

UN-R125

NTSEL

National Traffic Safety
and Environment Laboratory

KENICHI YAMAMOTO

Test environment



Requires are a table with a standard horizontal plane for measurement



Test vehicle

a vehicle in running order plus one front-seat passenger, the mass of the passenger being 75 kg +/-1 per cent.

The mass of a vehicle in running order includes the mass of the vehicle and its body with cooling fluid, lubricants, fuel, 100 per cent of other liquids, tools, spare wheel and driver. The mass of the driver is evaluated at 75 kg.

The tank contains 90 per cent and the other liquid-containing appliances 100 per cent of the capacity declared by the manufacturer.



UN-R125(01series)

There are four major requirements.

- 5.1.1. The windscreen datum points**
- 5.1.2. The angle of obstruction of the "A" pillar
/Number of "A" pillar**
- 5.1.3. The driver's 180 deg forward field vision**
- 5.1.4. The forward field vision**

5.1.1.

The windscreen datum points

The transparent area of the windscreen shall include at least the windscreen datum points

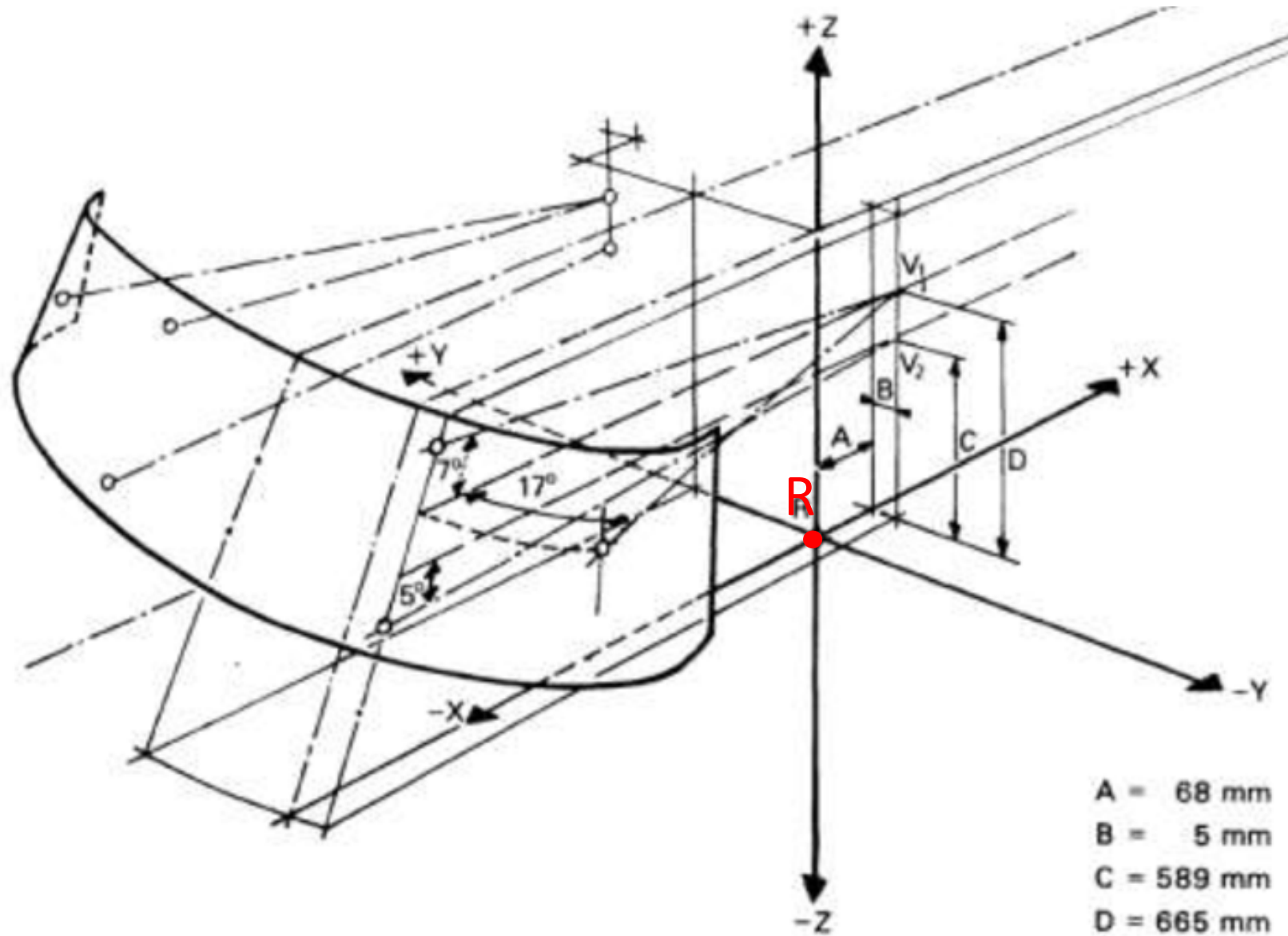
5.1.1.1. A horizontal datum point forward of V1 and 17 deg. to the left

5.1.1.2. An upper vertical datum point forward of V1 and 7 deg.
above the horizontal

5.1.1.3. A lower vertical datum point forward of V2 and 5 deg.
below the horizontal

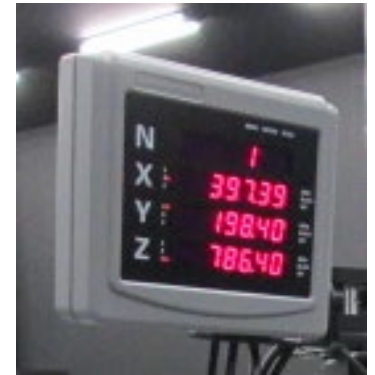
5.1.1.

"R" point a design point defined by the vehicle manufacturer for each seating position and established with respect to the three-dimensional reference system.



5.1.1.

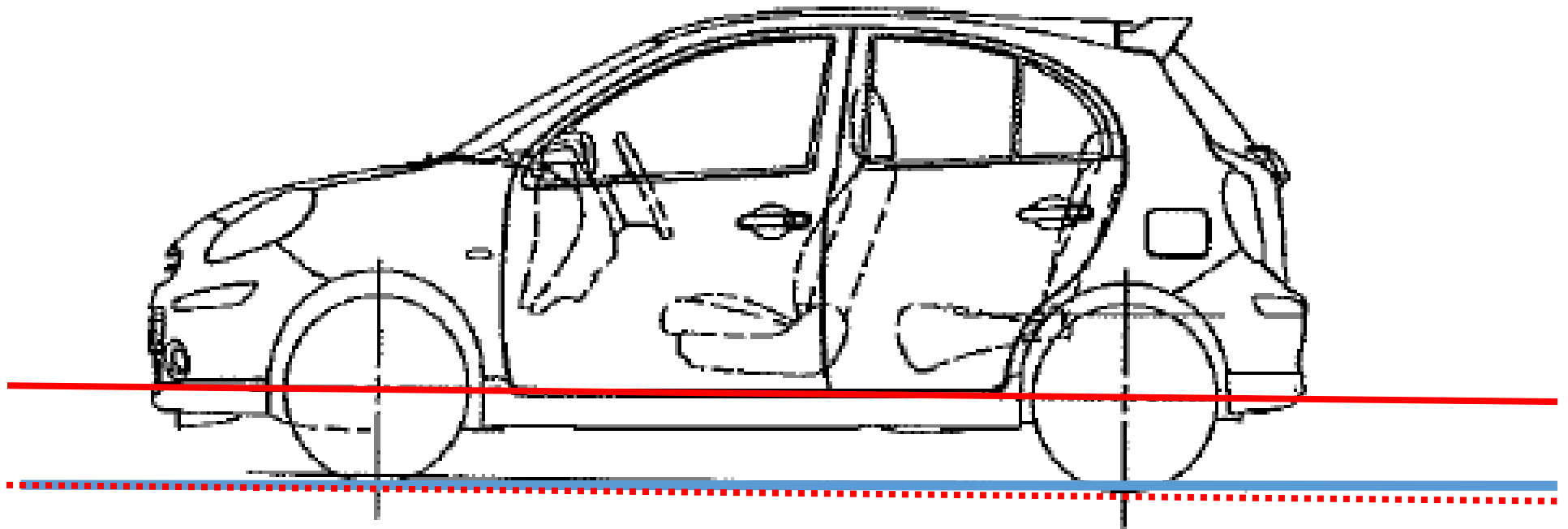
Find R point from vehicle design reference point



5.1.1. Measurement coordinate system from design coordinate system

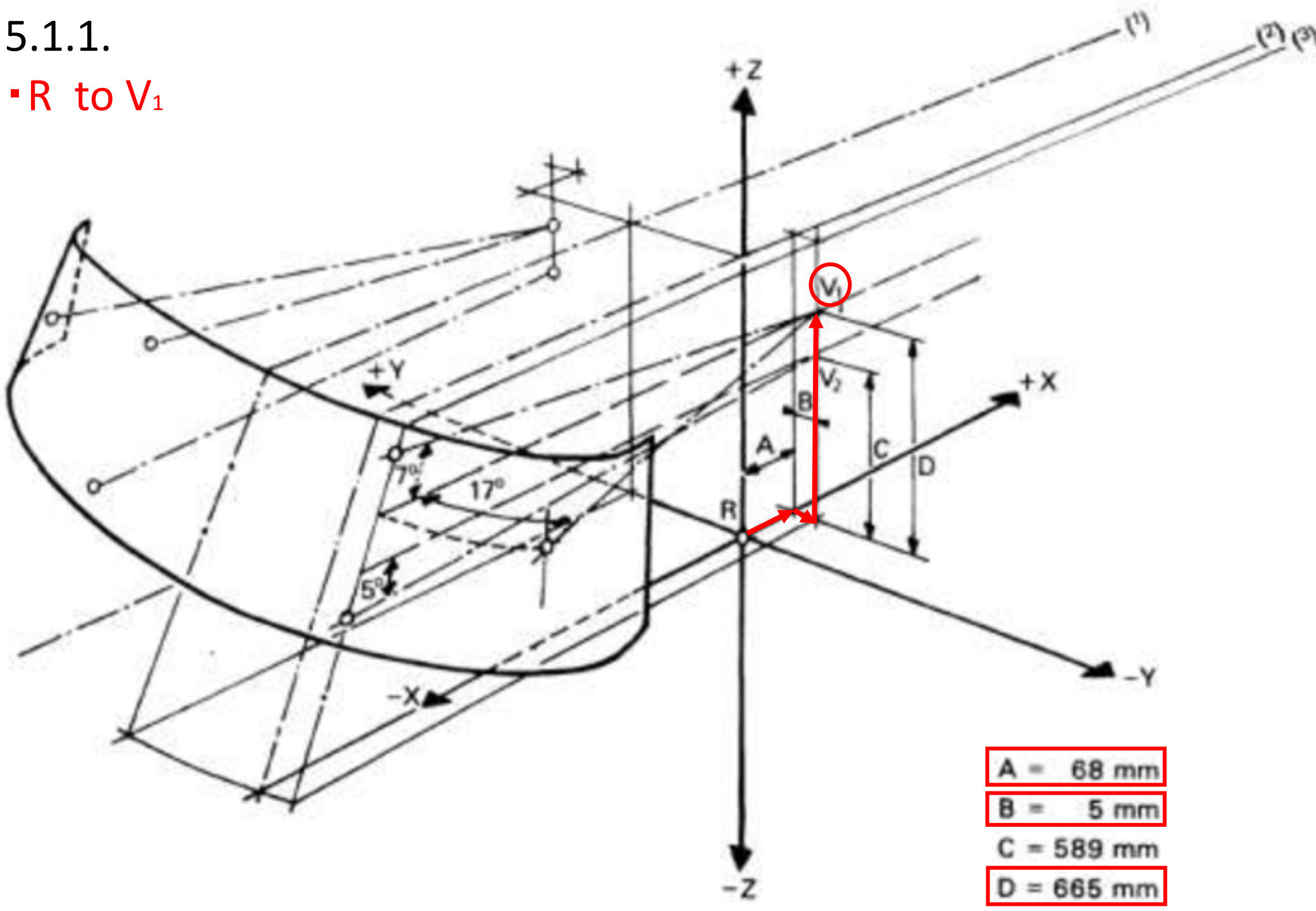
When finding the R point from the design reference point of the vehicle ,
the floor line of the vehicle is the reference of the axis

Therefore , when obtaining V point from R point ,
it is necessary to convert **the ground** to be the reference of Z axis



5.1.1.

▪ R to V_1

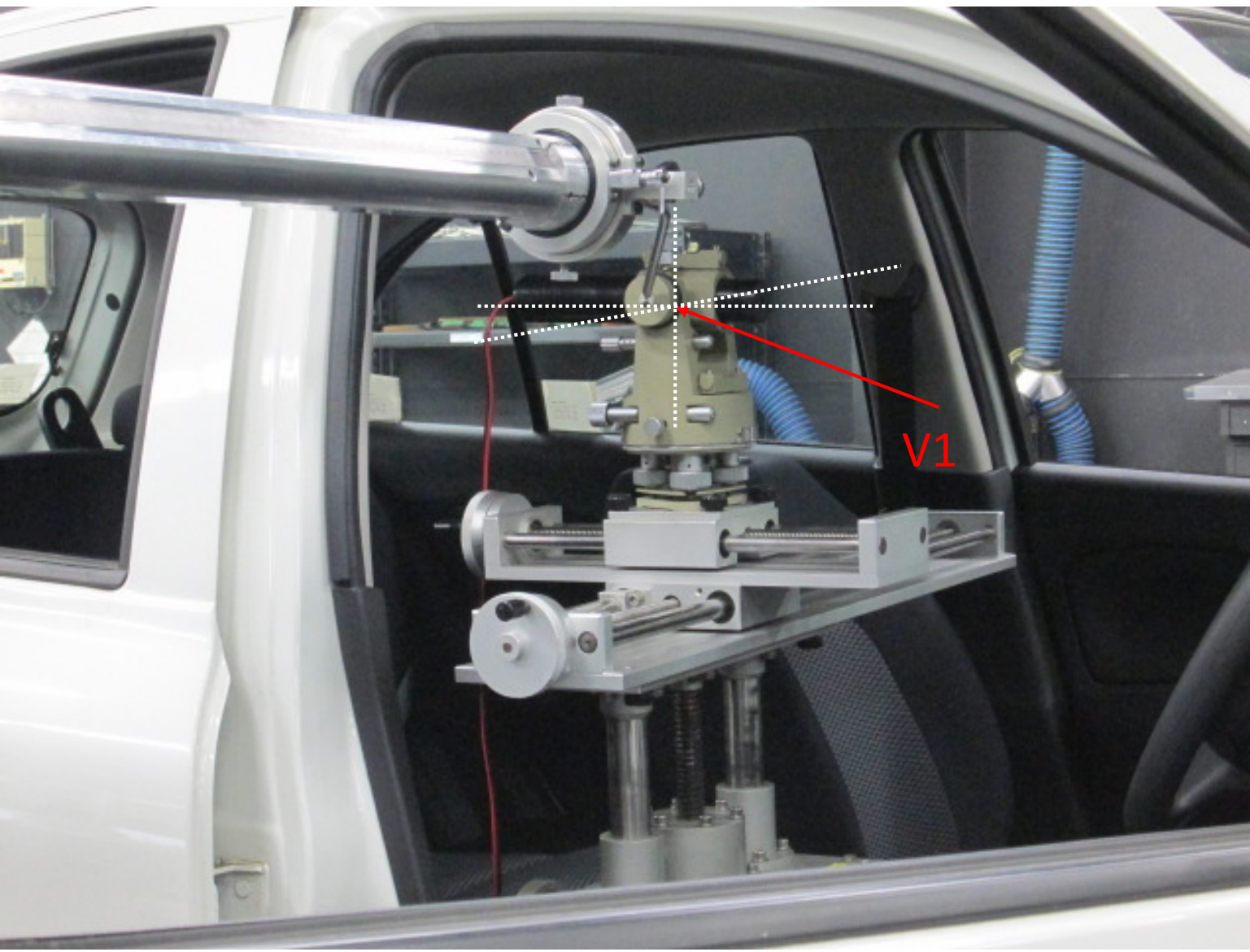


5.1.1.



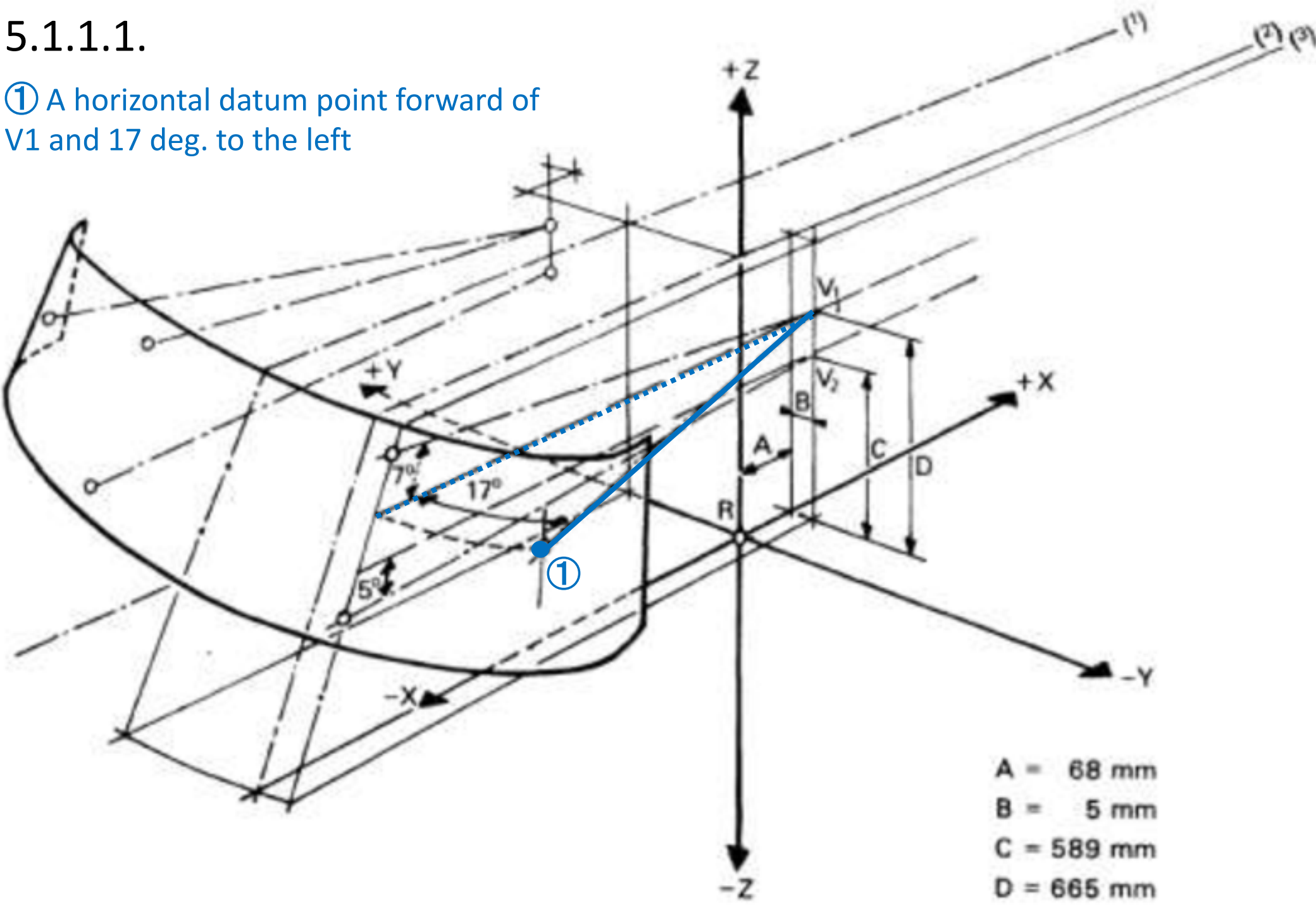
5.1.1.

R to V1



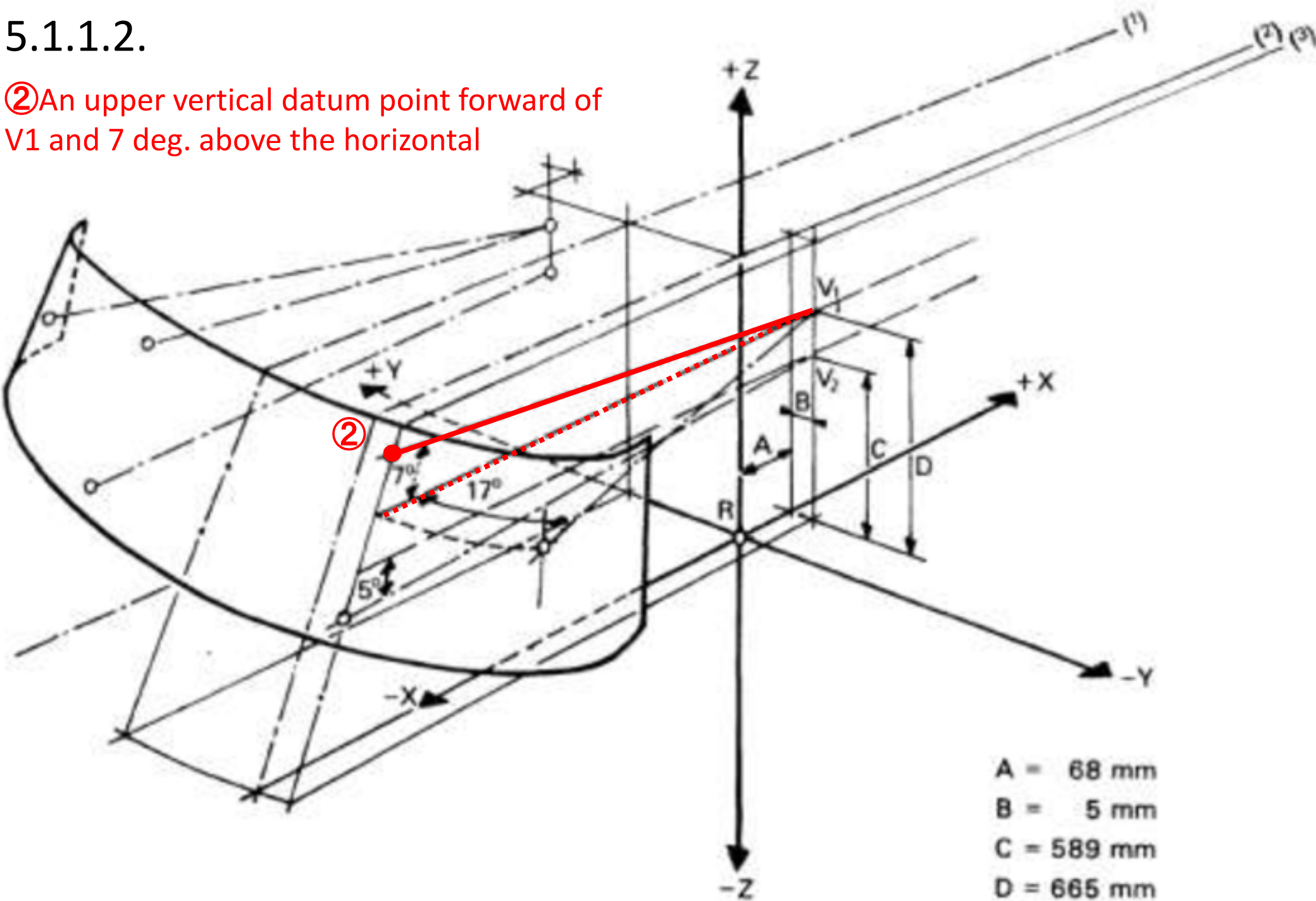
5.1.1.1.

① A horizontal datum point forward of V_1 and 17 deg. to the left



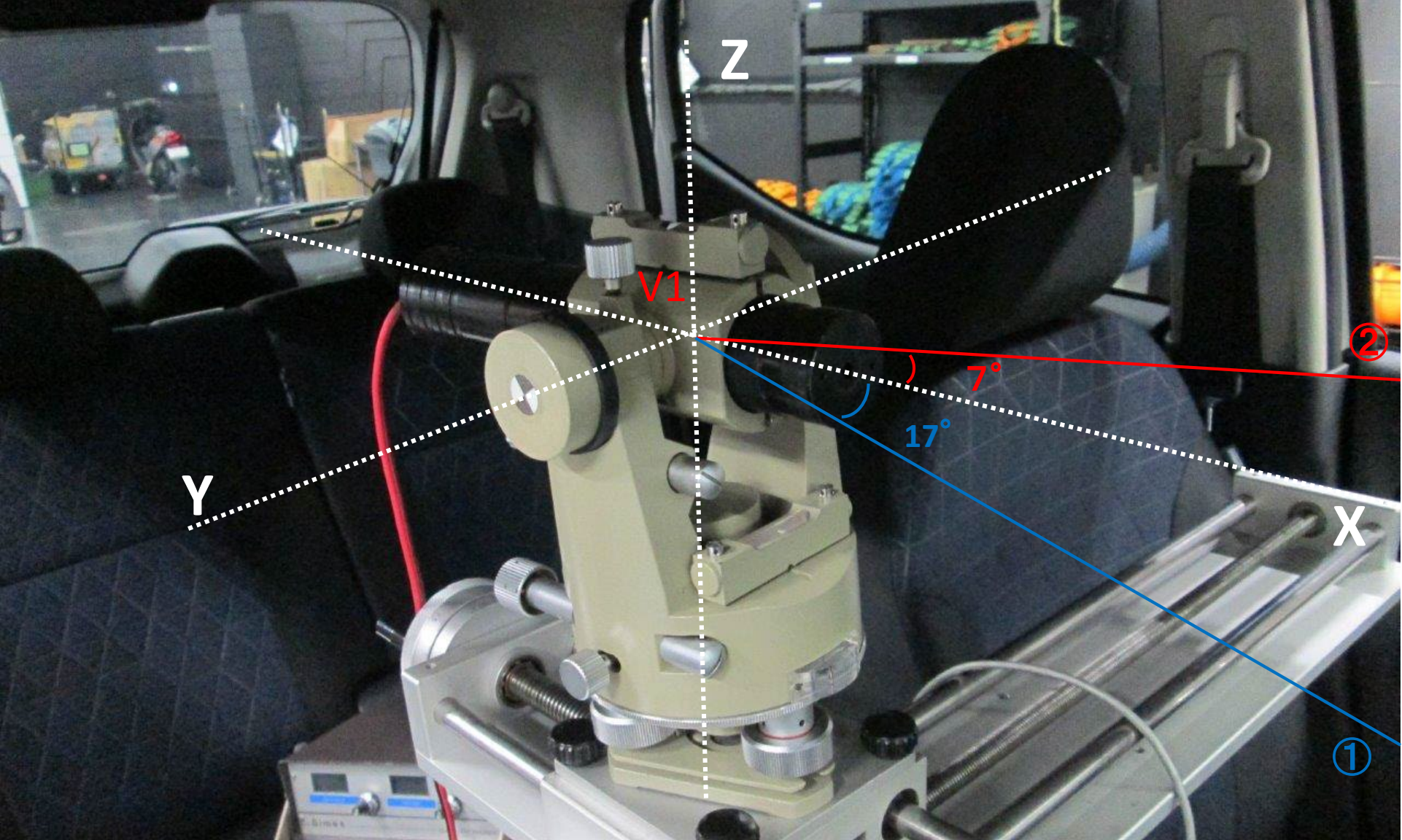
5.1.1.2.

② An upper vertical datum point forward of V1 and 7 deg. above the horizontal



Laser





① A horizontal datum point forward of V1 and 17 deg. to the right

② An upper vertical datum point forward of V1 and 7 deg. above the horizontal

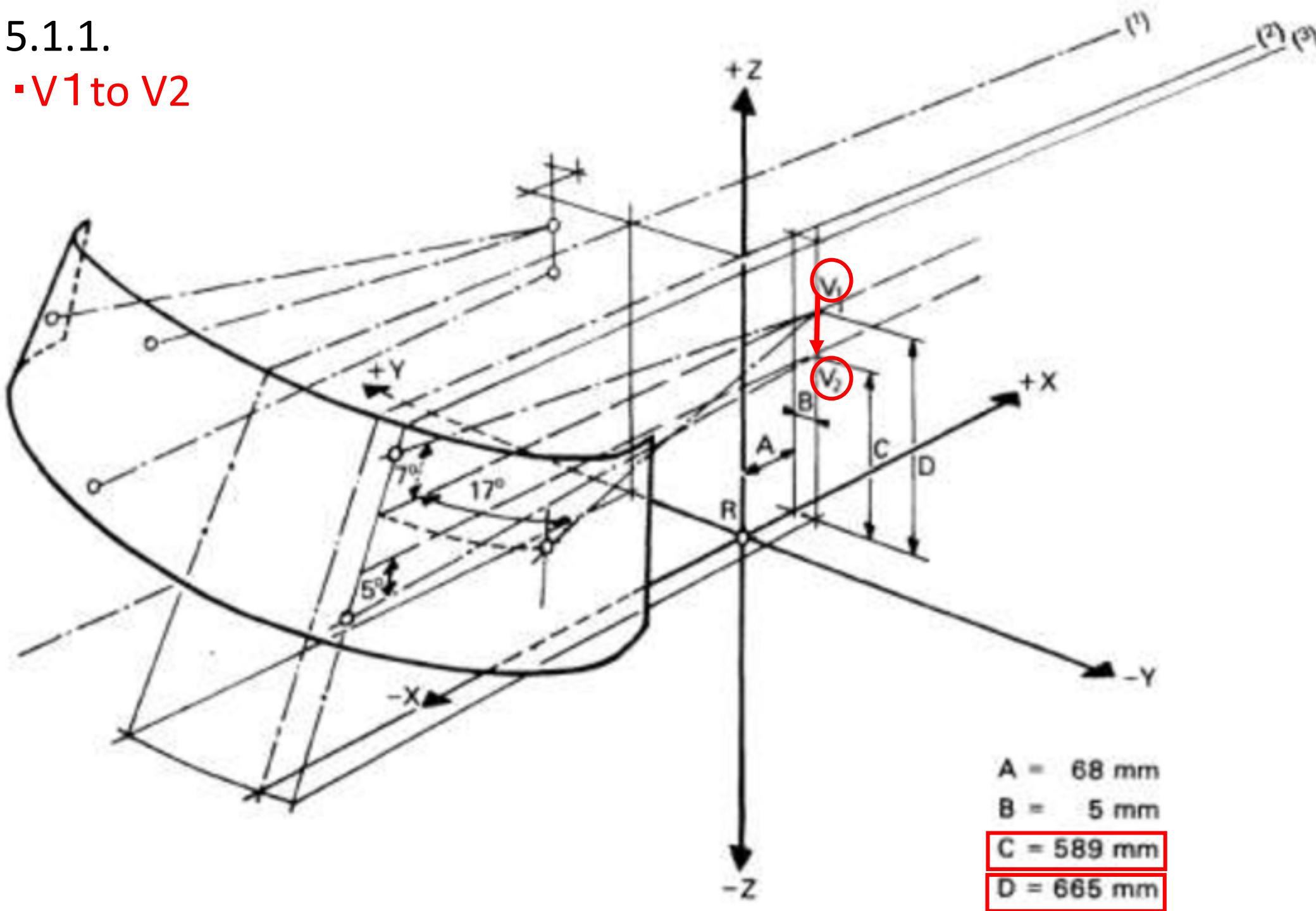


① A horizontal datum point forward of V1 and 17 deg. to the right

② An upper vertical datum point forward of V1 and 7 deg. above the horizontal

5.1.1.

▪ V1 to V2



5.1.1.

V1 to V2



Z direction

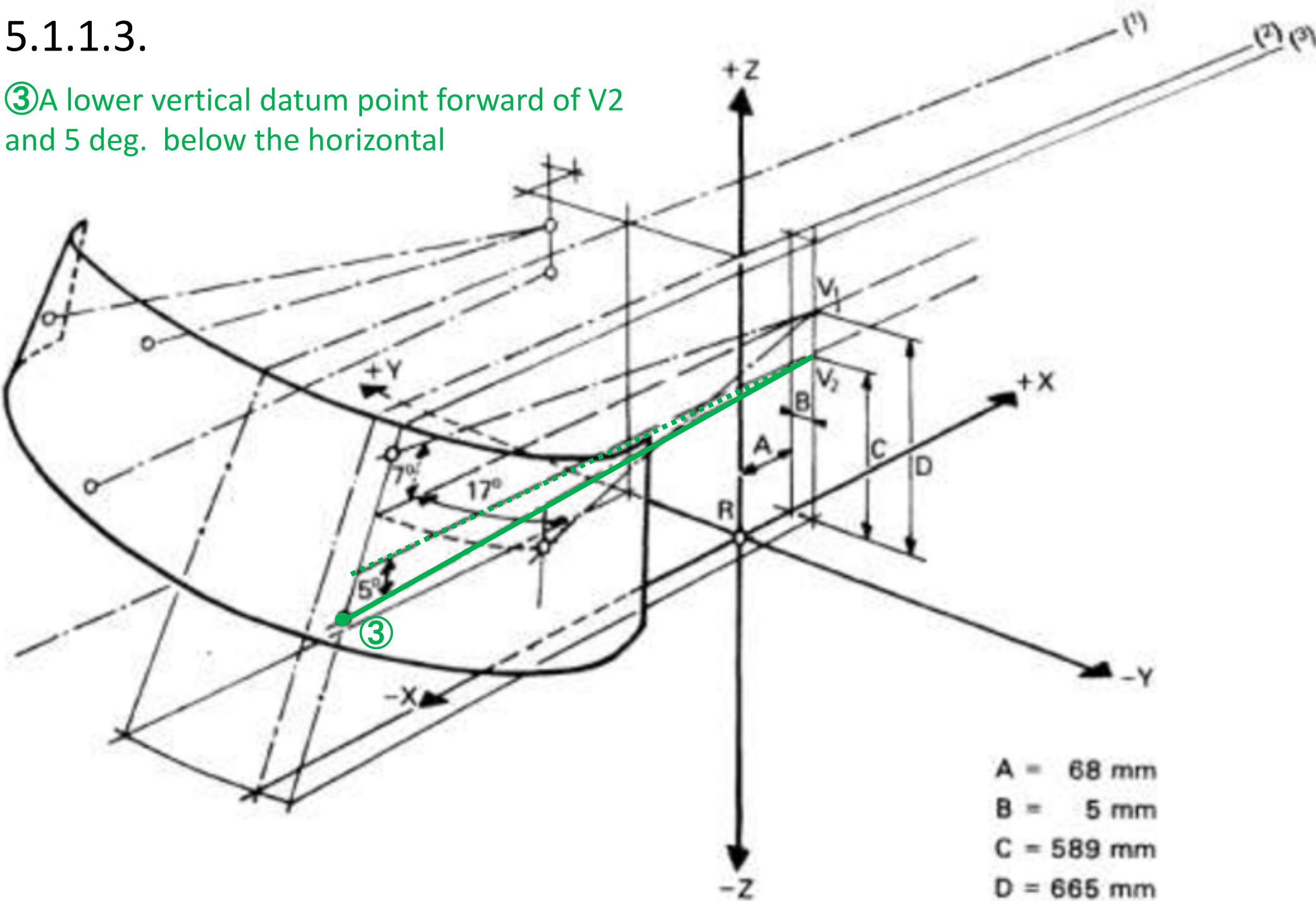
$$C - D = 589 - 665 = -76 \text{ mm}$$

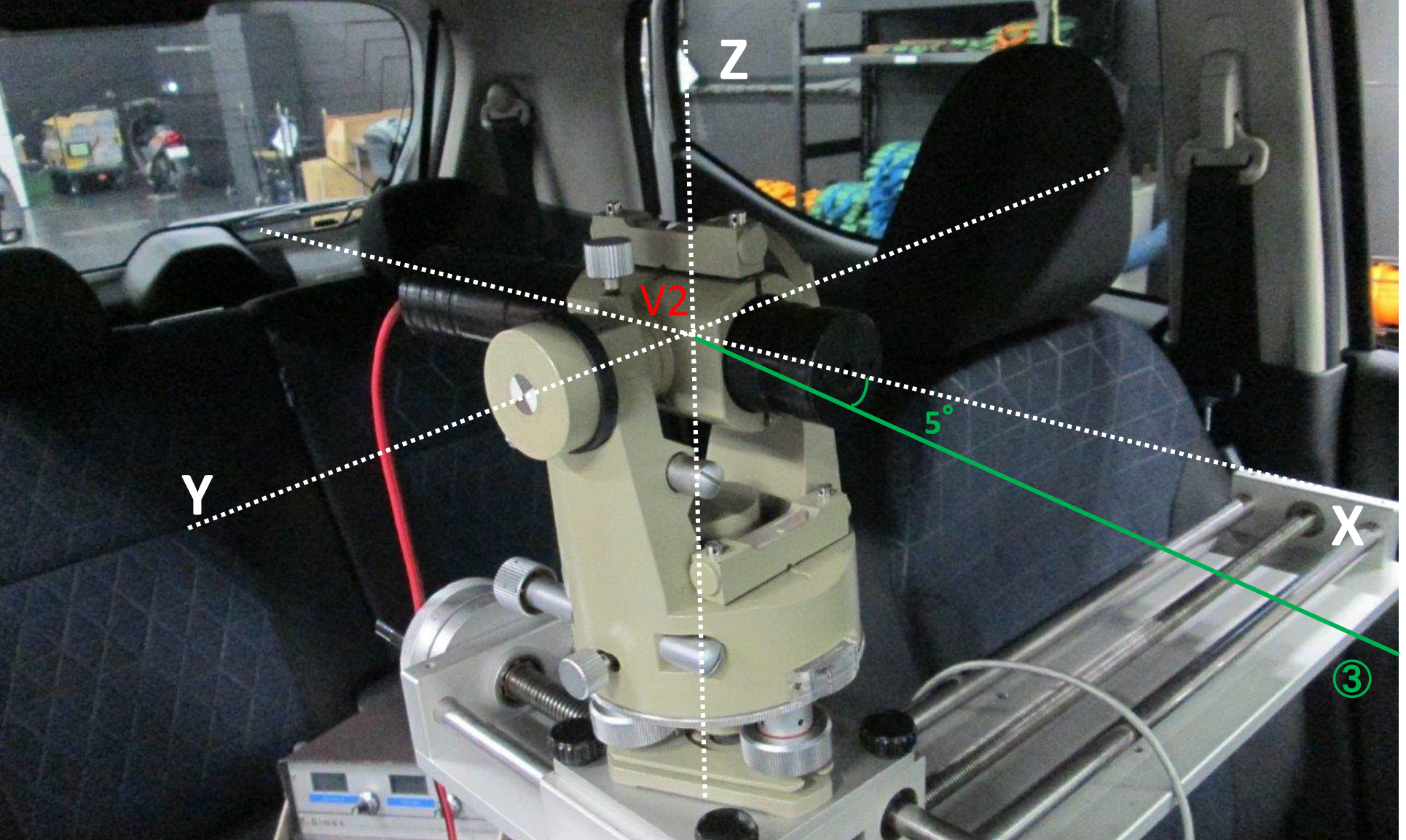
C = 589 mm
D = 665 mm

Z direction adjustment

5.1.1.3.

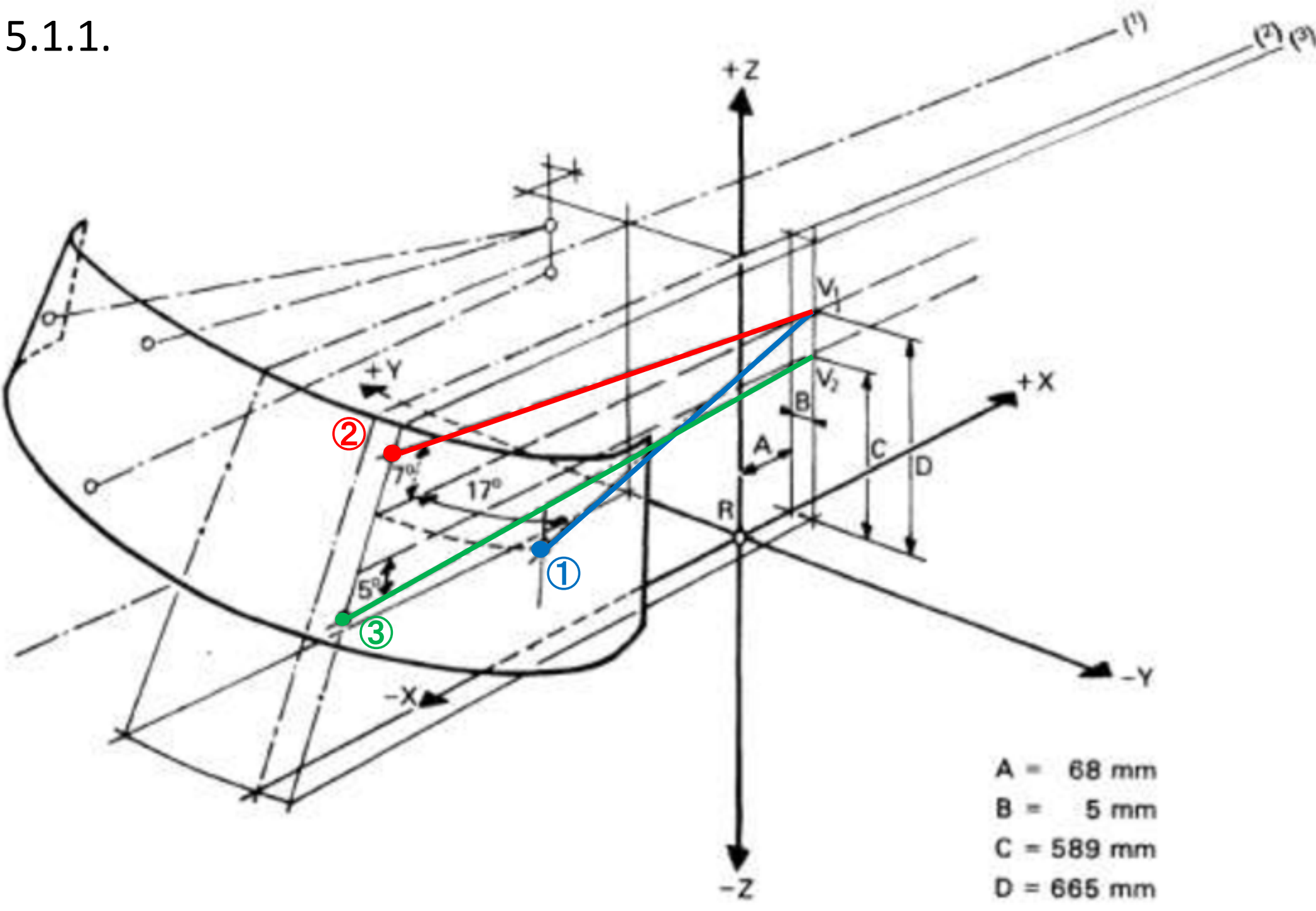
③ A lower vertical datum point forward of V2 and 5 deg. below the horizontal





③A lower vertical datum point forward of V2 and 5 deg. below the horizontal

5.1.1.



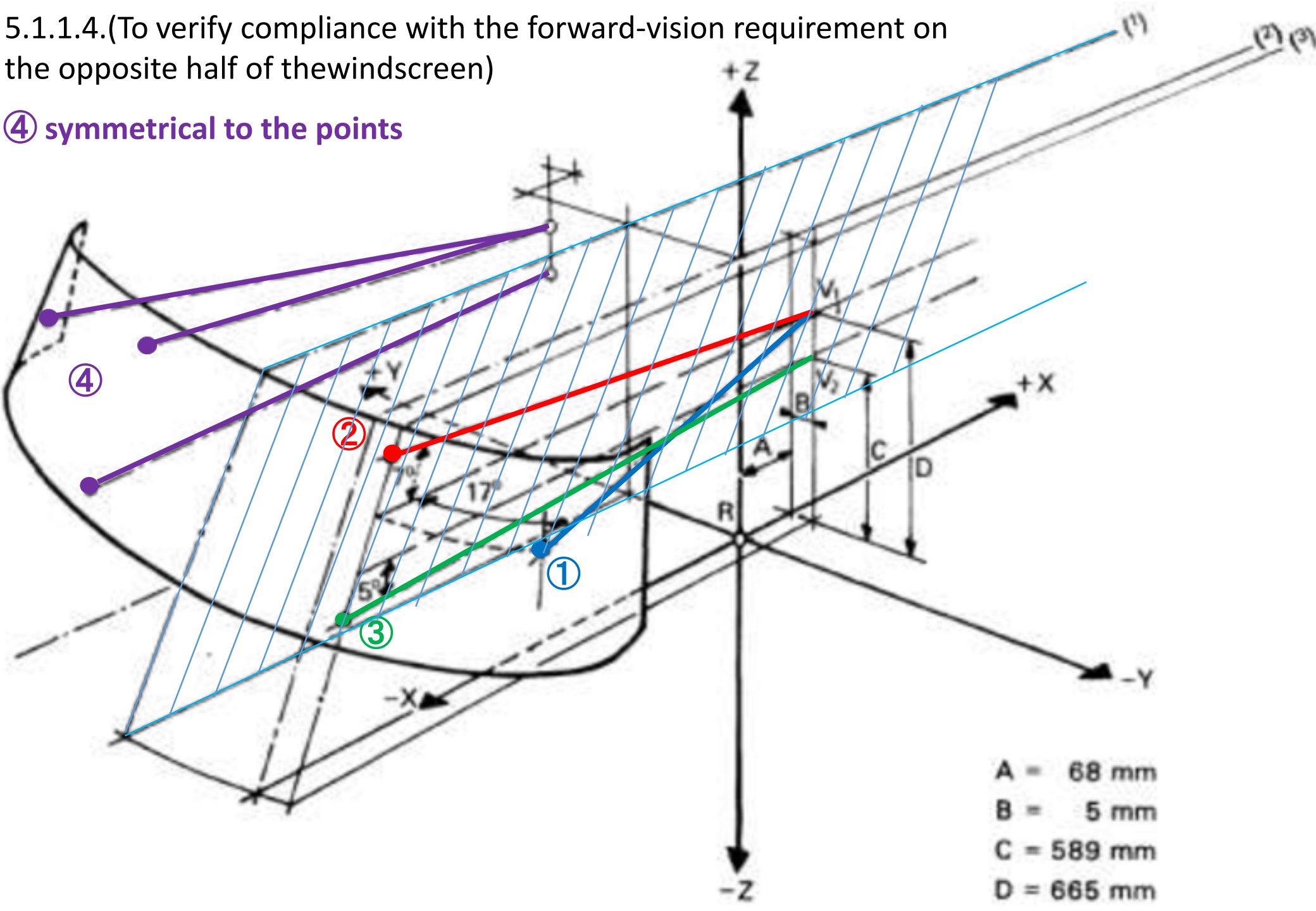
5.1.1.



The transparent area of the windscreen shall include at least the windscreen datum points "①,②,③"

5.1.1.4.(To verify compliance with the forward-vision requirement on the opposite half of the windscreen)

④ symmetrical to the points



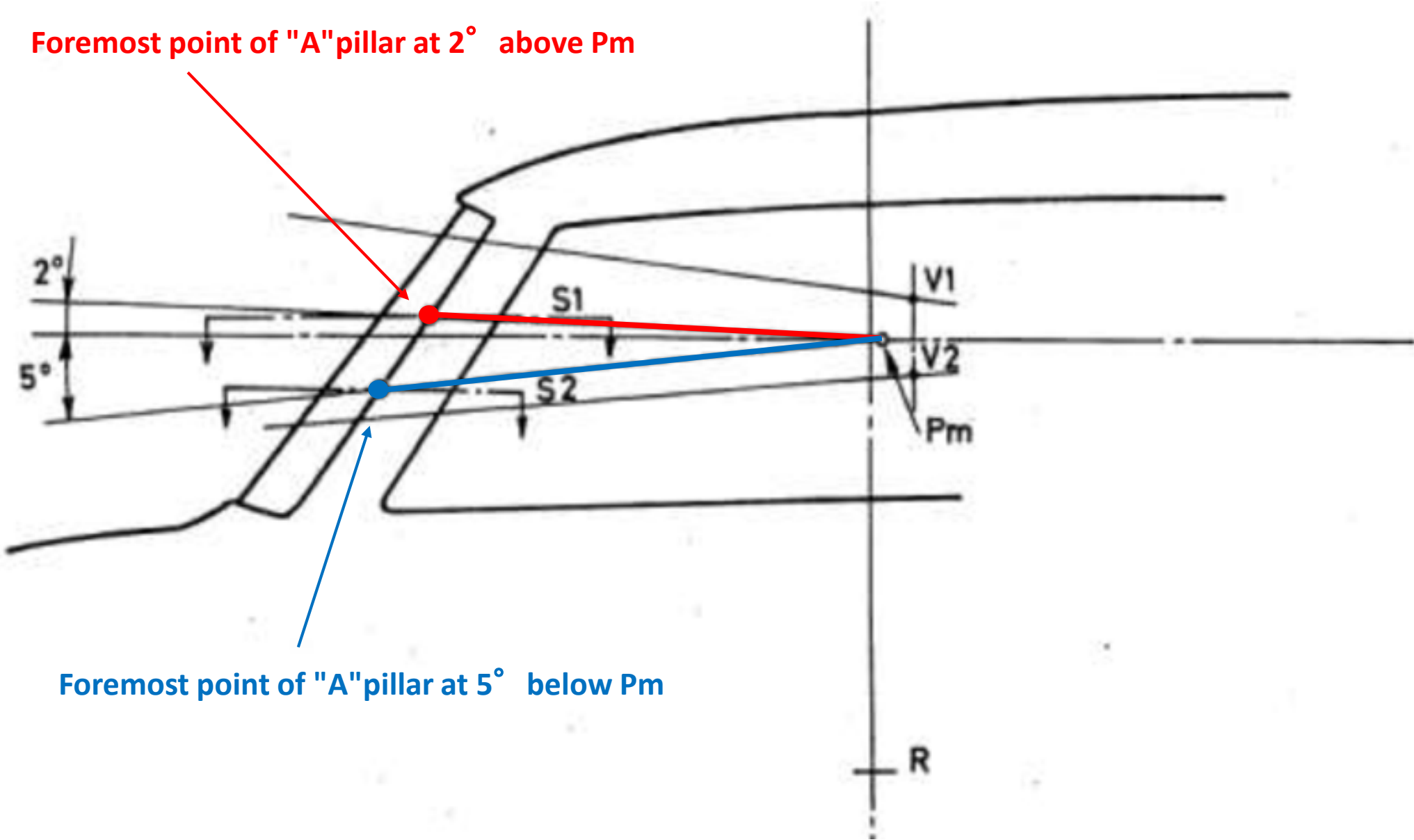
5.1.2.

The angle of obstruction of the "A"pillar

The angle of obstruction for each "A" pillar,
as described in paragraph 5.1.2.1. below, shall not exceed 6 deg.
In the case of armoured vehicles that angle shall not exceed 10 deg.

5.1.2.1. two horizontal sections

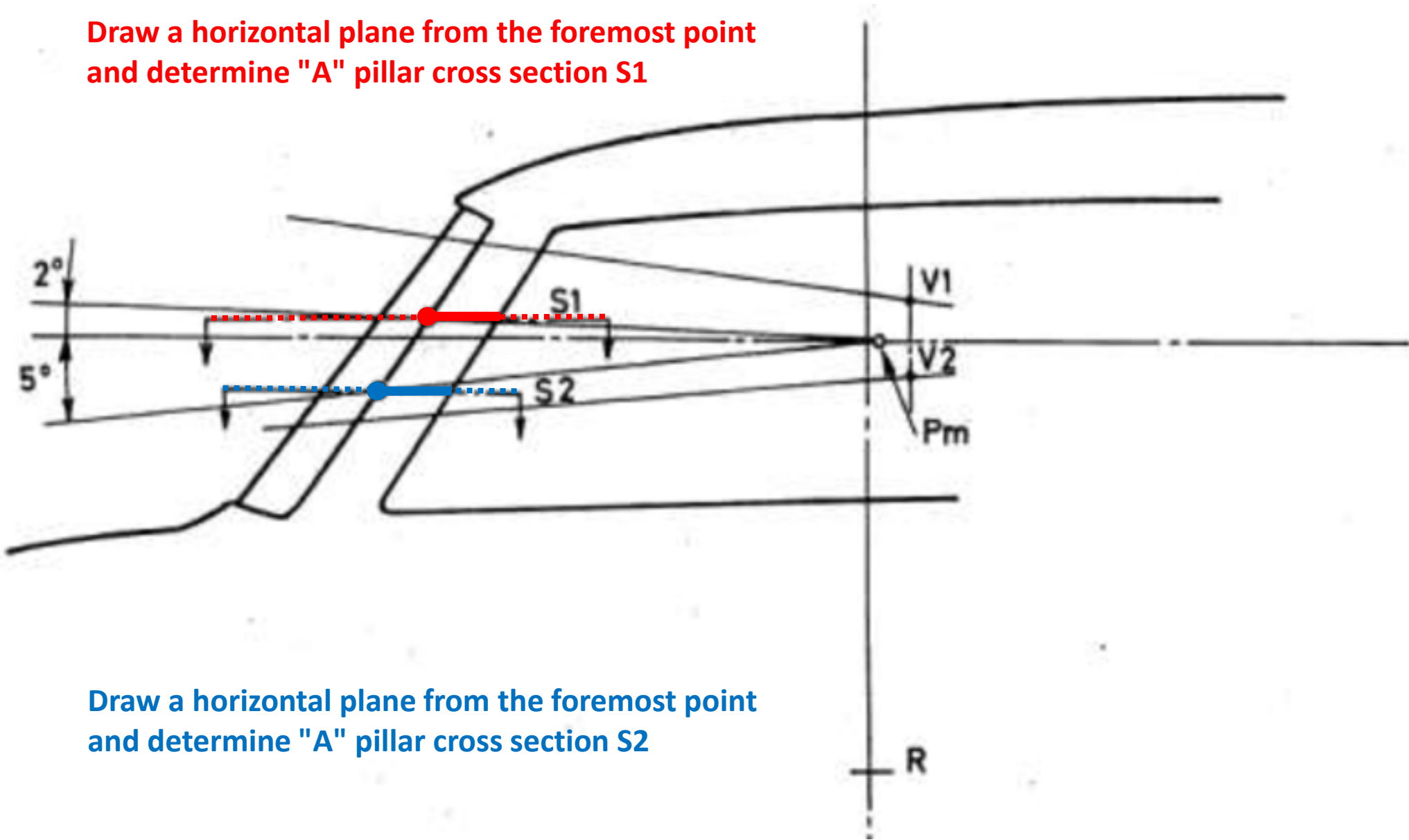
Foremost point of "A"pillar at 2° above P_m



Foremost point of "A"pillar at 5° below P_m

5.1.2. two horizontal sections

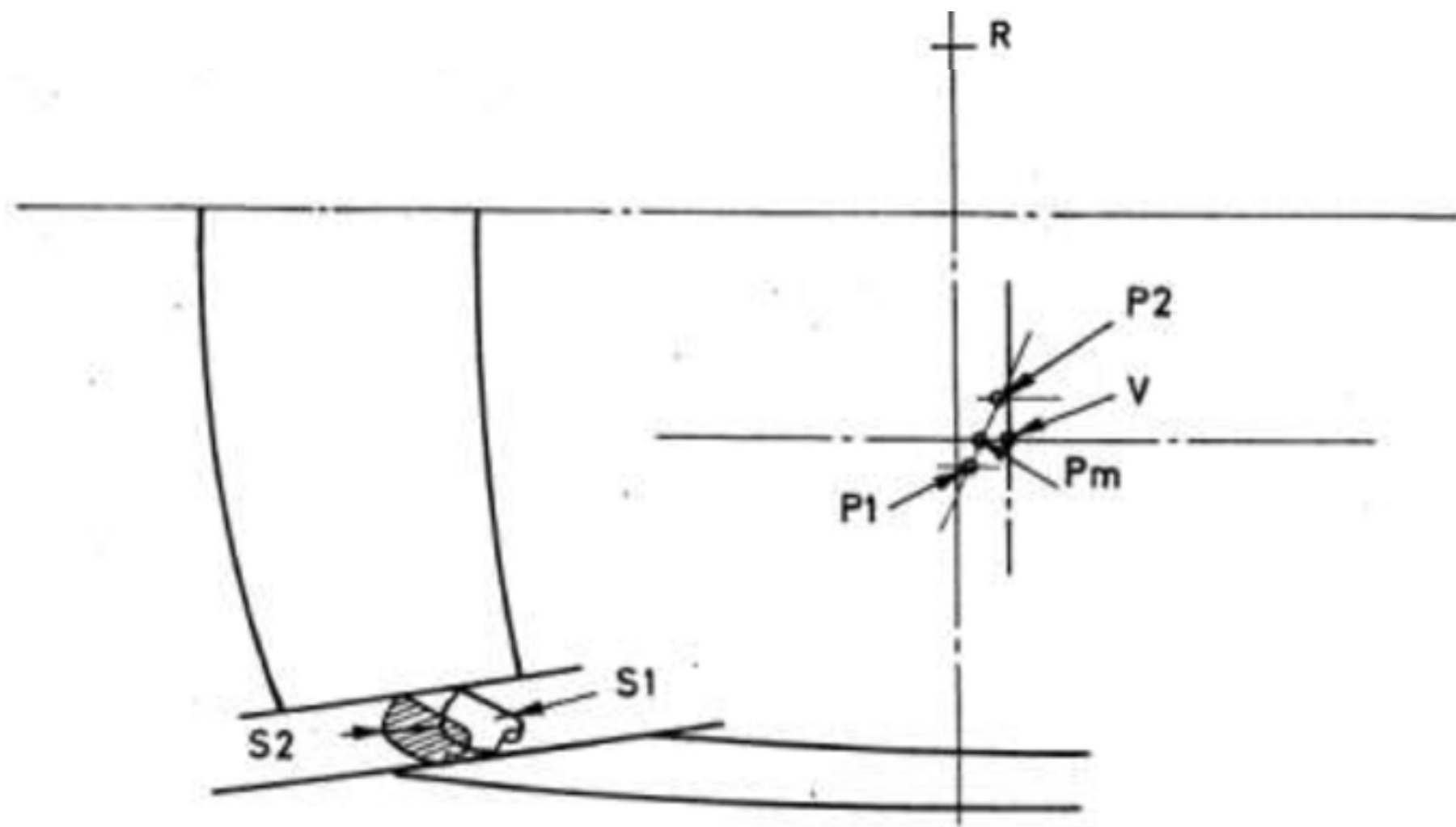
Draw a horizontal plane from the foremost point and determine "A" pillar cross section S1



Draw a horizontal plane from the foremost point and determine "A" pillar cross section S2

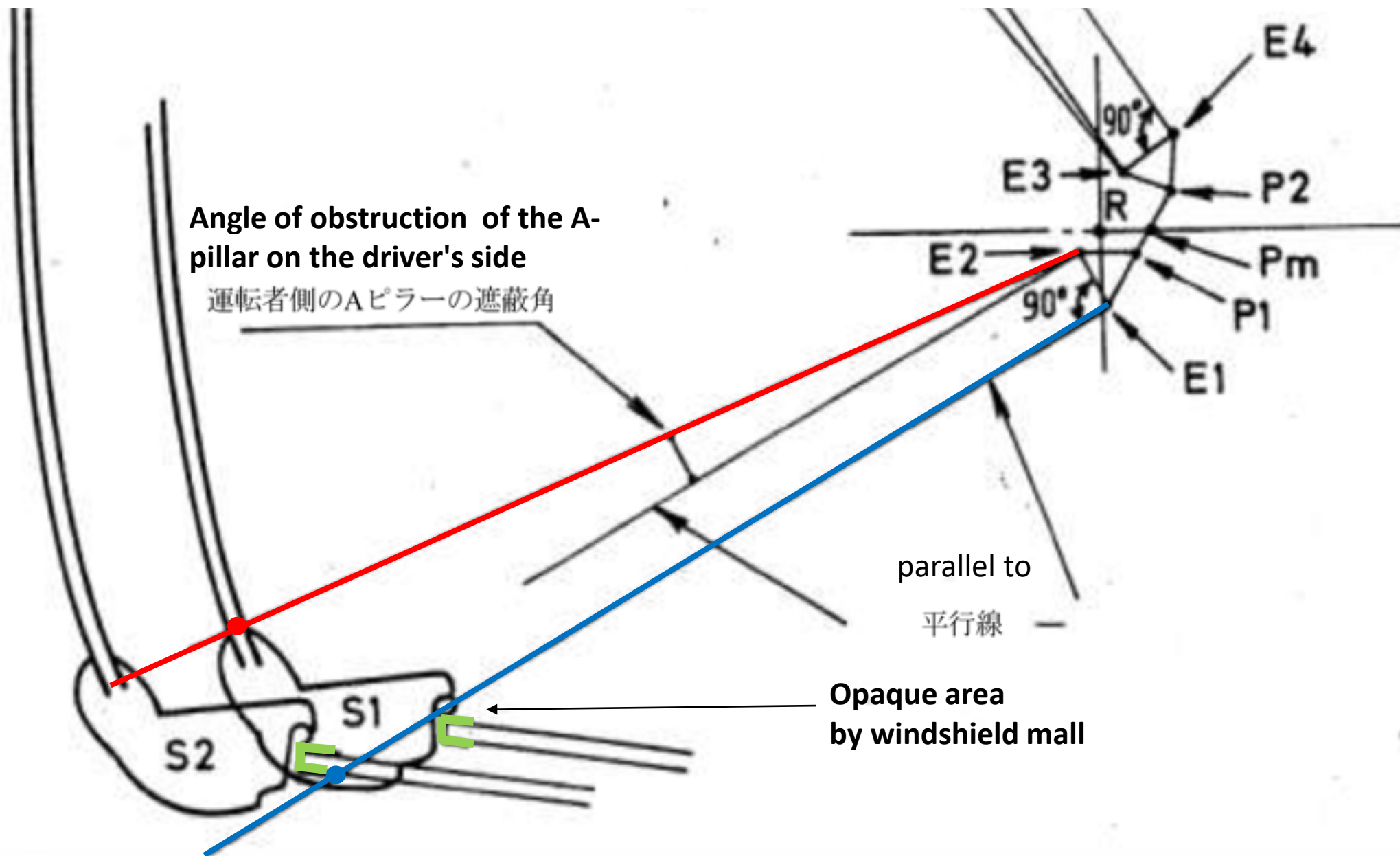
R

5.1.2.1. two horizontal sections

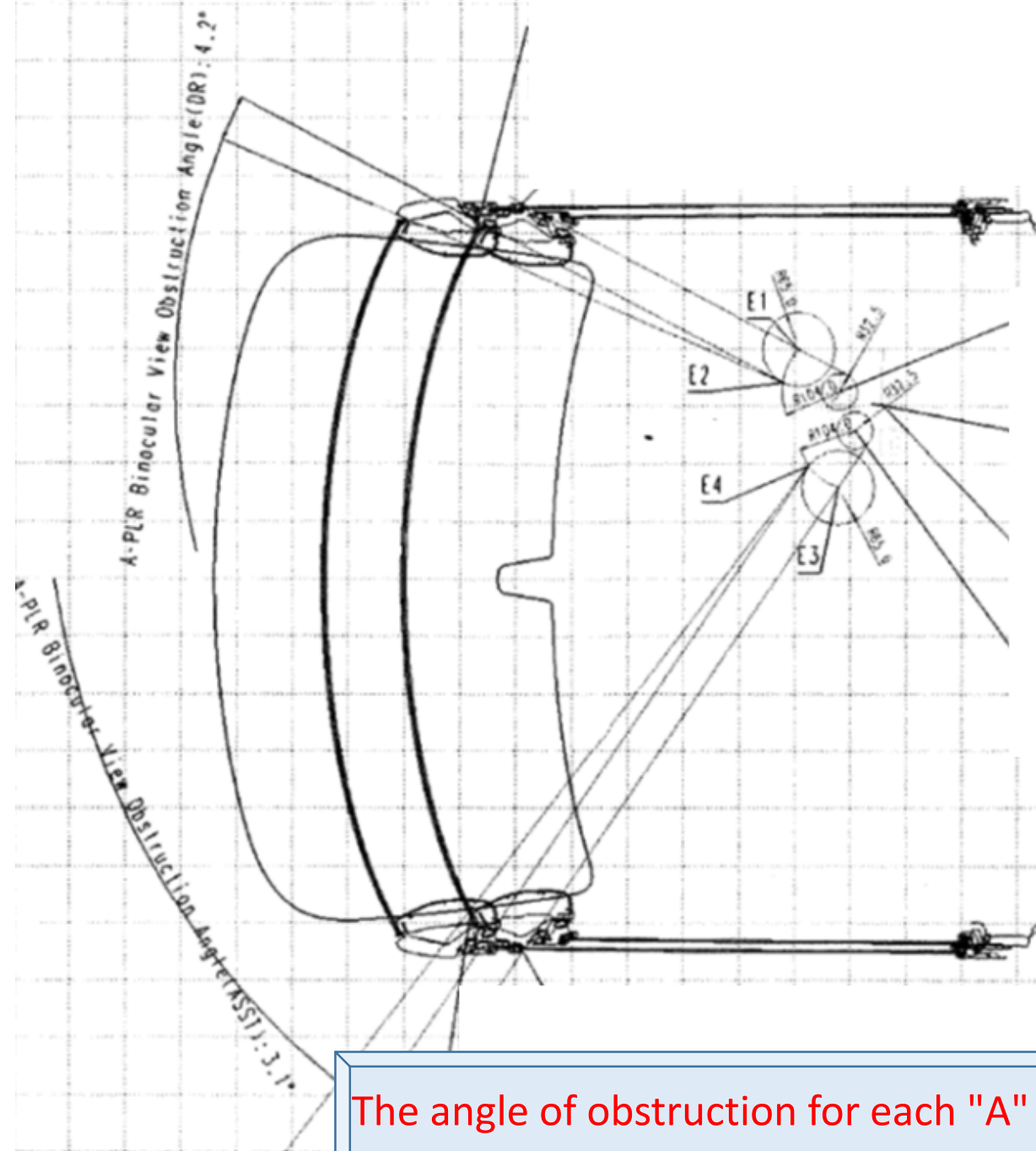


点 P	X	Y	Z
P ₁	35 mm	-20 mm	627 mm
P ₂	63 mm	47 mm	627 mm
P _m	43.36 mm	0 mm	627 mm

5.1.2. The angle of obstruction for each "A" pillar

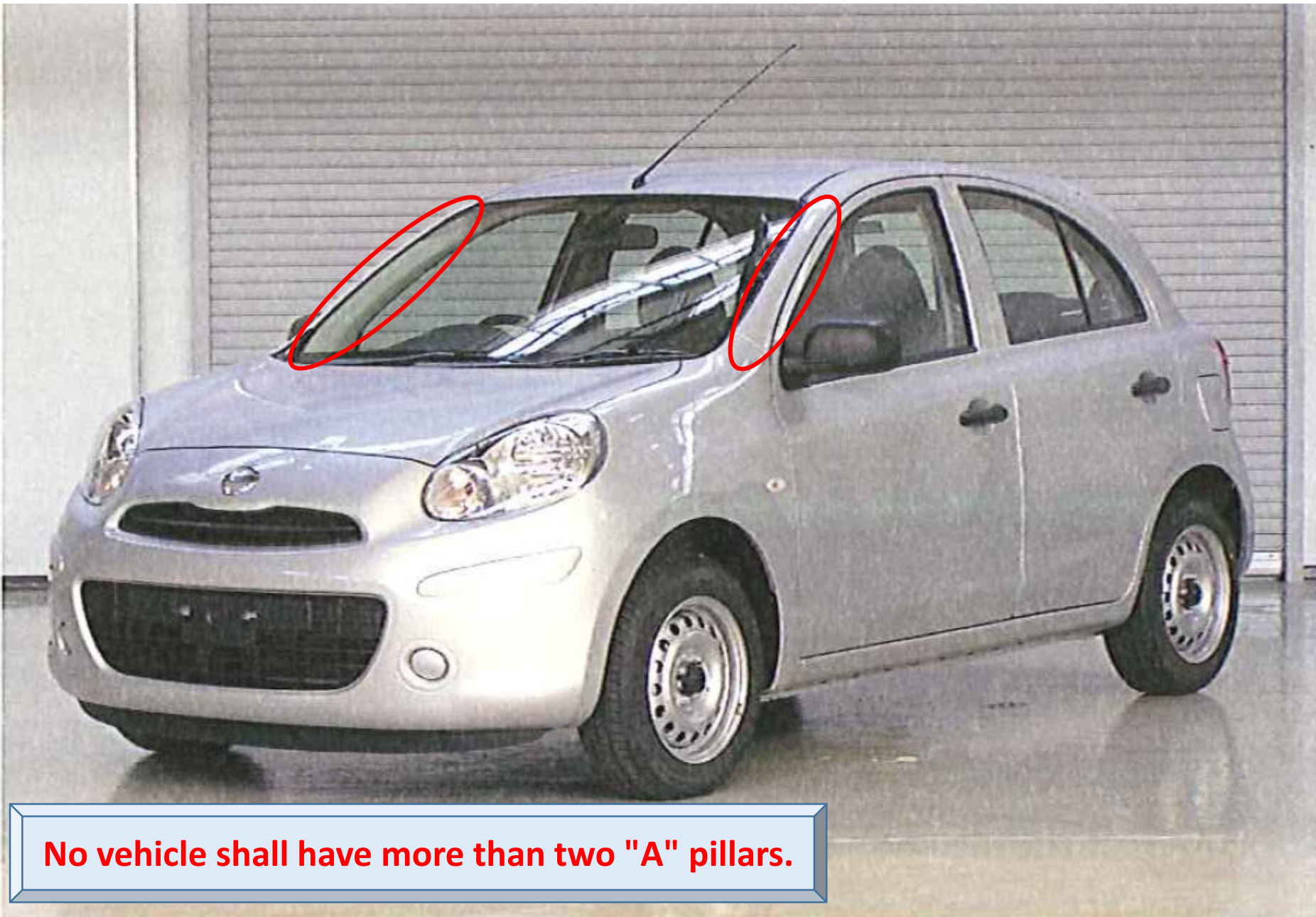


5.1.2.



The angle of obstruction for each "A" pillar shall not exceed 6 deg.

5.1.2.2 Number of "A" pillar



No vehicle shall have more than two "A" pillars.

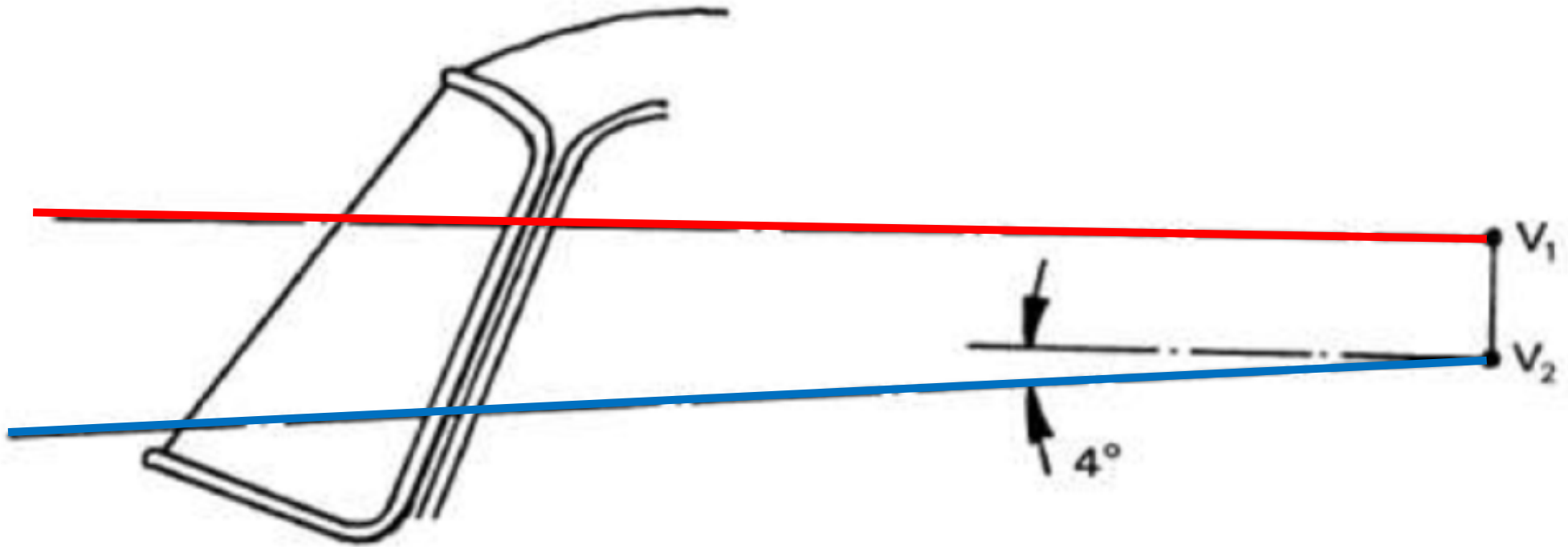
The driver's 180 deg forward field vision

There shall be no obstruction in the driver's 180 deg.

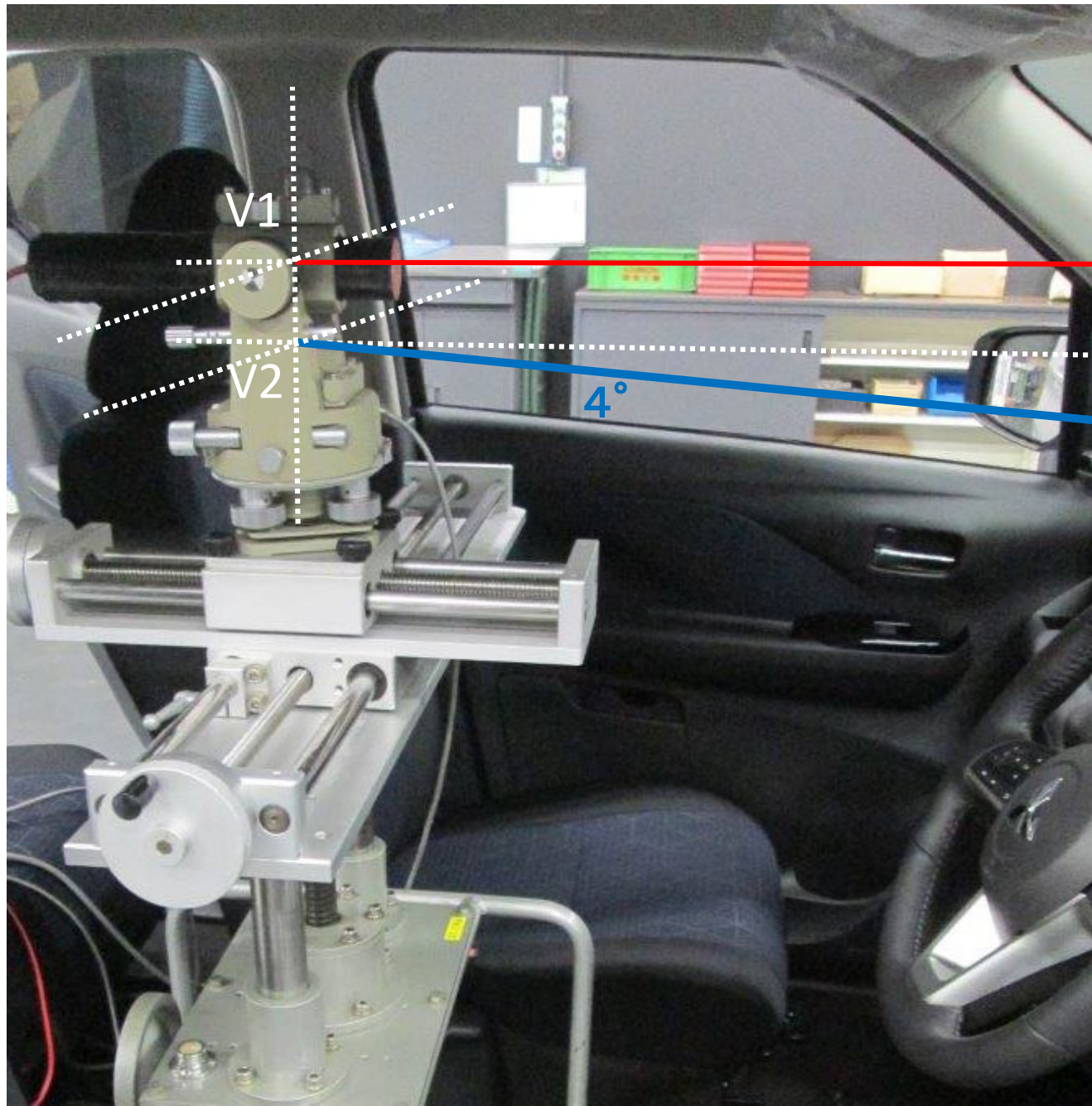
forward direct field of vision below a horizontal plane passing through V1, and above three planes through V2, one being perpendicular to the plane X-Z and declining forward 4 deg. below the horizontal, and the other two being perpendicular to the plane Y-Z and declining 4 deg. below the horizontal (see Annex 4, Appendix, Figure 4).

5.1.3.

Evaluation of obstructions in the 180 deg. forward direct field of vision of the driver

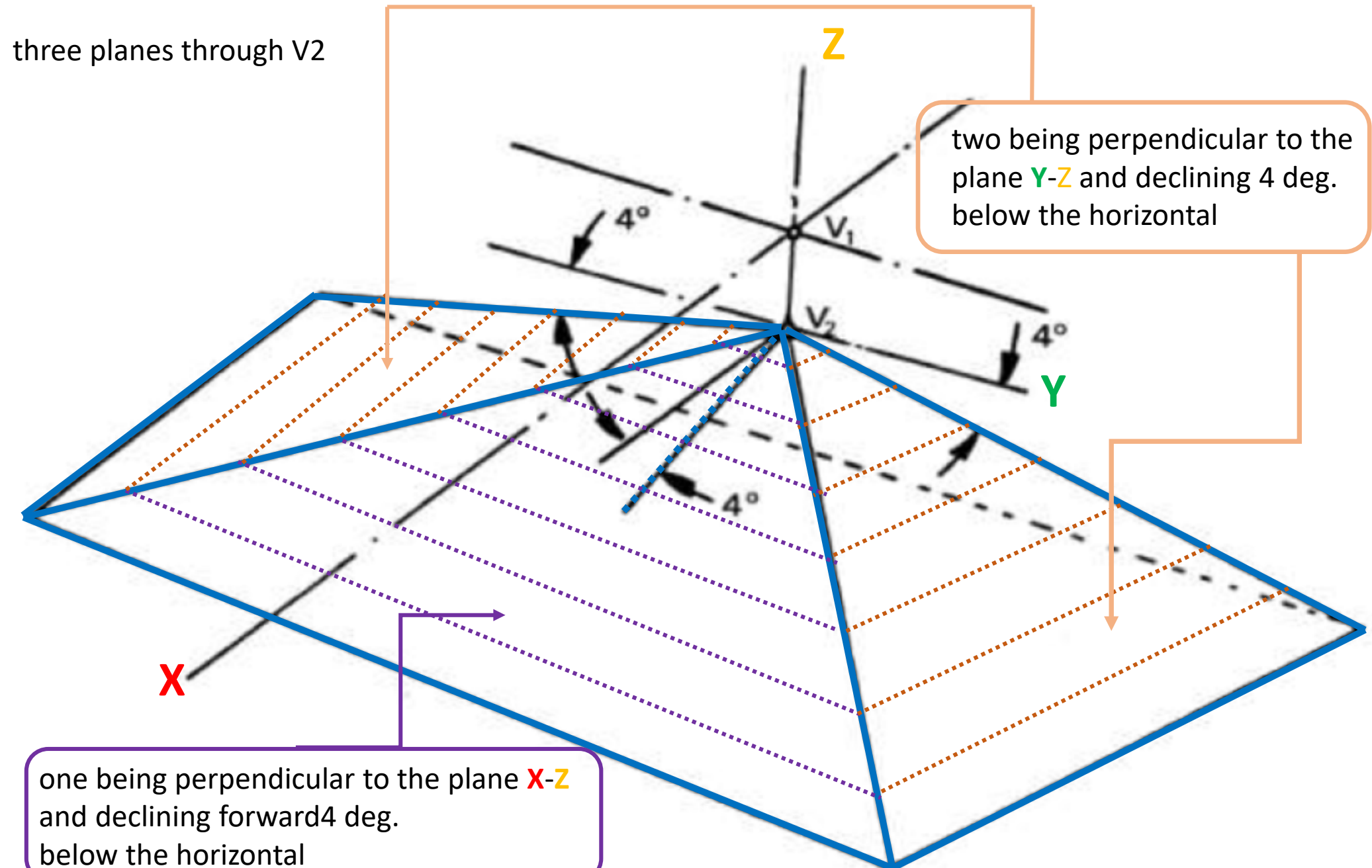


5.1.3.

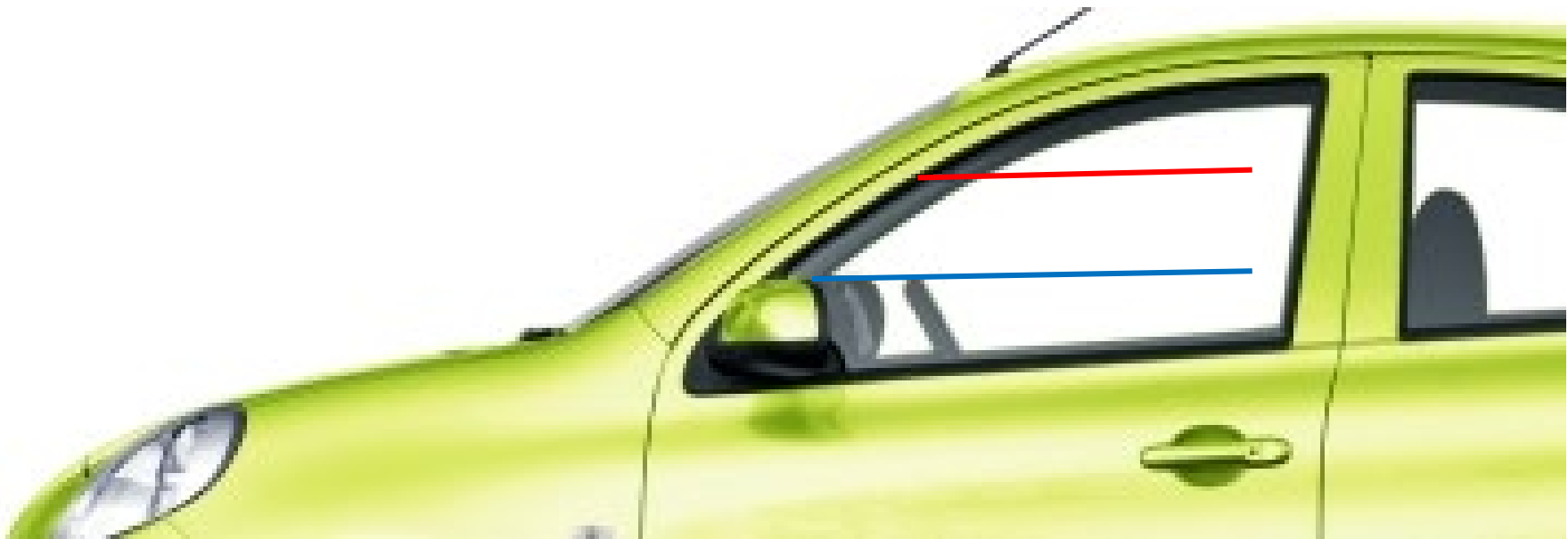
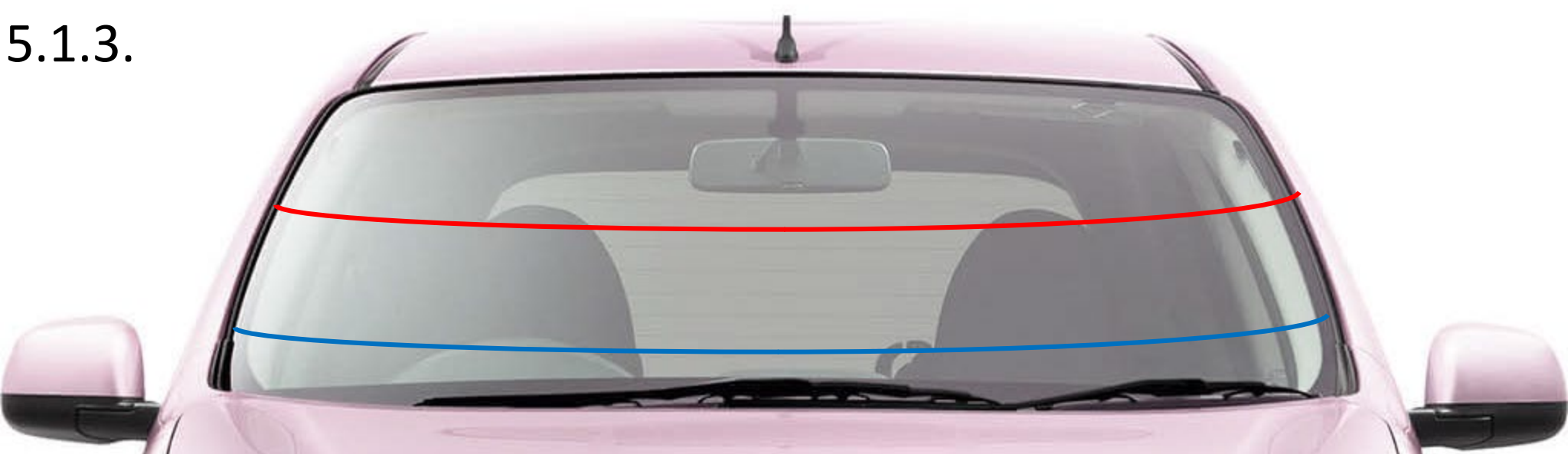


5.1.3.

three planes through V2



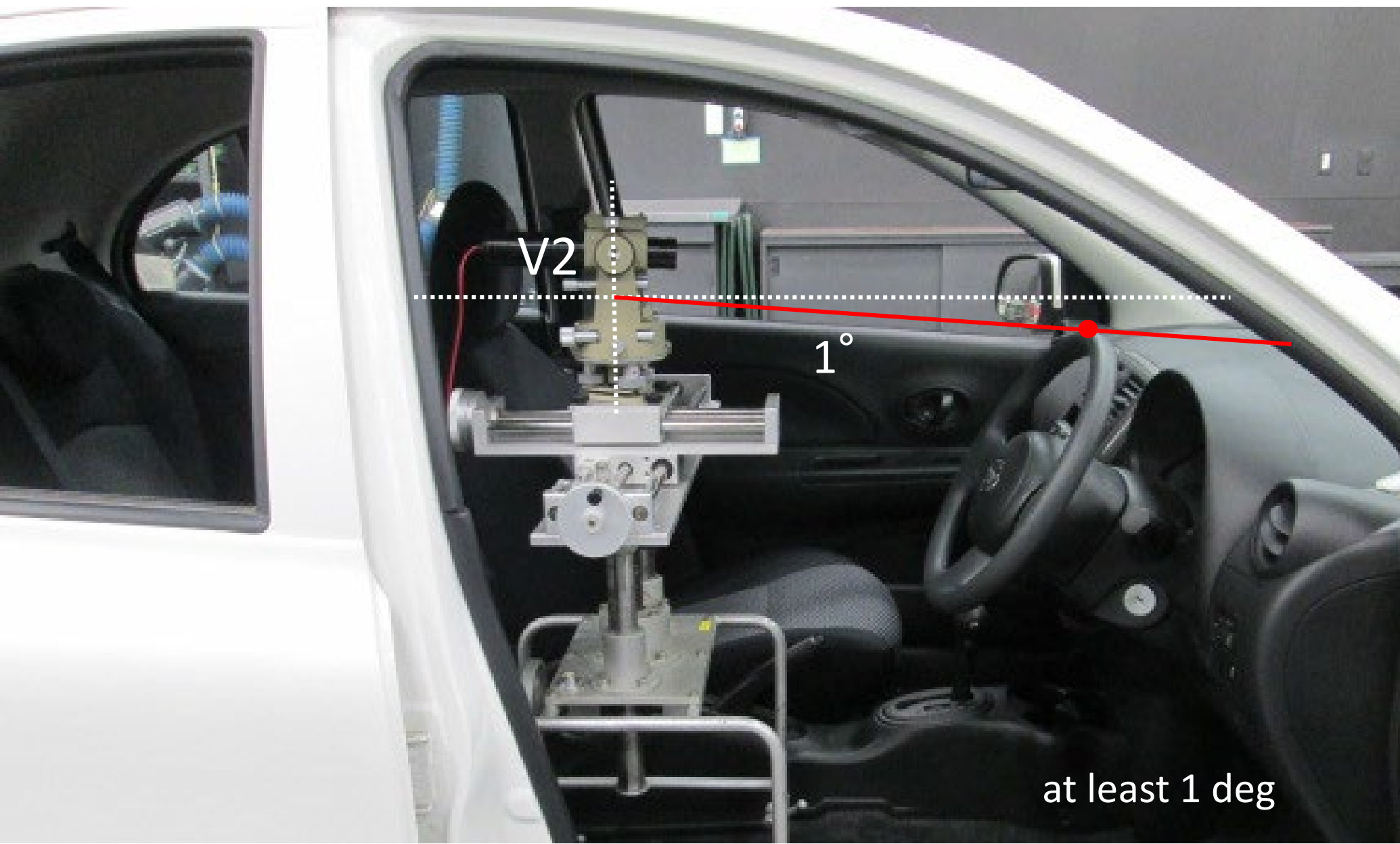
5.1.3.



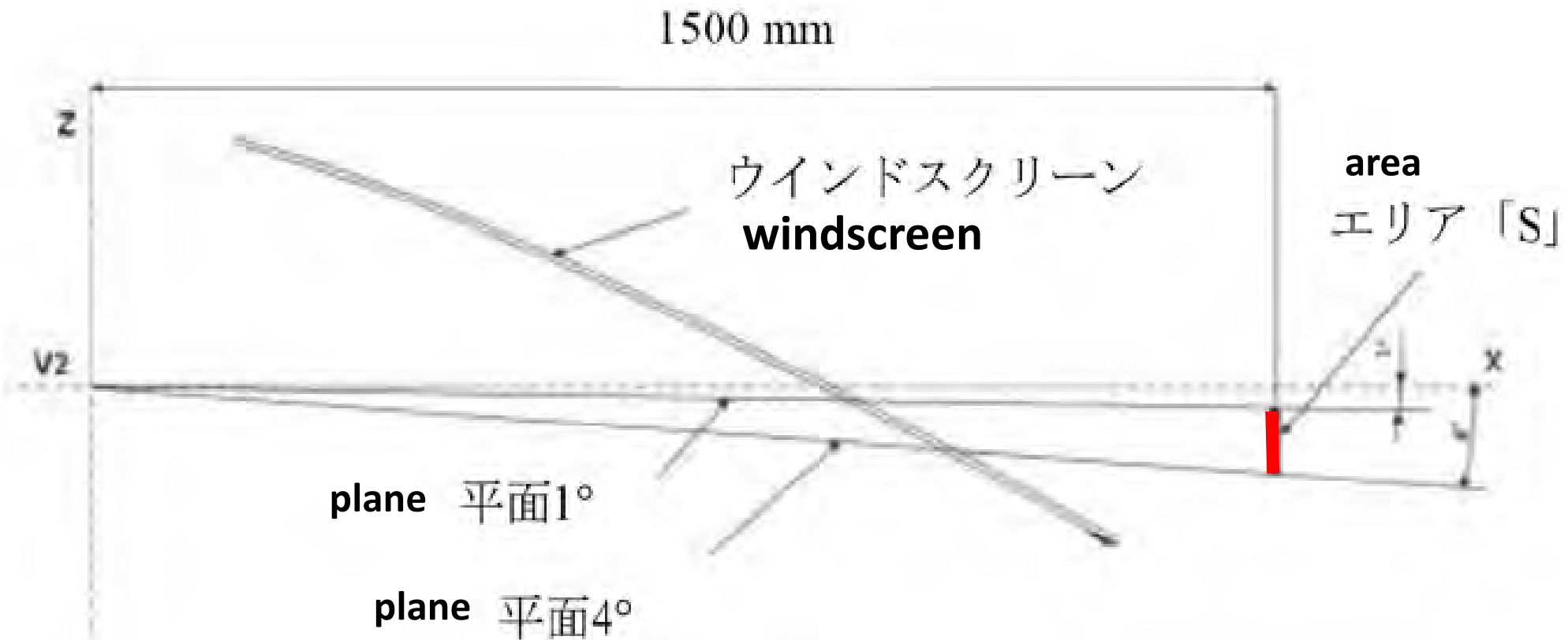
There shall be no obstruction in the driver's 180 deg

5.1.3.3.

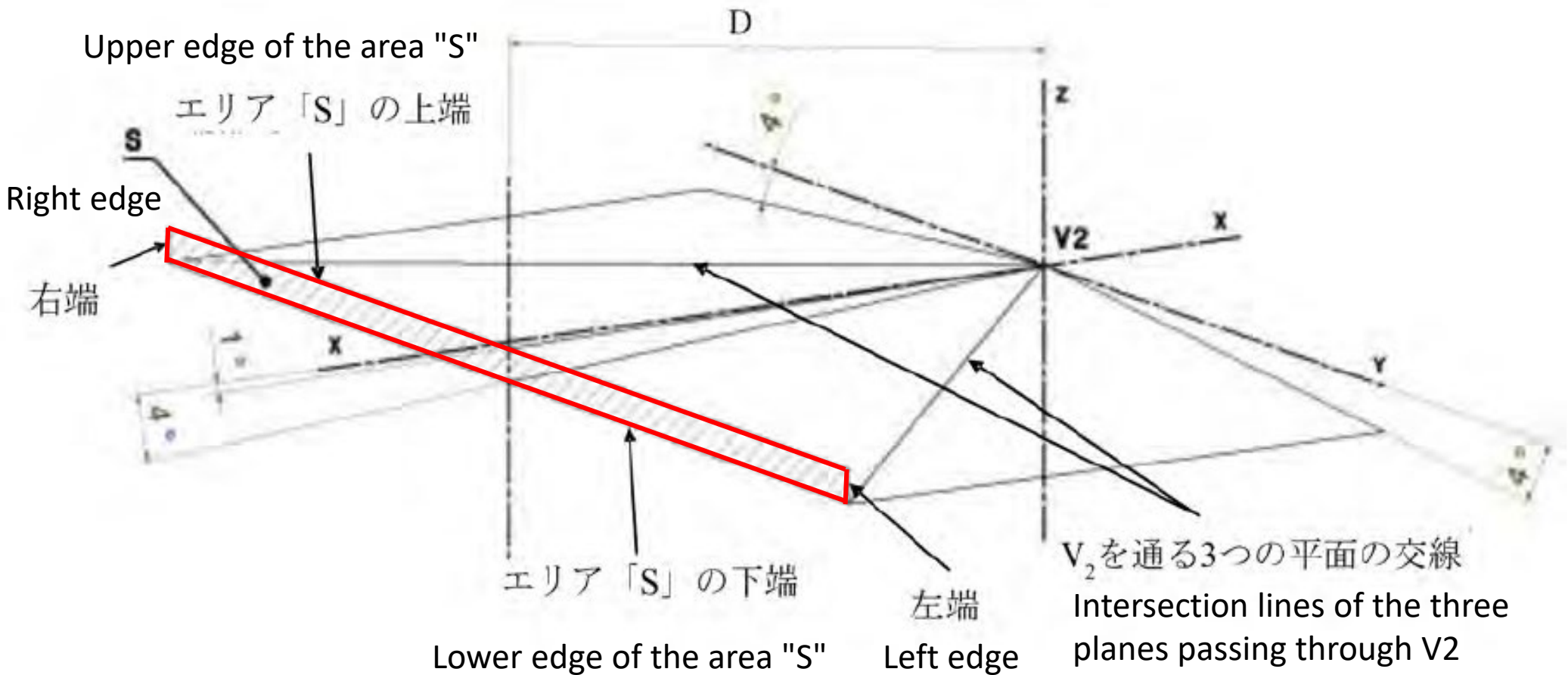
An obstruction created by the steering-wheel rim and the instrument panel inside the steering wheel



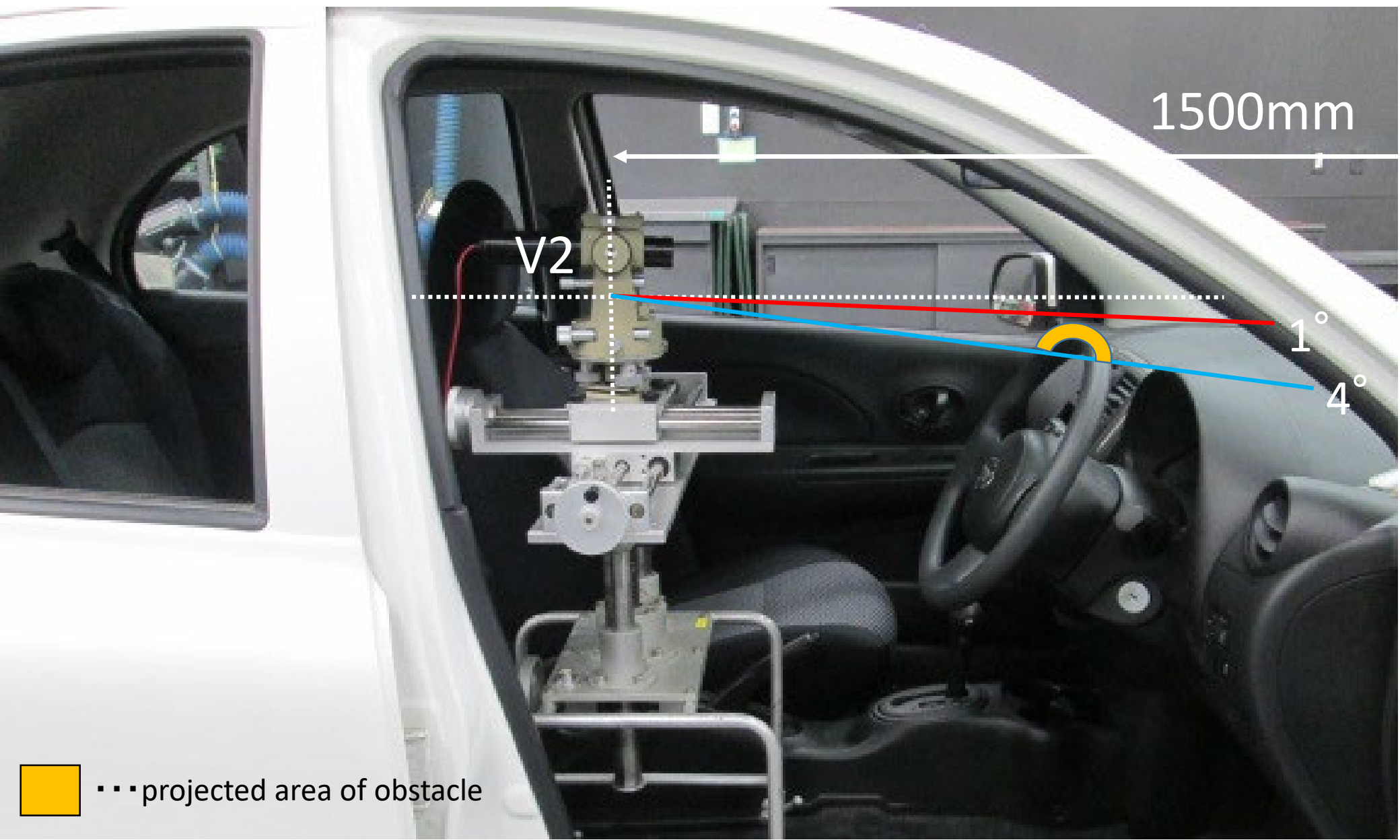
5.1.3.4. Area "S"



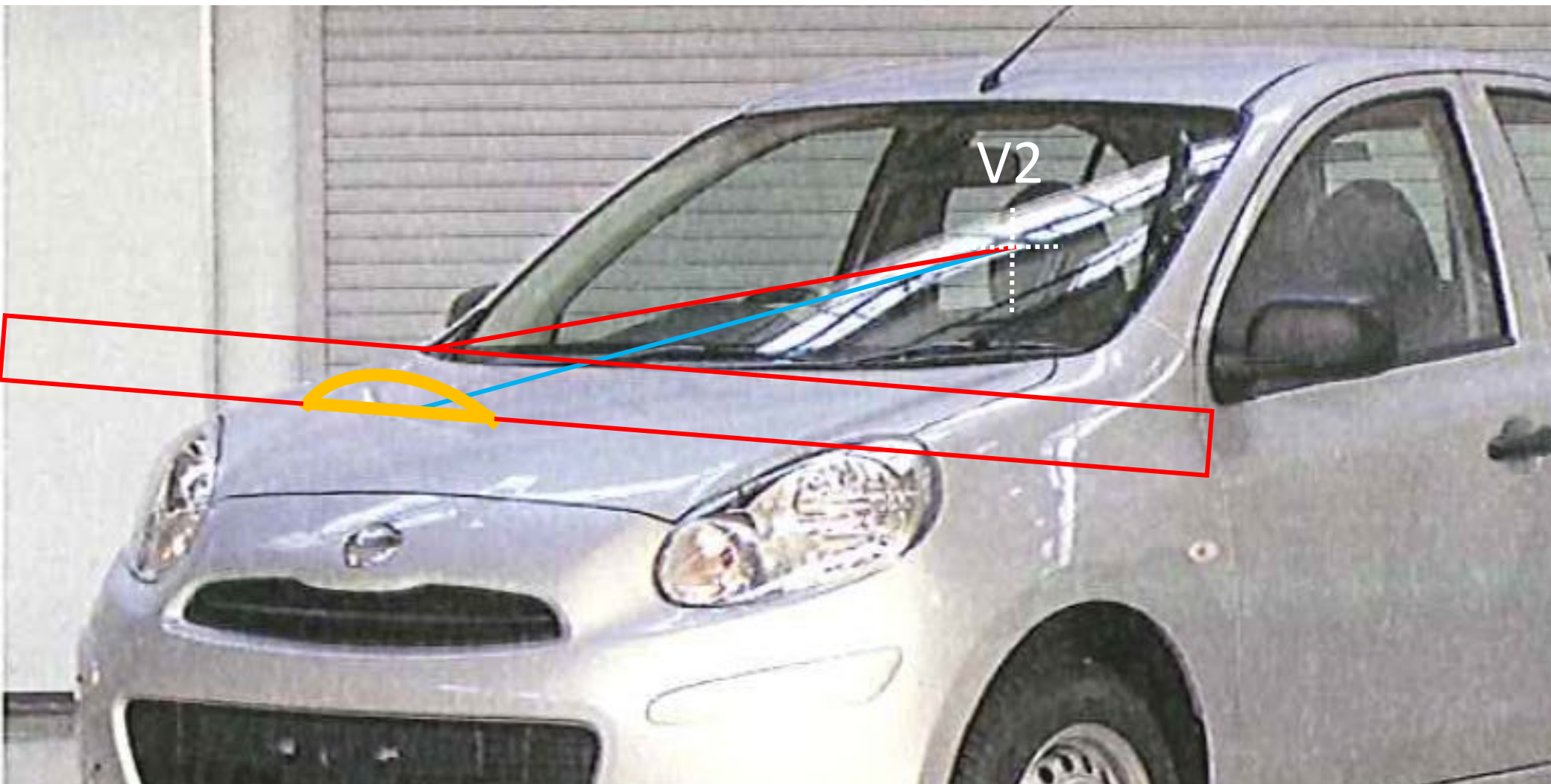
5.1.3.4. Area "S"





5.1.3.4.



5.1.3.4.



 projected area of obstacle

 area "S"

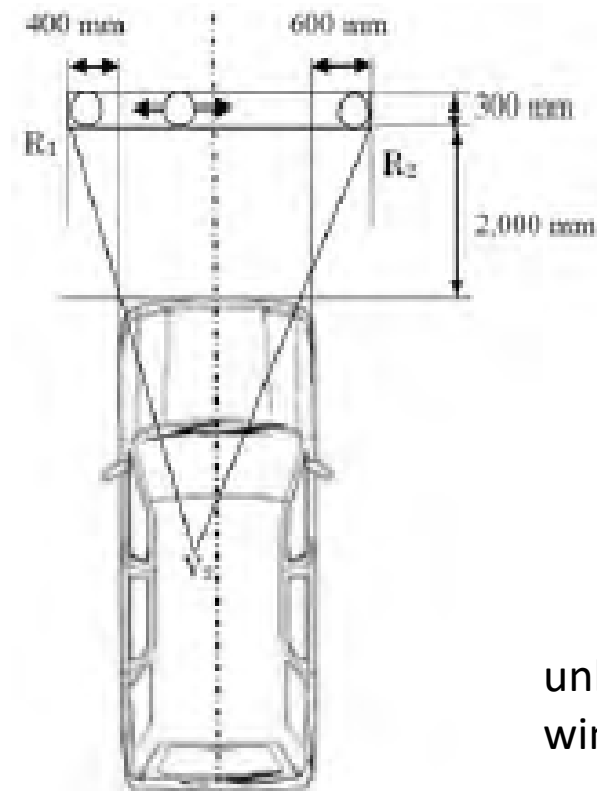
<

20%

5.1.4.

The forward field vision

In the case where the height of V2 above the ground exceeds 1,650 mm, the following requirement shall be met:



the vehicle shall be at least partially visible when viewed directly from V2 (see Figure1), regardless of where the object is within that space

unless it is invisible due to a blindspot(s) created by the A pillars, windscreen wipers, or steering wheel

END