FLOOR-MOUNTED STORAGE BATTERY CELLS ENCLOSEDTYPE INSTALLATION

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1. GENERAL

1.01 This section provides installation instructions for the enclosed-type floor-mounted storage battery cells from Exide, Gould, and C & D Batteries. The dimensions and weights for floor-mounted ceils are listed in Table 1 .

2. TOOLS AND MATERIALS

2.01 The following equipment is recommended for proper installation of the cells:

(a) One-ton battery hoist.
(b) Hand-lift truck.
(c) Steel strap cutter.
(d) Steel wire brush.
(e) Protective apron.
(f) Rubber gloves.
(g) Safety goggles.
(h) Safety visor.
(i) Box wrench, 3/8-inch, hex-head.
(j) Intercell connector wooden template.

3. INSTALLATION PREPARATION

3.01 The foliowing paragraphs cover preparation for installation of the storage cells.

NOTE: The storage cells should be installed by machinery movers.

Floor Conditions

3.02 The floor where the cells are to be installed should be sufficiently level and should support the weight of the ceils without sagging. Although the bottom of each cell is equipped with a l/2-inch, soft rubber pad to accommodate some uneveness of the floor, the alignment of the battery terminals is easier when the cells are on a firmly built, level floor.

Marking the Floor

3.03 Cells (Figure 1) can be positioned as shown on the typical floor plan in Figure 2. The dimensions for the cells are given in Table 1 and are based on the upper portion of the cell (which is somewhat larger than the bottom of the cell). First, locate the cell at one end of a row on the floor; then, locate adjacent cells in line with the end cell and in accordance with the interceli connector spacing. Mark the allotted spacing on the floor with chalk, and show the polarity marks for each spacing so that they will be visible after the battery is set in place (Figure 3).

4. UNPACKING THE CELLS

4.01 Observe safety precautions. Read Section 200-001-000 before handling the cells.

4.02 Cut the steel strapping on the wood or fiberborad crate (Figure 4) with a steel strap cutter. (On the wood crate, it may be necessary to remove bolts on the bottom of the corner posts.)

4.03 Remove the crating material from the cell. The ceil should not be left standing unless it is on a skid. Retain the date-due-for-charge sticker.

5. BATTERY INSPECTION

5.01 Inspect the cell for any signs of obvious damage that may have occurred during shipment or storage. If damage is found, notify the appropriate supply supervisor.

5.02 Inspect the cell for cracks, leaks, or loss of electrolyte. Should the electrolyte be below the plates, consider the cell as damaged since this allows the plates to dry out and deteriorate, thus lowering the capacity of the cell.

5.03 Check the seal between the hard rubber container and the top of the cell. If this seal is broken, the cell must be replaced.

5.04 Check the data-due-for-charge sticker that was retained after unpacking the cell. The cell should not be left dormant beyond the date stamped on the sticker without being charged. Place the cell under charge as soon as possible, providing that this has not already been done. If the charge date is overdue, notify the supply supervisor.

Table 1. Cell Dimensions and Weight.

MANUFACTURER	AMPERE – HOUR	DIMENSIONS IN INCHES			APPROX. WEIGHT IN POUNDS	
	CAPACITY	LENGTH	WIDTH	HEIGHT	CELL	CELL CRATED
Exide	4,000	15-1/8	18-3/16	57	1055	1265
	5,000	15-1/8	18-3/16	57	1165	1375
	6,000	17-1 1/16	18-3/16	57	1350	1615
	8,000	20-1/4	18-3/16	57	1625	1865
Gould	7,000	19-7/16	18-1/8	55-7/8	1582	1667
	8,000	19-7/16	18-1/8	55-7/8	1730	1815
C&D Batteries	4,000	14-3/16	18-1/8	55-5/8	1070	1175
	5,000	14-3/16	18-1/8	55-5/8	1180	1275
	6,000	16-5/16	18-1/8	55-5/8	1390	1475
	7,000	19-7/16	18-1/8	55-5/8	1660	1790
	8,000	19-7/16	18-1/8	55-5/8	1760	1840

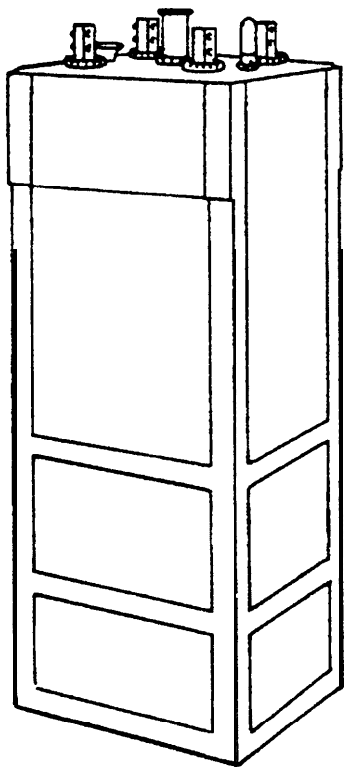


Figure 1. Floor-Mounted Cell.

5.05 Clean any electrolyte spills with a cloth moistened with a weak baking soda solution. Exercise care and make sure that the solution does not get into the cell

NOTE: Some electrolyte spillage is normal with any cell; however, the amount of electrolyte spilled should not be excessive.

6. LOCATING THE CELLS

6.01 Use a suitable battery hoist for placing the cells (Figure 5).

6.02 Place the battery hoist parallel to the chalk-marked row on the floor so that its track with lifter are at right angles to the row and its outrigging leg assembly is situated on the other side of the row. Position the battery hoist with its lifter directly over the first cell in the row, then secure the hoist to the floor by turning both floor locks. Raise the iifter to the top of the track.

6.03 Transport the unpacked cell to the battery hoist with a suitable hand-lift trunk (Figure 6). Do not tilt a cell more than 15 degrees.

NOTE: Transporting the cell is a two-man operation. One man is needed to steer, the other to steady and prevent the cell from tipping.

6.04 With the hand-lift truck, place the cell parallel to the track of the hoist, next to the lifter. The ledges of the cell must be at right angles to the track.

6.05 Lower the lifter until the top of each lifting bar is situated at a height just below the ledge of the cell. Loosen the adjusting screws the same amount on both sides of the lifter.

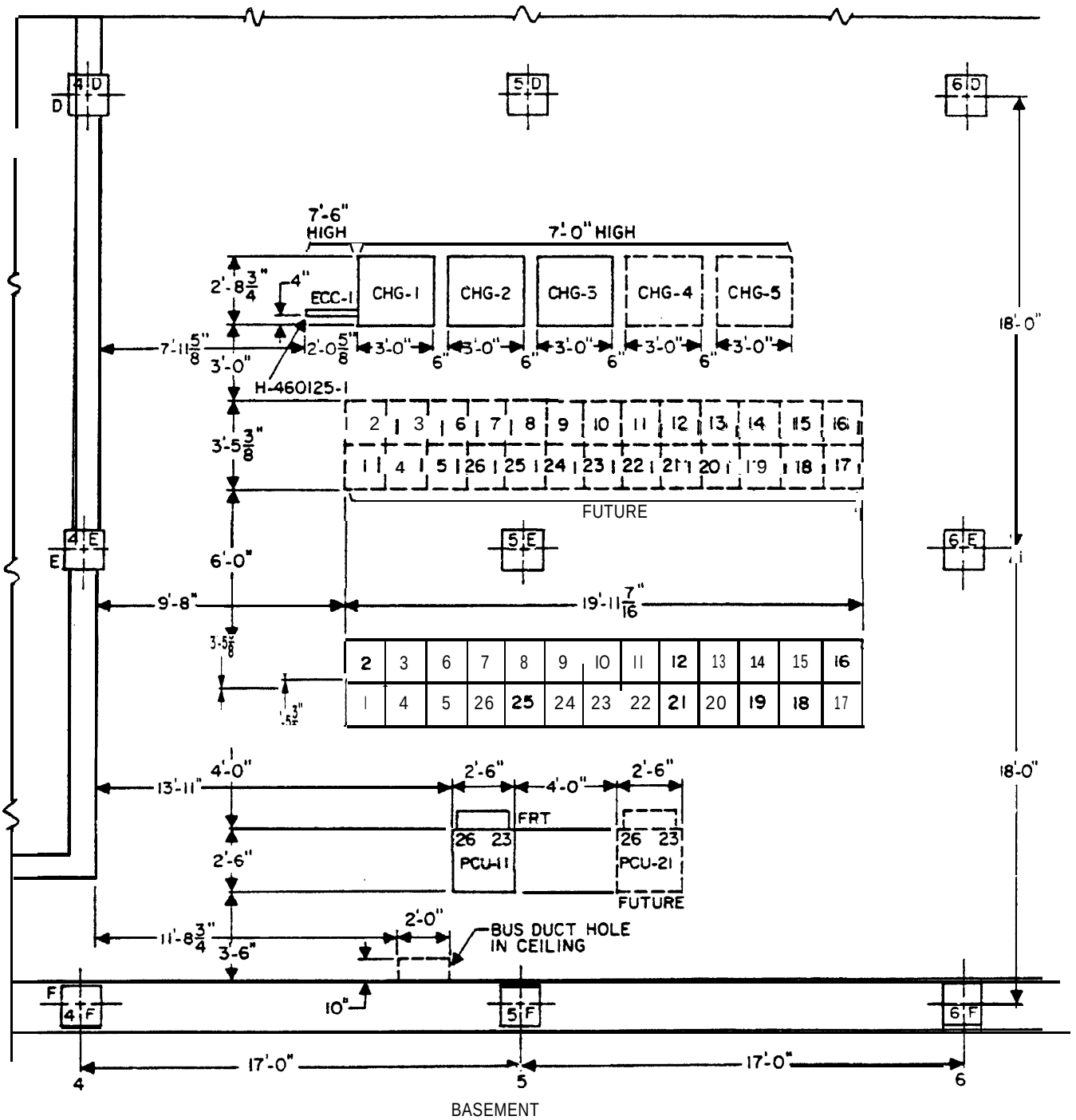


Figure 2. Typical Floor Plan Job Drawing.

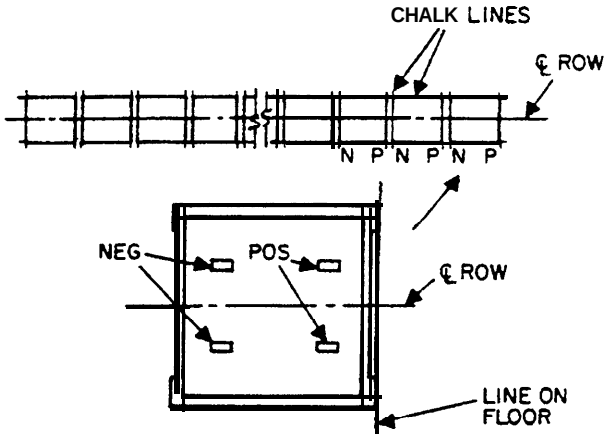
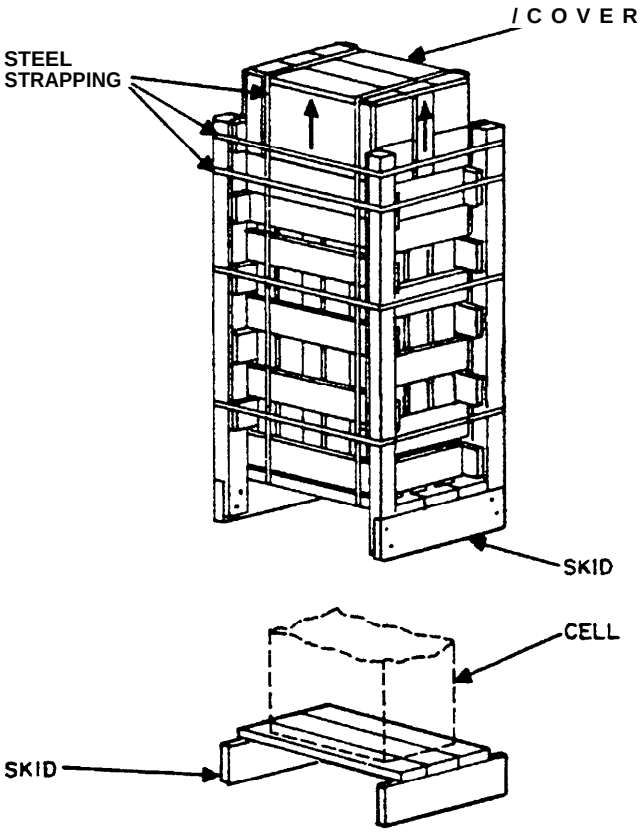


Figure 3. Typical Floor Markings to Show Cell Location.



NOTE:
FIBREBOARD CRATE IS CONSTRUCTED SIMILAR TO THE WOOD CRATE.

Figure 4. Cell in Wooden Crate and Outline of Cell on Skid with Crating Removed.

6.06 With the hand-lift trunk, move the cell so that both lifting bars slide under the ledge of the cell. For weight distribution, denter the lifter on the cell so that the lifting bars are equal distance along the sides of the cell. Tighten the adjusting screws the same amount on each side of the lifter. Check that the lifting bars are securely in place under the ledge.

6.07 Raise the lifter, and make certain that the lifting bars fully engage the ledge of the cell. If slack is noted, tighten the adjusting screws; if there is full ledge engagement, raise the cell until it clears the skid.

6.08 Remove the hand-lift trunk and skid. Remove any material clinging to the bottom of the cell.

6.09 Rotate the cell so that its polarity agrees with that marked on the floor, then position the cell over the marked area and lower carefully into place. Remove the lifter from the cell.

6.10 Tie a length of facing cord on either the positive or the negative terminal post of the cell. Position the cord against the face of the first and second terminal posts of the cell to some point beyond the location of the fast cell to be installed in that row. Stretch and anchor the cord at the proper height to fine up the cells. Each time a cell is to be installed, remove the cord, place the cell, and check the alignment of the terminaf posts.

6.11 Fashion a wooden template of an intercell connector, using the dimensions of the connector as a guide. Carefully measure and drill holes in the template to match the holes in the intercell connector.

6.12 Using the wood template, check the spacing between each pair of adjacent cells.

NOTE: Minor movement of the cell for aligning or for spacing is done only by raising, moving, holding in the required position, and lowering with the lifter on the battery hoist.

6.13 Place the remaining cells in their designated spaces by repeating paragraphs 6.02 to 6.12. Some cells because of height tolerance, are lower or higher than other cells. Such cells should be matched in the row with cells of similar height or should be located at the end of the row. Cell container sides that are slightly out of plumb or that bulge slightly are considered acceptable.

6.14 Allow cells to stand overnight so that the rubber pad on the bottom of each cell gradually conforms to the floor surface.

6.15 Slight floor or cell irregularities may be compensated for by shimming under the bottom pads with thin strips of rubber or plastic. A maximum of 1/8-inch shimming is permitted to compensate for small misalignments. If more

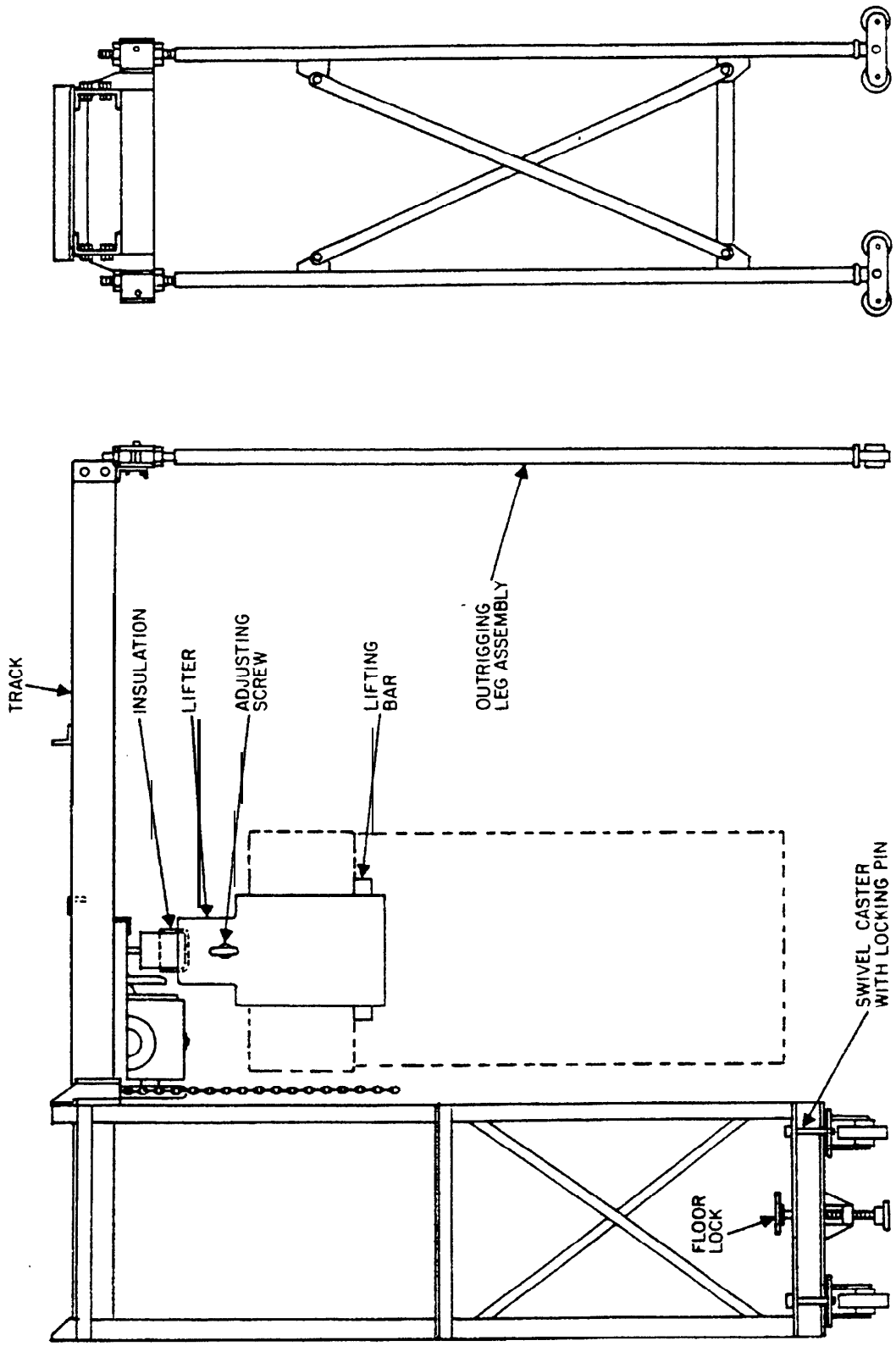


Figure 5. Typical Battery Hoist.

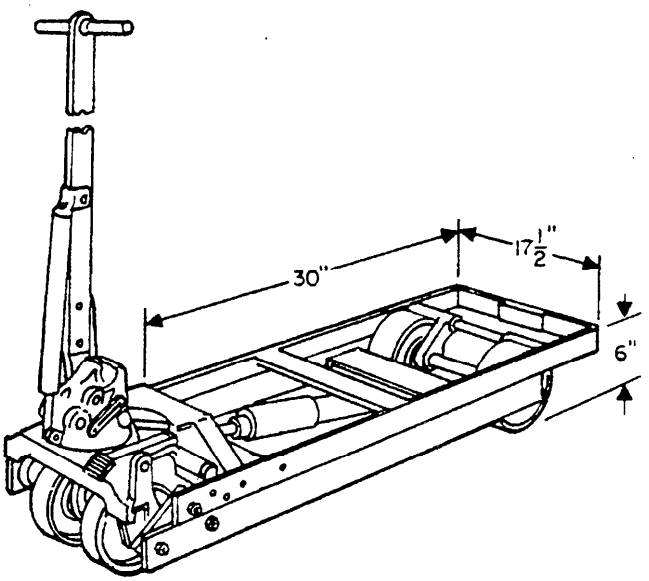


Figure 6. Typical Hand-Lift Trunk Showing Approximate Dimensions for Use Under Skid.

shimming is required because of floor conditions, relevel the floor.

WARNING: Do not rock, pry, skid, or slide the cell to adjust for irregularities; use only the battery hoist for moving the cell.

7. CONNECTING THE CELLS

7.01 To be sure that the polarities are correct, check the polarity of each cell with a voltmeter.

7.02 Clean the cell terminal posts with a soft rag, then wire brush the posts to assure a good contact surface. Clean the contact surface of the intercell connector with a rag only; DO NOT wire brush the connectors because they are lead plated. Apply a thin film of no oxide "A" terminal grease, supplied with the cell, to the cleaned-off surfaces of the terminal posts and intercell connectors.

7.03 Connect the intercell connectors in accordance with the appropriate job drawing. Make sure there is no strain on the cell terminal posts when the bolts are tightened with the 3/8-inch hex-head box wrench. If mechanical strain on the cell terminal posts is apparent, reposition the cell.

NOTE: Tighten the bolts to not more than 50 inch/pounds.

7.04 Wipe off any squeezed-out excess grease from the bolted connections with a dry rag.

7.05 Leave one disconnected intercell connector between the cells until all associated connections are made. Do not boit this connector in place until proper tests have been performed to ensure that all connections are properly fastened and that there are no shorts or grounds.

7.06 Install vent cylinders, filling funnels, thermometers, etc in accordance with the manufacturer's instructions.

7.07 install the hydrometer holder as indicated in the appropriate engineertng specification.