



## FLEXIGLASS FITTING MANUAL - SECTION 3.1E

### TRAY FITTING GUIDELINES FOR NEW MODELS - ISSA4

**Note:** Familiarise yourself with the instructions before you start to ensure you are clear on all aspects of the fit

#### SAFETY EQUIPMENT

- Hearing protection as required
- Eye protection as required

#### TOOLS REQUIRED

- Air or electric drill (10mm capacity)
- 8,6 & 5mm (21/64", 1/4" & 3/16") bits.
- Pneumatic Rattle/ratchet drivers
- 10,13, & 18mm sockets

#### TOOLS REQUIRED

- 10 & 13mm combination spanners.
- Rivet gun with 5mm tip.
- Screwdrivers, various
- Side cutters
- Crimping pliers (electrical)
- Loctite 243
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This document is created to assist shop staff in fitting a Flexiglass tray to either a new vehicle type, ie: a new release, an older vehicle that has no current instruction available or an imported type not normally available.

**NOTE:** For more detailed and specialised information regarding body mounting refer to Vehicle Standards Bulletin 6 Section J1 at [www.infrastructure.gov.au](http://www.infrastructure.gov.au)

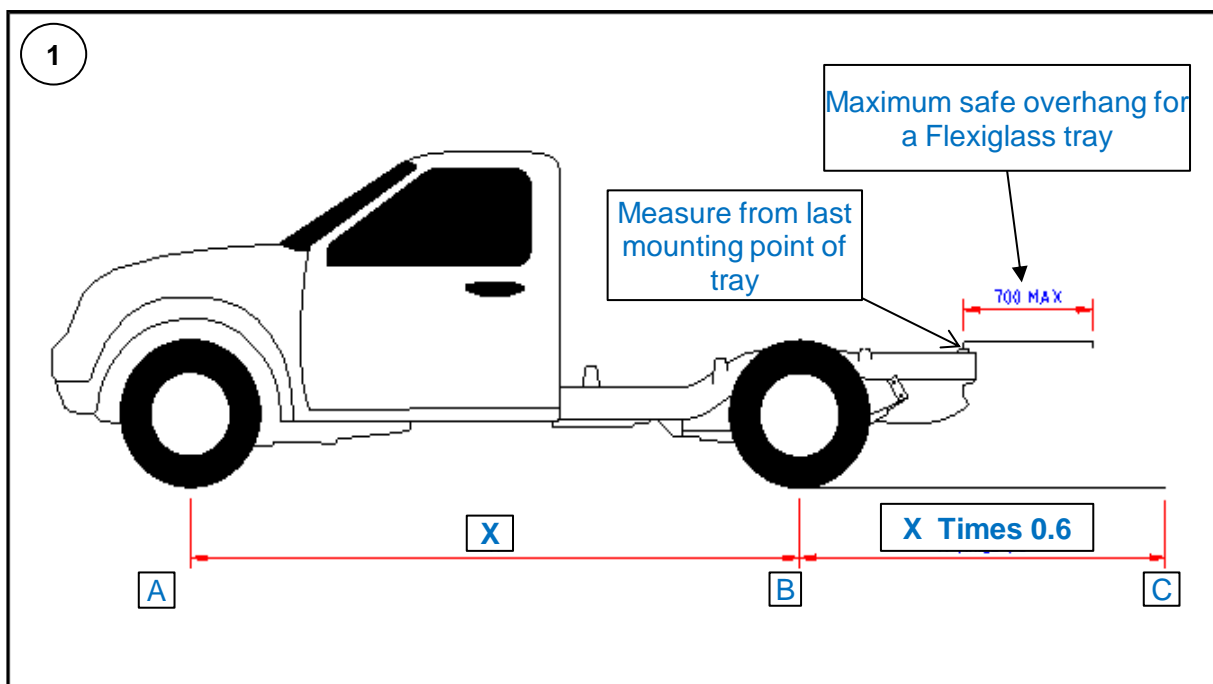
There are three main considerations that have to be met before a tray can be fitted to any vehicle;

- 1 Compliance with necessary legal requirements.
- 2 Safety: Will the tray do the job being asked of it? Will its fitment put the driver or other road users at risk.
- 3 Aesthetics: Will it look OK and be convenient to use.

As a general rule, if item 1 is addressed successfully item 2 will be mostly covered. Item 3 tends to be more open to interpretation and negotiation with the customer.

There are three major areas where legal compliance is mandatory:

#### A Rear overhang:

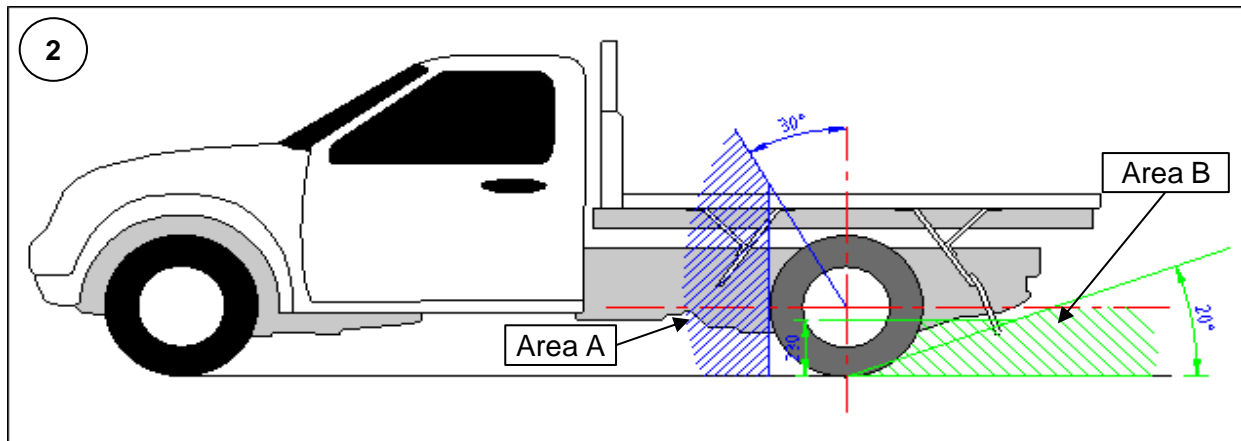


In **Diagram 1** A and B are the wheel centerlines, ie the "wheelbase" of the vehicle. B-C represents the maximum legally allowable rear overhang for that particular vehicle which is always 60% of the wheelbase.

As can be seen in the diagram a safely mounted tray will fall inside that legal maximum. If the customer insists that they must have the longest allowable, then a longer tray can be fabricated but it must not exceed the legal maximum.

## B Mudguards:

### RADIAL COVERAGE



As can be seen in **Diagram 2** the outlines of areas A & B enclose the area that must be covered to be legally compliant. The area to the front of the wheel is obviously covered by the tray and the cab while more attention will need to be paid to the rear to ensure compliance.

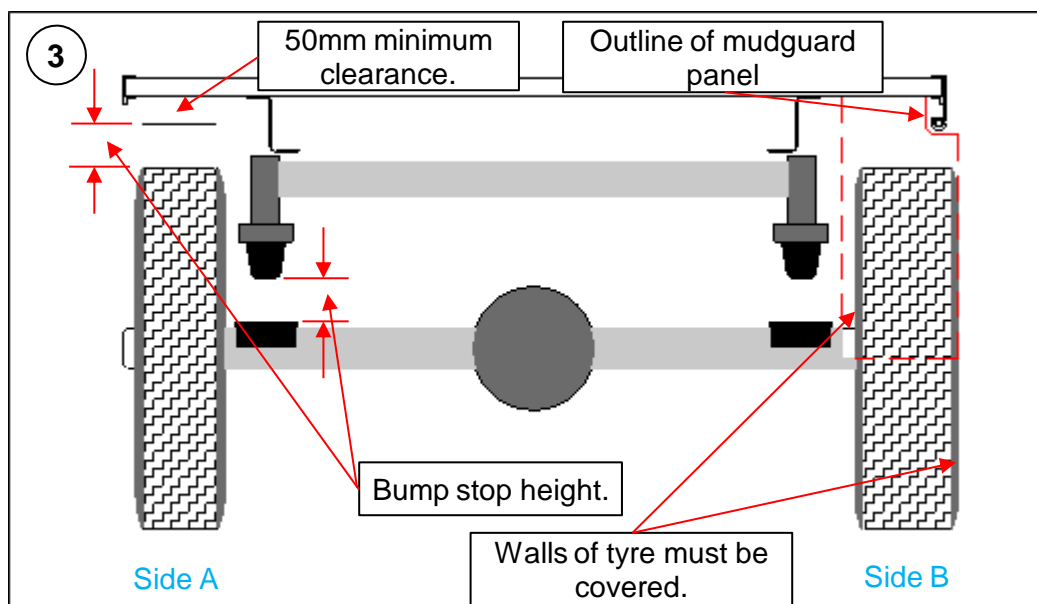
Fuel fillers should be brought as far as possible to the outside of the tray for convenience and protected from mud and impact from rocks etc. Either cutting and bending, or simply shortening the mudguard panel may be necessary to achieve this on some dual cab models.

#### NOTE:

Measurements do not have to make any allowance for the flattening of the tyre due to the vehicle mass but should be taken with the vehicle standing on a flat, level concrete floor.

## C TYRE WIDTH COVERAGE.

### REAR VIEW



Mudguards must be fitted so that the walls of the tyre, measured at the top of the wheel, (ie away from the bulge at the bottom) are covered by the outer extremities of the guard including any mudflap fitted.

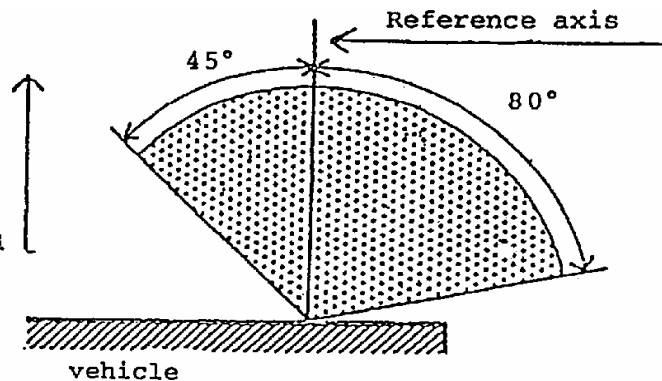
In **Diagram 3** side B illustrates a wide track/wide tyre combination and shows how the notch at the top corner of the **PANEL440 & 450** should be utilised to fit around the rope rail and comply with the legal requirement. (In this instance the rope rail would need to be removed between the mudguard panels as well and a one piece mudguard fitted)

## D LIGHTING REGULATIONS:

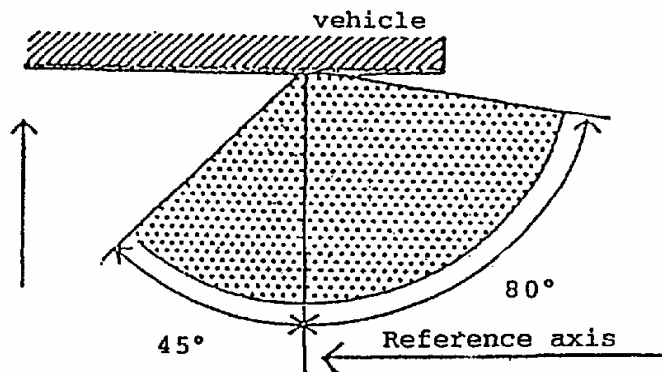
The minimum vertical angles of light distribution in space are 15 degrees above and 15 degrees below the horizontal for all categories of devices included in The Australian Design Rules for Road Vehicles, except for a category S3 stop lamp (high level brake light) for which they are 10 degrees above and 5 degrees below the horizontal.

### Minimum horizontal angles of light distribution in space

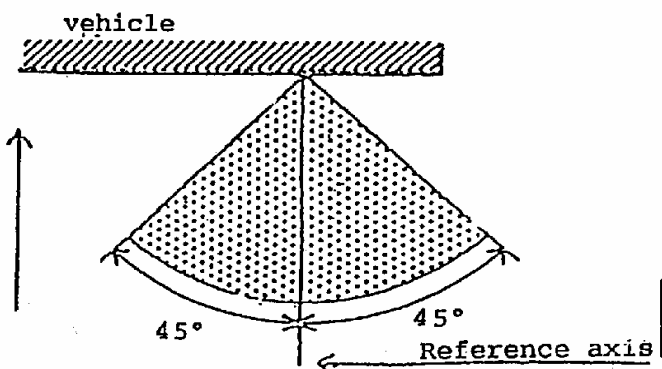
Front position (side) lamps  
end-outline marker lamps



Rear position lamps  
end-outline marker lamps



Stop-lamps  
(S1 and S2)



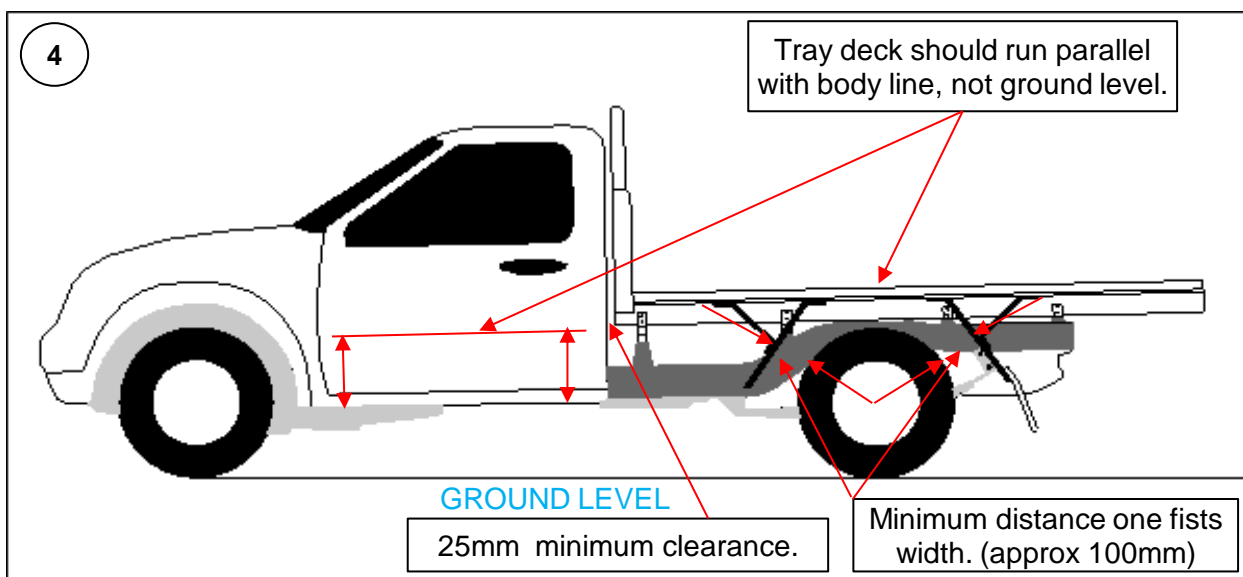
## SAFETY

Manufacturers provide the number of mounting points on each vehicle that will spread the rated load across the chassis in a safe manner. Therefore all mounting points provided should be used when fitting a Flexiglass tray to any vehicle.

Likewise the Flexiglass tray has been rated at 1 Tonne capacity calculated over the area of a 2400 x 1850 deck ( a dual cab tray, for instance, will be rated at, whatever percentage of 1 Tonne, the area of the deck is of the 2400 x 1850 deck). This area loading has also been applied to the allowable cantilever (overhang) length and this overhang limit is 700mm, **See diagram 1**, and should not be exceeded.

When working out what parts to use to mount the tray the "stack height" of the combination of blocks, spacers and crossbars should be kept as low as possible whilst providing adequate clearance for the tyres when the suspension is fully compressed. **See diagram 3.**

The under tray, wheel clearance, should be calculated by measuring the gap between the bump stop and the axle plate then adding no less than 50mm.

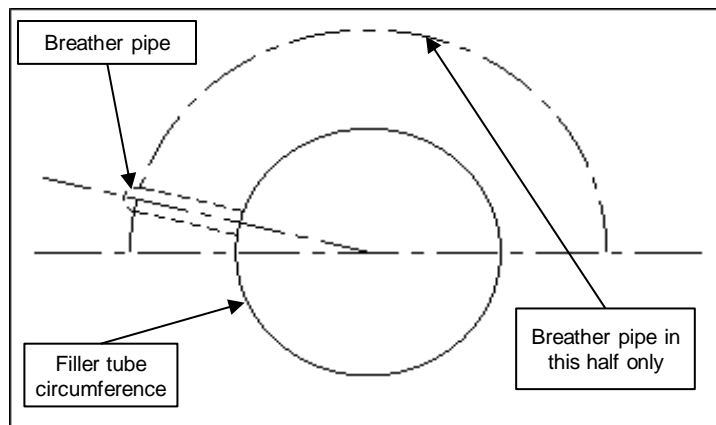


When viewed from the side a utility vehicle will be found to sit higher at the rear than the front, this is done to allow for load carrying to compress the springs. **See Diagram 4.**

A tray body should be fitted so that:

- a All legal requirements are met.
- b The main bearers rest on all the mount points (Note: if it isn't possible to get all points in contact the gap should be as small as possible and the front and rear mounts must make contact).
- c The stack height should be as short as possible.
- d There should always be a plastic packer **SPACER50** or **60** on the bottom of the stack.

- e There is **only one plastic spacer** to be used in any stack.
- f There must always be a metal spacer between a **BLK200C or mounting cross bar BAR310FC etc, (minimum allowable would be a WSH10)** and a plastic spacer.
- g Adequate wheel to tray clearance is available.
- h Mudguard to tyre clearance of one fists width, minimum, should be available.
- i 25mm clearance should be available between the closest points of the cab rear and the tray front.
- j It runs parallel with the body line.
- k Breather pipes on fuel filler necks must be positioned in the top half of the circumference of the filler pipe. **See adjacent diagram.**



- l Rear lamps are mounted as close to the rear of the tray as possible so as to comply with **item D** regulations.