

### **Paraplegic accessible motorhome**

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The main purpose of such vehicle is to make a paraplegic person, who needs the use of a wheelchair, completely independent and self-governing.

The most suitable vehicle is a semi-integral motor-home equipped with sandwich-panels, made of "vetroresina" for its numerous merits.

After having considered the hindrances to make a motor-home accessible to a paraplegic, also keeping in mind that he/she must live with other persons, the vehicle has been divided in 6 zones, as follows: entrance area, dinette, restroom, dining room, bedroom and driving area.

The motor-home must be equipped with a lift-up platform to allow an easy access of the wheelchair.



The platform minimum width must be at least cm. 75 –80 (30" – 31 ½ "). The lift-up platforms can be of 3 different types: the flap-in type, the totally-disappearing type, the "endless-screw-tower" type (torre con vite senza fine).

Of all 3 types, the functional, structural and dimensional peculiarities have been pointed-out.

As for the dinette, which includes the dining-room as well, the plan maintains the original components such as the sink, the stove, the drip and the refrigerator, whose dimensions can be easily found in the specific catalogues.

The suspended pieces of furniture in the dinette and in the dining-room have been modified: they can be lowered or lifted-up by using a track-system equipped with racks made from alloy of plastic and metal.



The up-and-down movement of the suspended furniture is motor-set, by means of a cog-wheel which transmits the impulse to the racks. The height of such suspended furniture can be therefore adjusted according to the disabled person's desire. (A)

As to the transformation of the bed, 3 solutions are provided. In the first solution, the transformation of the dinette table into a bed is very easy: you just have to detach the table from the wall, fold-in the front table leaf and lay it onto the side sofas. (B)

In the second solution, the vehicle must be equipped with special seats, which can be totally flattened, by lowering 2 levers in order to make a flat surface for the bed. In this case, the table must be removed from its original position and must be hidden under the bed.

In the third solution, the vehicle is equipped with a sofa which is easily transformed into a bed by simply pulling forward the sofa-seat and subsequently lowering the sofa-back making a unique flat surface.

Also for the rest-room, two solutions are provided. In the first solution, the rest-room is big enough to let in the disabled person's wheelchair. (C)

In the second solution, the reduced size of the rest room does not allow the wheelchair in, but the disabled can move from the wheelchair directly onto the W.C.

with the help of handles and belts hanging from the ceiling. The W.C. surface must be smooth but anti-slip and highly-resistant.

The disabled must also be independent as far as driving is concerned. There may be 2 driving systems: the automatic clutch and the automatic gear-shift, plu all the devices specifically intended for vehicles bound for disabled persons.



The graduation thesis provides 3 plans in order to give different solutions of accessibility to the motor-home bound for disabled persons.