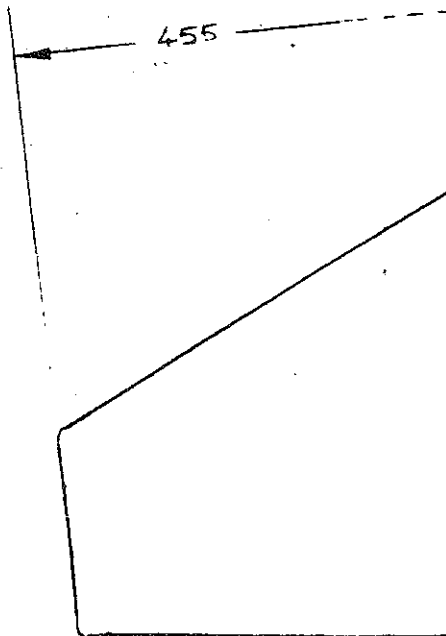


ENGINE SIDE PANELS - P.8 and P.9
Two cylinder Models Only, see also page 57.



'XS' ENGINE SIDE PANELS - P.8 and P.9
(4 cylinder Models)

Plywood 6mm Thk.



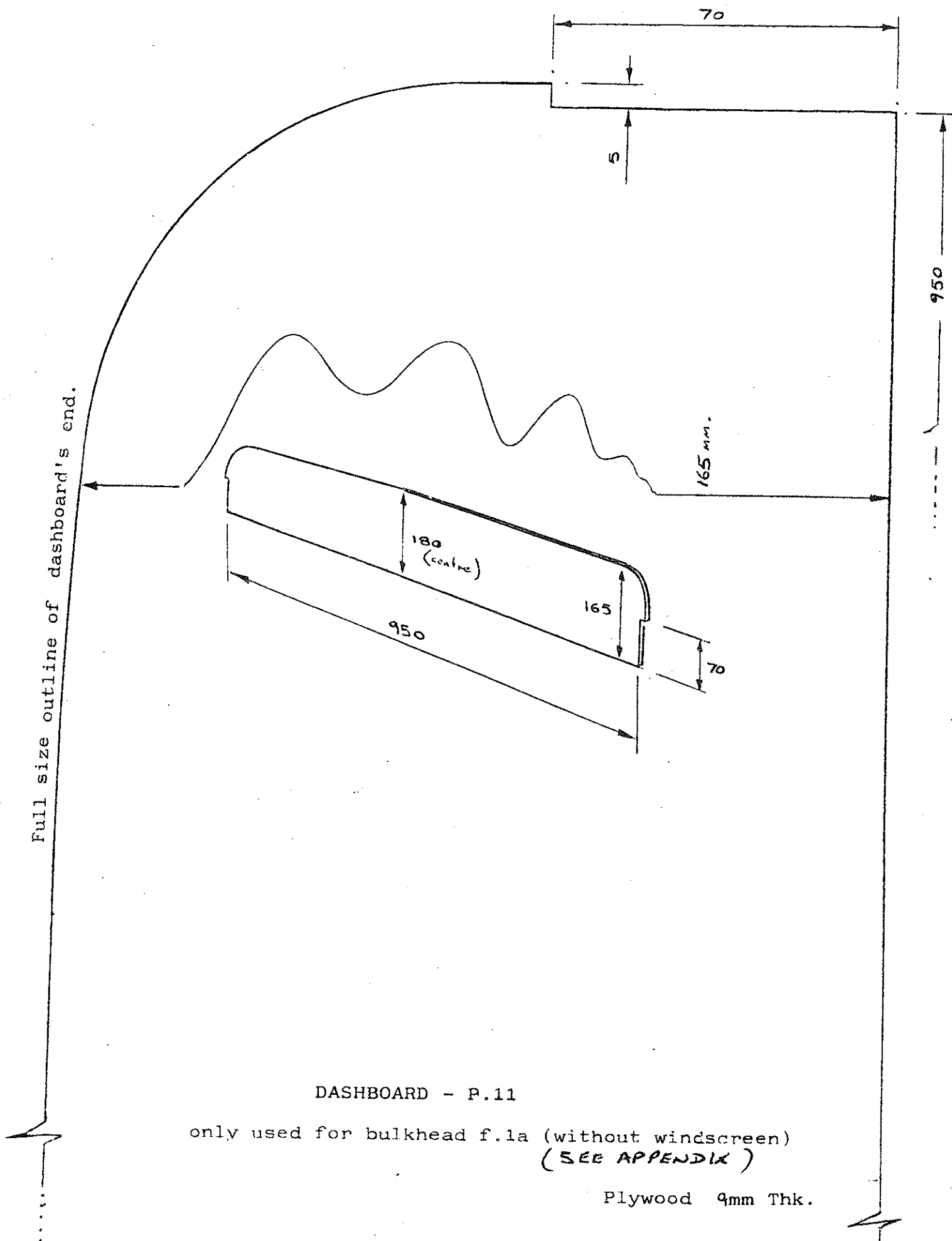
TWO CYLINDER MODELS ONLY :

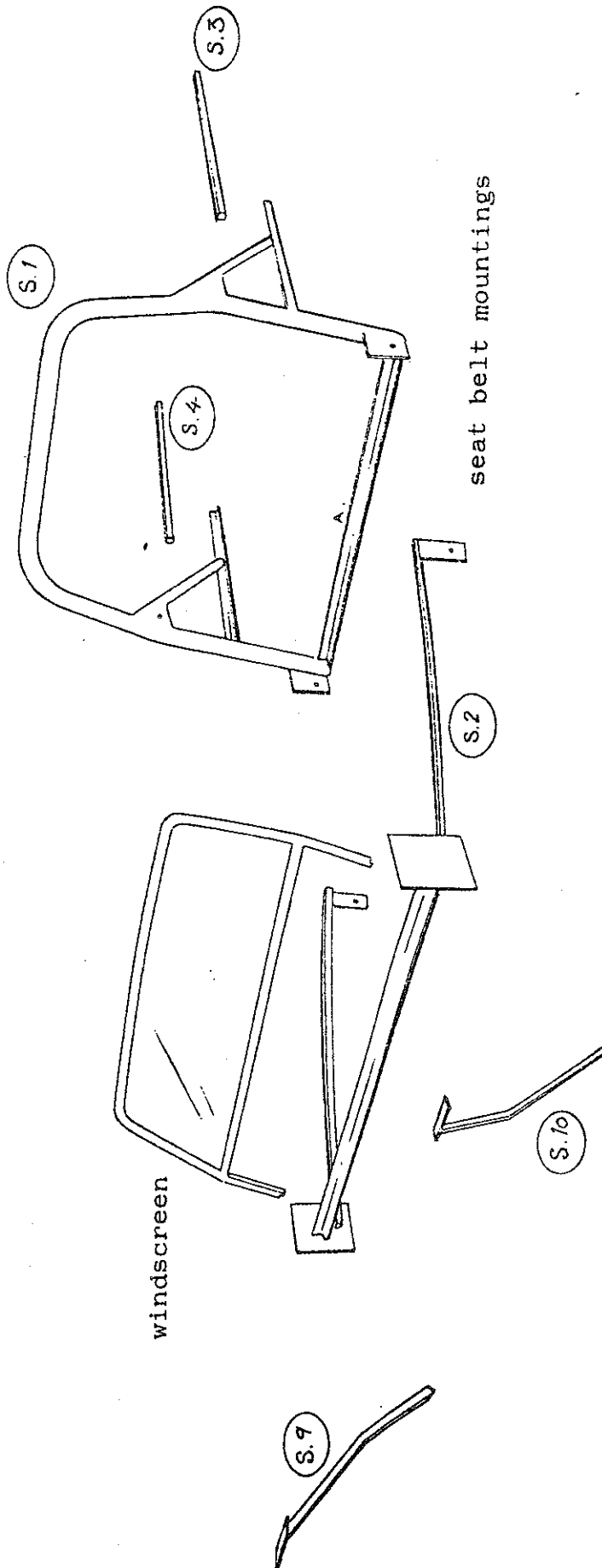
TEMPLATE FOR SIDE PANELS AROUND ROCKER COVERS
(use a pin through the paper to mark)

Scale: Full size

RIGHT HAND ENGINE SIDE PANEL
LEFT HAND ENGINE SIDE PANEL

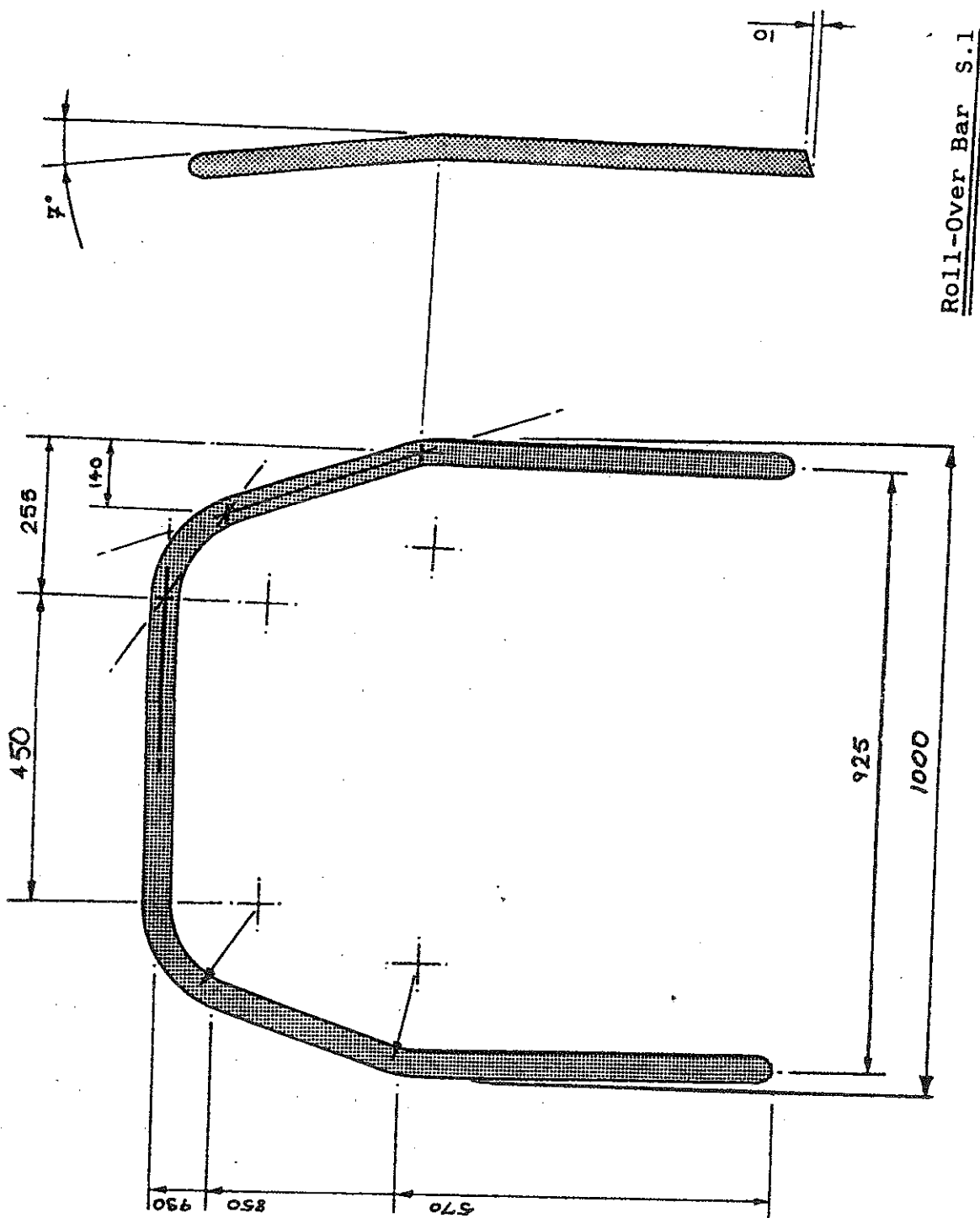
510



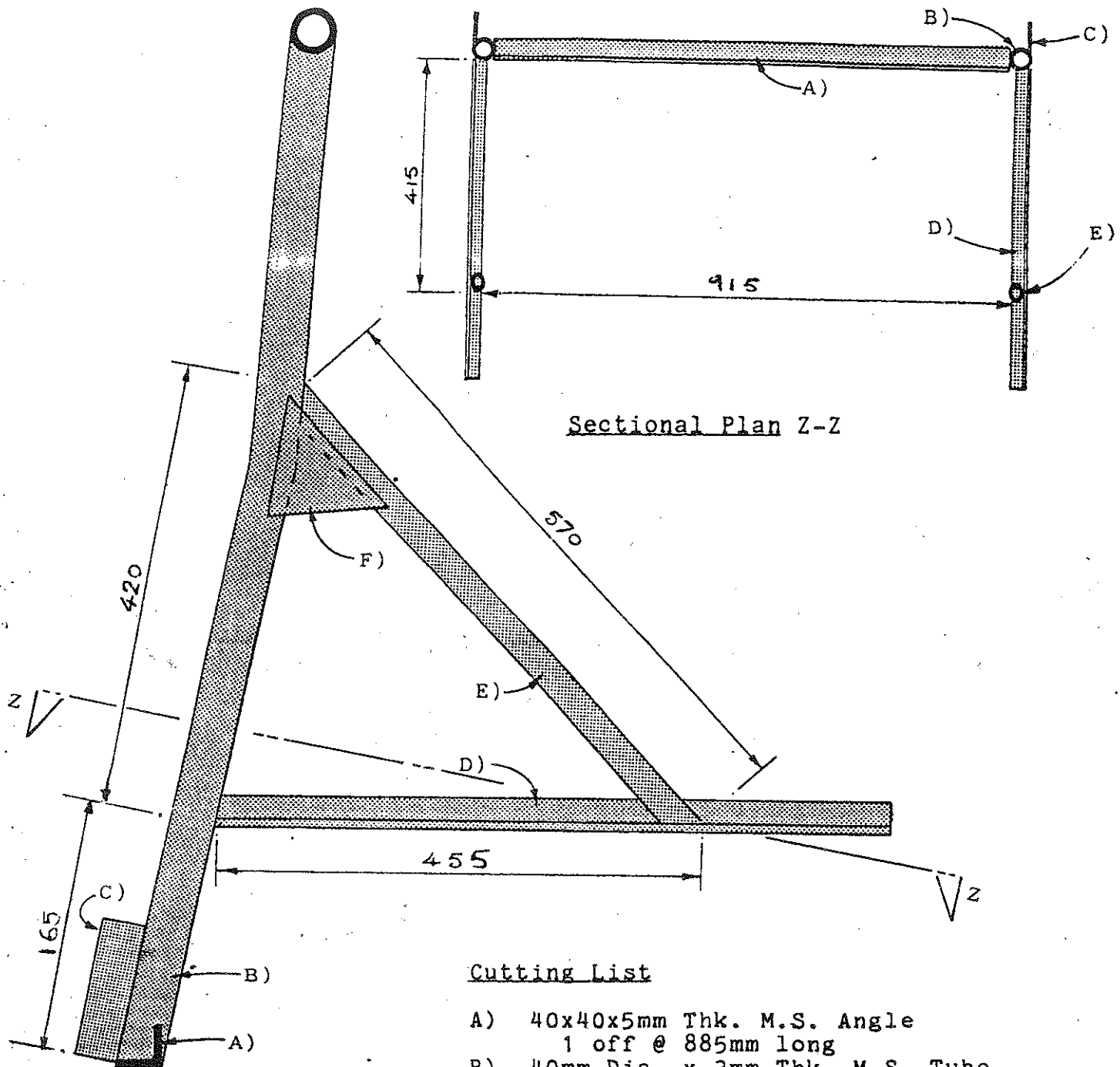


Steel Structure

N.B: Items S.1, S.3 & S.4 are not used on the LX models.



Tube 40mm Diameter x 10 gauge M.S.
All Radii are 150mm mean

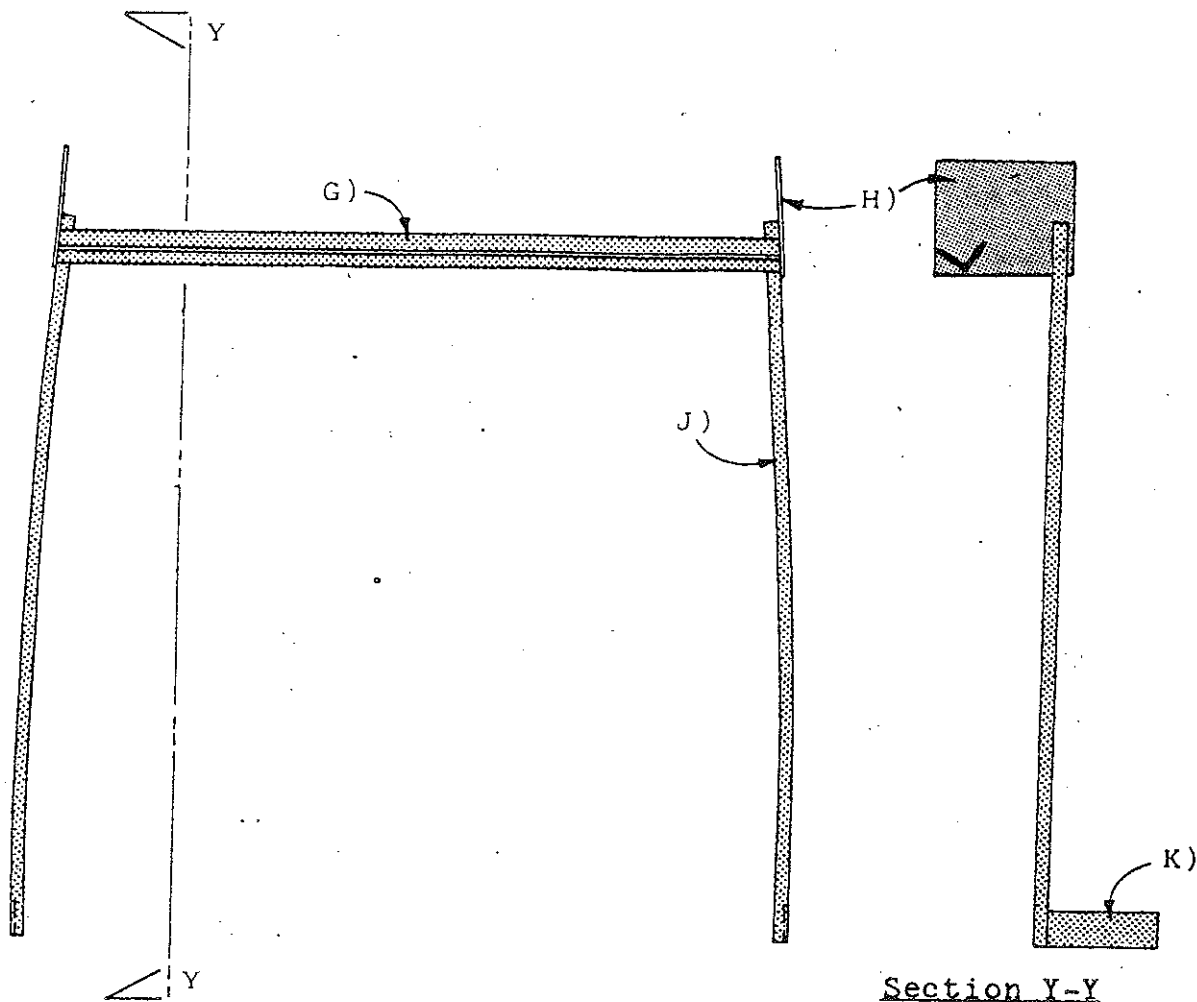


Cutting List

- A) 40x40x5mm Thk. M.S. Angle
1 off @ 885mm long
- B) 40mm Dia. x 3mm Thk. M.S. Tube
1 off see page 83 for details
- C) 125x50x3mm Thk. M.S. Plate
2 off for seat belt mountings
- D) 25x25x3mm Thk. M.S. Angle
2 off @ 575mm long
- E) 25mm Dia. x 3mm Thk. M.S. Tube
2 off @ 570 mm long overall,
each end cut @ 40 degrees
- F) 130x105x103x3mm Thk. M.S. Plate
4 off

Roll-Over Bar S.1

Triangulation and Seat Belt Mountings.



Cutting List - Front Structure

- G) .40x40x5mm Thk. M.S. Angle
1 off @ 925mm long
- H) 185x140x3mm Thk. M.S. Plate
2 off see detail page 86.
- J) 20x20x16 gauge M.S. Tube
2 off @ 915mm long. Shaped to
identical curve of plywood -
P.1. (see page 53)
- NOTE: Item J) for the boat tail cars
should be @ 935mm long.
- K) 135x40x3mm Thk. M.S. Plate
2 off

Rear Side Supports

- L) 20x20x16 gauge M.S. tube - straight
2 off @ 550mm long. (Not illustrated)

Column Support & Side Braces

Front S.2, Rear S.3 and S.4