Centre for Appropriate Technology

Mounting a window type room air conditioner

INTRODUCTION

Window box air conditioners are popular in remote communities.They are readily available and relatively cheap to purchase. Other forms of air conditioning, such as ducted evaporative units or split systems require electricians and plumbers to install the units, whereas window box air conditioners can be plugged in to a power-point and can function immediately. If they do need repairs or servicing the unit can easily be removed and taken into town, rather than an expensive service call.

This Bush Tech provides information on how to safely mount a window box air conditioner.

HOW ARE THEY CURRENTLY MOUNTED?

On any community or homeland you can find window type air conditioners that have been installed by the tenant. Often the polycarbonate glazing in the window frame has been cut out with an angle grinder. The range of items then used to support the outside part of the units is limited by what is available on the community or home-land. Wheelie bins, 44 gallon drums, old stoves, old televisions and blocks stacked on top of each other are some examples of temporary stands (see fig. 1).

Usually these stands are unstable and the air conditioners are rarely secured to the window frame. This means it can be pushed out from the inside of the room and fall to the ground possibly causing injury and certainly damaging the unit as well as the window.

The security of the house is compromised as any would-be intruder can remove the air conditioning unit from the outside to reveal an entry point to the house.

Fig. 1: An airconditioner unit installed by a tenant, and is supported precariously by found objects.

OPTIONS FOR INSTALLATION

There are two options for installation of room air conditioners:

OPTION 1- Provide a window that has an opening to suit the unit. This opening can be made to suit the size of the existing unit or can be made with a 'knock-out' panel that can be cut out to suit any sized unit. (see fig. 2 on next page). The advantage of the 'knock-out' panel type is that any size unit can fit in the same opening, the panel is often 9mm CFC (compressed fibre cement) sheet. This method means that the window still has an opening sash and the window allows plenty of light to enter the house. The cost of a standard window (1.2m x 1.2m) as shown in fig. 2 with an opening for a window air conditioner unit is about $750.

OPTION 2- Provide a framed opening, also with a knock out panel, in the wall of the room. This option is ideal for newly built houses, either block or metal clad, where a power point with a dedicated circuit would be located nearby. The resident or local council workers can easily remove the panel and install the unit.

It will require two people to install the unit as window air conditioners weigh between 35 and 70 kilos depending on the size.

The rear of the unit needs to be supported. Brackets are sometimes used for this, as are galvanized flat straps which are fixed to the rafters or battens where there is a veranda, or to the wall above the unit where there are no roof members. Both of these methods mean the bottom corners of the unit remain exposed. The air conditioners are at a dangerous height for small children hitting their heads. An alternative approach is to install 50 x 50 galvanized angles fixed at the top and the bottom. These both give support and protect kids from bumping into the

Fig. 2: The finished air conditioner mount.

corners (As per Fig. 2). These angles are fixed with dynabolts into the veranda slab or a 300mm x 300mm concrete footing is used where there is no slab.

MOUNTING THE AIR CONDITIONER

- Make sure the new window frame is well secured in the opening.
- Remove the chassis from the cabinet (2 person job).
- Place foam rubber strips (supplied with unit) around the opening to reduce vibration noise through the window.
- Install the cabinet into the opening with the back of the cabinet slightly lower than the front to allow condensed water to drain. Secure with screws into the bottom and both sides of the opening.
- Install the galvanised angle supports to the rear of the units chassis.
- secure the base of the galvanised supports with dynabolts to the verandah or a concrete footing.
- Slide the chassis of the unit into the frame (2 person job).

COST

• Window with opening to suit a/c unit or opening with knock out panel	$750
• Galvanized angle supports 50 x 50 x 1.2m with foot 1 pair	$80
• Sundries; silicone, screws, dynabolts etc	$30
• **TOTAL**	**$860**