

Post mounted masts or towers need not be too near any building and any detuning would be minimal, but their structures would be more exposed to view. Again if 'skylining' is kept to a minimum, with a low retracted height when the aerial is not in use, then the structure may not be too noticeable. When deciding how far to position the tower or mast from the house, bear in mind the length of feeder and rotator cable needed. Long feeder cables mean higher losses. Merely placing the whole lot as far away from the house as possible may not be the most economical solution. As a general guide, keeping the aerials at a distance equal to at least a half-wavelength (at the lowest frequency to be used) should be practical. However, as is often the case, local conditions may dictate otherwise.

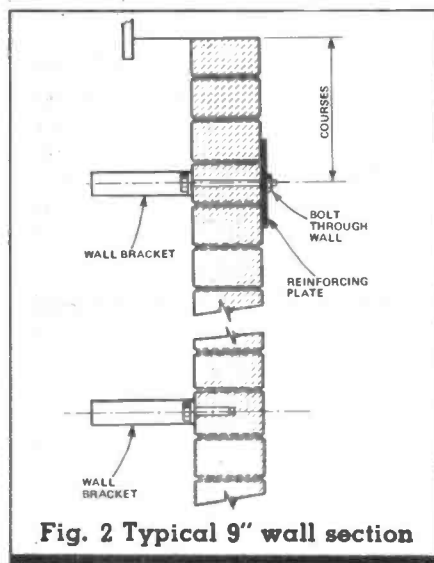


Fig. 2 Typical 9" wall section

The other limiting factor is the height above the hinge point the supporting bracket up the wall. As mentioned earlier in part 4, which concerned loadings, the higher up the wall bracket is fixed, the lower the loads on the wall will be. However, it is not possible to fix the bracket to the very top of a wall and hope for the best, because the top part of the wall is not as strong as lower sections, so some sort of compromise height has to be found. Generally the wall bracket should be more than three courses of brickwork down from the top of the wall but it may have to be lower for a large tower. (See Fig. 2) From this it is clear that large towers and low walls are not compatible without some additional reinforcement being used. The wall bracket is usually anchored to the wall either with

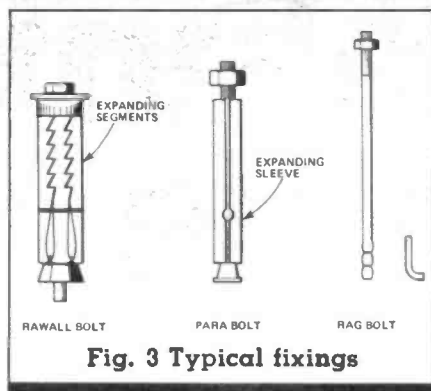


Fig. 3 Typical fixings

Rawall or Para bolts (Fig. 3.), or with studs going through the wall structure as in Fig. 2. Para bolts are useful because they require a hole that is only slightly larger in diameter than the actual bolt, so that the wall can be drilled through the bracket itself, which saves having to mark the holes out separately. When installing the ground hinge and wall bracket always use a spirit level to check that they are level and correctly aligned. The manufacturers instructions should be followed throughout.

Post mounting

With post-mounted masts and towers, the structure is hinged part way up its outermost section and pivoted on a post that is either imbedded in, or anchored to, a concrete foundation. Using a winch and cable system, the structure can be tilted to the horizontal while it is in the fully retracted position. The size of the concrete base depends on the type of post and tower to be supported. The manufacturers specifications will usually state the dimension of the base needed. Digging out the foundation and filling it with concrete can be a tedious task, but one that cannot be hurried if it is to be done correctly. If you have any doubts then it may be advisable to get the job done by a local builder. Before any concrete is filled, the ground post should be positioned in the hole and held vertically in situ by four guy ropes or suitable lengths of timber as in Fig. 4. Check that it is vertical on all sides with a spirit level, and check that only the correct depth of post is being buried. Digging out an incorrectly placed post could be difficult to say the least! Where surface mounted posts (Fig. 5) such as a base or frame post, are to be mounted, suitable ragged bolts (Fig. 3) are usually called for. A simple way to

ensure that these are correctly spaced is to make up a timber pattern that corresponds to the fixing holes on the base. (Fig. 6). Fix the ragged bolts onto the pattern and then, using lengths of timber, position the pattern over the hole with the rags hanging down into it. Use a spirit level to check that the pattern is level in all directions before filling in any concrete. Once the concrete has set, the pattern can be removed leaving the threaded ends of the rag bolts sticking up ready for the base to be bolted down. Concrete should be allowed to set for at least three days before handling and a week at least before any loads can be placed on it. Where a GROUND socket is to be used (Fig. 7) then the simplest way to bury it is to slip it on to the post and then set the post up as before. It may be a good idea to arrange some suitable drainage for the bottom of the socket to prevent it filling up with water. A simple way of providing some drainage for the socket is to stand it on a suitable number of engineering bricks placed at the bottom of the hole for the base. Engineering bricks are the sort that have a number of holes running through them. Bear in mind that waterlogged ground may not be firm enough for post mounted installations, and this sort of drainage will not help. If you have any doubts then again seek professional advice. Once a post-mounted mast or tower has been installed, there may be some slight settlement of the concrete base which, depending on the soil conditions, may tilt the structure mounted on it.

If you are going to carry out the concreting yourself you will need to know roughly what volume of

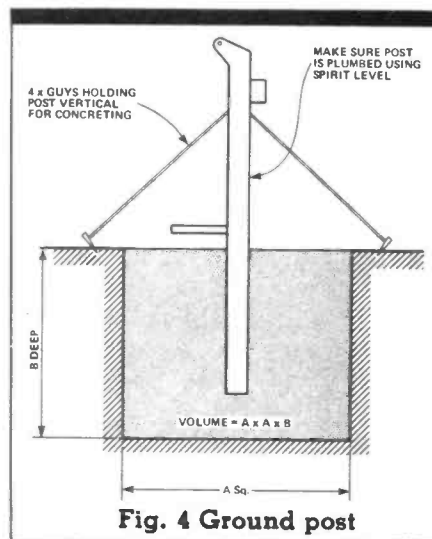


Fig. 4 Ground post