MOTOR CONTROLLERS

Unpacking

Most controller equipment is designed for the specific needs of definite applications, and is difficult to replace without inconvenience and loss of time. To minimize losses during handling and shipment the control is carefully packed, and therefore warrants as much care and consideration during unpacking in order to prevent damage.

The greatest hazard during unpacking is the careless use of heavy tools entirely unsuited to the task. Their use requires that the crate or packing be partially demolished, and that methods be employed which may very easily damage the contents of the crate. The tools for unpacking are few in number and if properly used will eliminate damage during unpacking and will also provide maximum salvage value from the crate. With this in mind, the following pointers will indicate the proper tools and methods to be employed in unpacking most controller equipment.

Small controllers are packed in either cardboard cartons or closed type wooden boxes. Figure No. 1 (Photo 249248) shows a typical packing for controllers of this grouping. The basic tools required for unpacking are a sharp knife for the cardboard containers, and a light hammer for the closed wooden boxes. Figure No. 2 (Photo 280754) illustrates one method for opening a cardboard type crate. When in doubt concerning the proper procedure it is suggested that the top of the box be removed, it should then be possible to determine the next step. The packing for small controllers should be carefully searched for loose items.

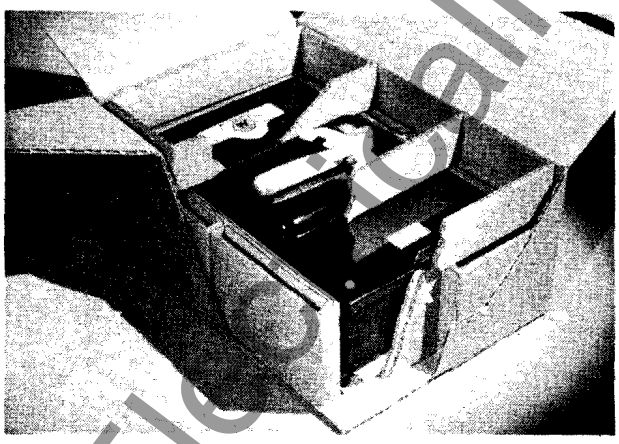

Figure 1

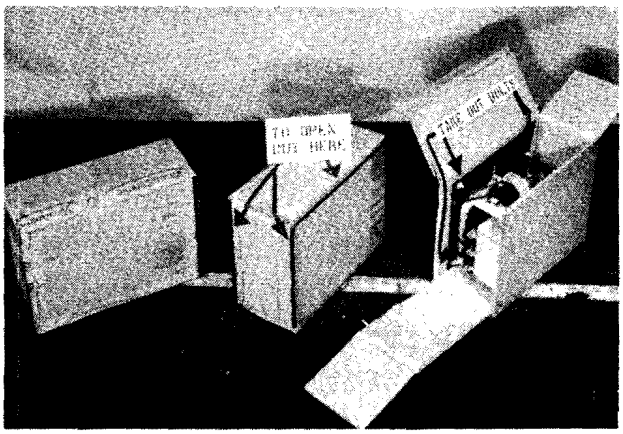

Figure 2

The top of totally enclosed wooden boxes of the smaller sizes can quite often be determined by inspecting hammer marks around the nails. Since the boxes are machine made, hammer marks will predominate around those nails used for securing the bracing and the top. The nails driven by machine will have no such marks and very often the heads are countersunk below the surface of the boards into which they have been driven.

When the controller should be shipped in an upright position the crate will be so marked and should be left in that position for unpacking.

Controllers of intermediate size designed primarily for floor mounting vary widely in their design and detail of construction, and because of these variations require several different types of crates. Most of these types

are only semi-enclosed and permit the controller and its packing to be partially visible. This characteristic permits the proper unpacking procedure to be determined largely from an inspection of the contents and its special bracing.

Controllers in floor mounted enclosures are secured to skids and mounted in a crate of the type shown on Fig. No. 3 (Photo 271129). Modifications of the design also provide lighter crates and with the control bolted to the base of the crate and then braced in position. After the unit is braced at the bottom, the front of the crate is secured and bracing is installed at the top, then the top is put on. Uncrate this type of control by first removing the top, then the top bracing and the front. The proper tools for crates of this type will be the nail puller and a light hammer.

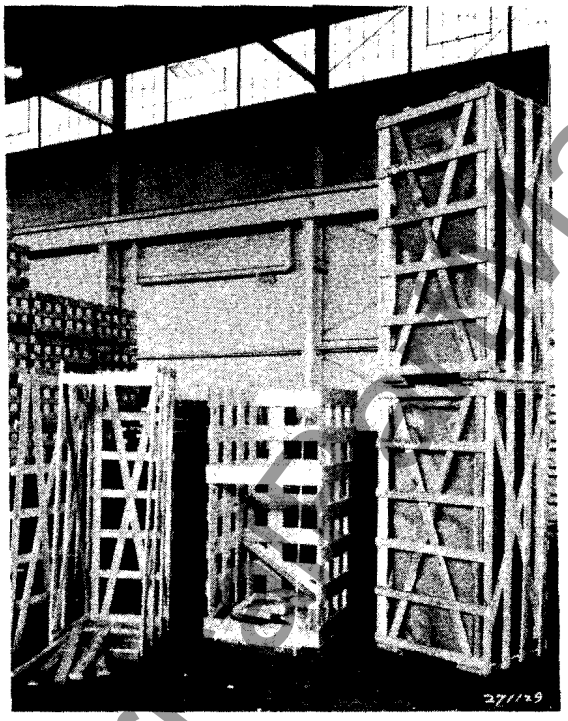

Figure 3

Open type controllers on angle or pipe uprights are mounted face up in a box type crate having extension feet along one side. After the control is braced and the top has been secured in place the box is turned over on one side and the extension feet are braced. The packed unit will then appear as shown in Fig. No. 4. To unpack the control the crate is blocked up in the position shown in Fig. No. 5. Care should be taken to select the position where the control will be face up. Then use a nail puller as illustrated, or a light hammer to remove the top of the crate. With the controller and special bracing exposed as in Fig. No. 6 remove the bracing with a nail puller, it will then be possible to lift the control from the crate.

Large controllers are shipped in crates which have been prefabricated except for the front and top. A typical control and crate are shown in Fig. No. 7 (Photo 279675). After the controller has been placed in the crate it is braced securely at the bottom, and then the front side is installed. After the front is on, the top of the controller is braced in position and then the top of the crate is installed. In some instances crates of this type are totally enclosed instead of semi-enclosed as illustrated, in either case the packing sequence is the same.

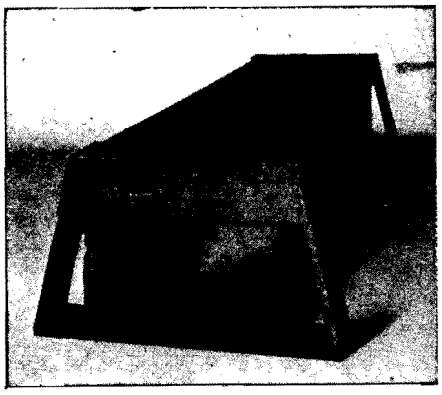

Figure 4

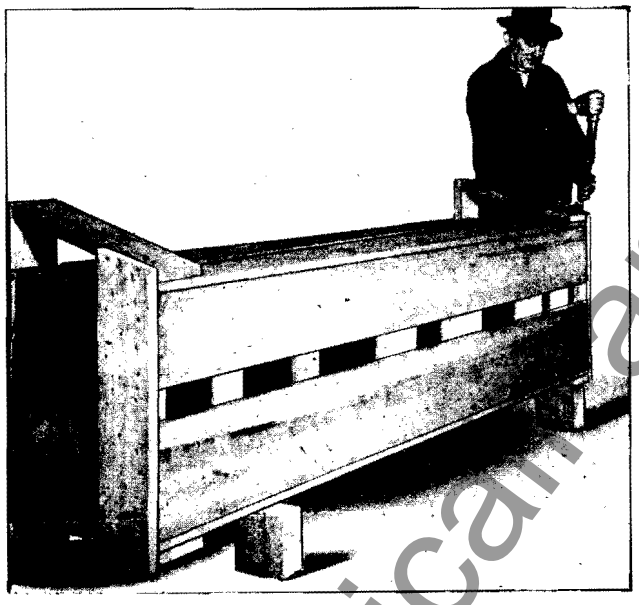

Figure 5

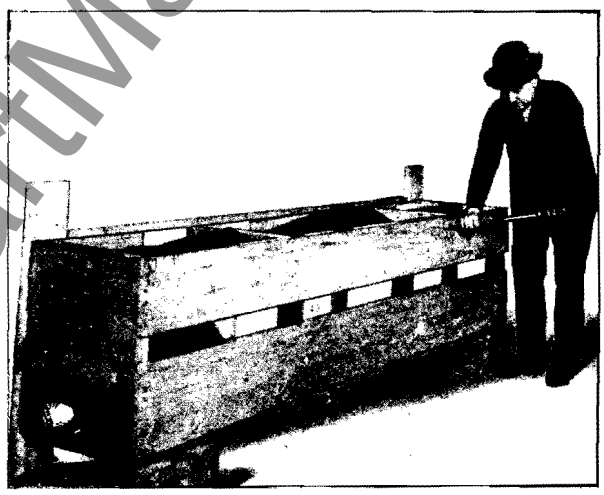

Figure 6

Where large controllers are shipped on open cars the crate is covered with paper and light boards to protect the controller against the weather. These should be removed before the crate is dismantled.

With large controllers it is highly recommended that the nail puller be used to remove the bracing. This can be supplemented with a light bar and hammer if used with care. The same tools should be used for removing the top and sides.

Controllers for export shipment are crated in much the same manner as those described above. However, the crate is usually fully enclosed, is provided with more bracing, and is reinforced with soft metal bands at the corners and weak points. Export crates are also designed to permit the unit to be shipped in any position. Due to the tighter packing it becomes necessary to proceed carefully in unpacking the equipment to avoid damage. Otherwise the procedure should be as noted for the customary domestic crates.

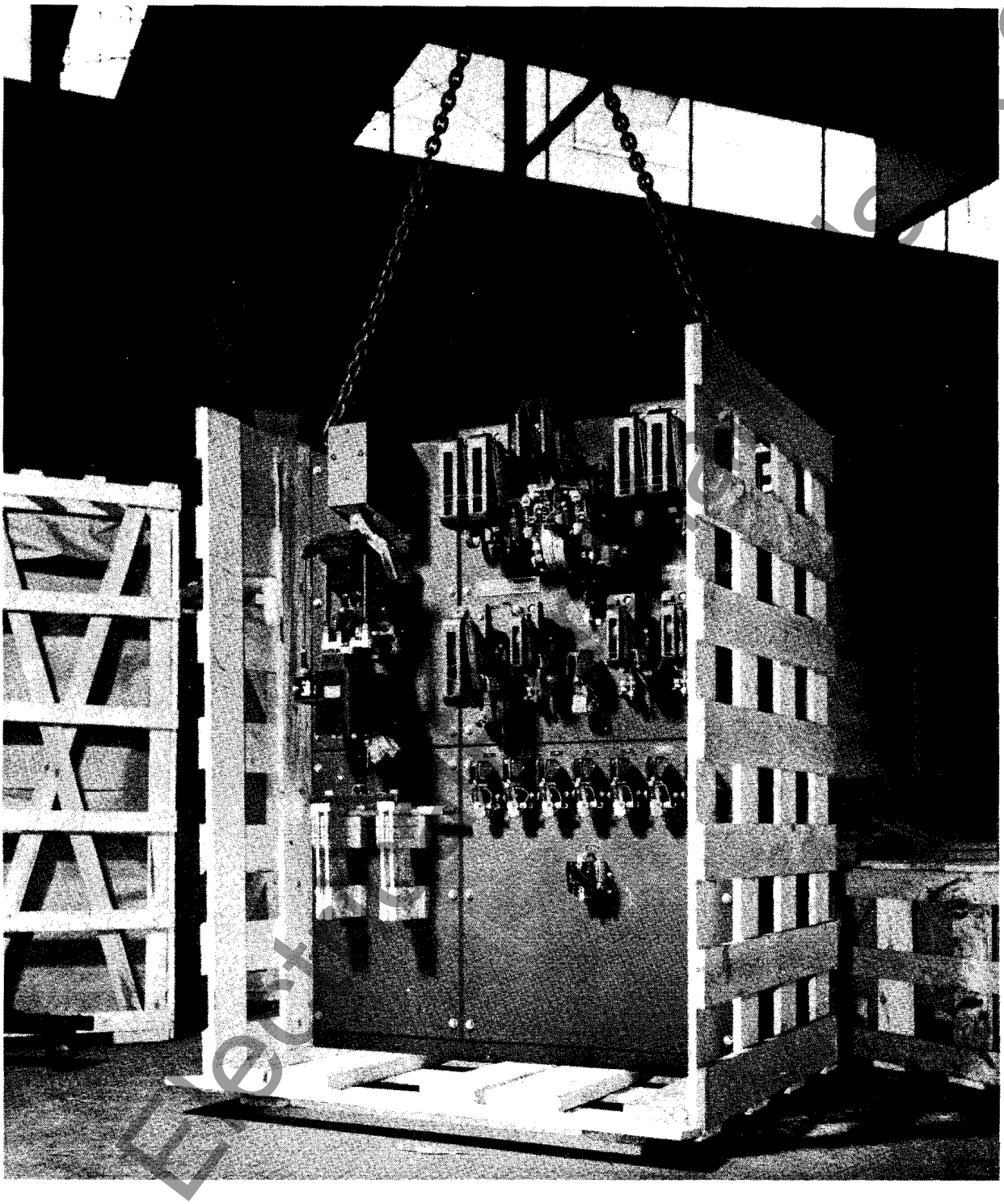

Figure 7