ASSEMBLY INSTRUCTIONS
FOR FORCED DRAFT, GEAR DRIVE UNITS

Customer is to provide the foundation or supports, with anchor or setting bolts. Information for base plates and bolt requirements is shown on the General Arrangement drawings .

1. Review General Arrangement drawings, Assembly drawings, and Parts List.
2. Identify and sort materials per assemblies.
3. An assembly crew of 4 to 5 is recommended for substructure and walkways. For units shipped unassembled, a second crew of 4 to 5 is recommended for tube bundles, plenums, mechanicals, louvers, and steam coils, if required.
4. Substructure can be erected as the basic unit is being assembled.

A. SUBSTRUCTURE

1. Place columns on anchor bolts or support beams (loose bolted). Shims, by others, may be required for proper elevation.
2. Install cross bracing (loose bolted).
3. Tighten all bolts on substructure.
4. Install assembled unit to substructure. See sections B through E for unit assembly, if required. **For units shipped assembled, these sections are included for reference only.**
5. Install knee braces to columns and side panels.
6. Attach walkway supports and brackets, if required. See Parts List and Assembly drawings.
7. Attach walkway stringers, handrails, and ladders, if required. See Parts List and Assembly drawings.

B. PLENUM ASSEMBLY

1. Set all bottom panels on a level surface. Install vertical stiffeners, panel supports, and horizontal stiffeners, if required, to side, end, and center panels. Attach side panels, center panels, and tension angles, if required, to bottom panels. Tighten all bolts. See Fig. B1.

2. Install stub columns to both ends of side panels. Lift at each end of side panels, using lifting eyes by others. Install end panels to bottom panels and columns. Install plan bracing, square off the unit, and tighten bolts. See Fig. B2.

3. For assembly completion, lift the unit approximately 5 ft. (1.5 m) with spacer supports by others.

4. Assemble four pieces of fan ring. Assemble fan ring to bottom panels. Attach air seals to bottom panels. See Fig. B3.

C. GEAR DRIVE INSTALLATION

1. Place leveling support plate on machinery mount. Bolt gear and motor through leveling support plate, and shims if required, onto machinery mount. See Fig. C1.

2. Apply grease ("NEVER-SEEZ" or equivalent) to motor and gear shafts.

3. Attach coupling, with keys, and align shafts per coupling brochure. See Fig. C2.

4. Attach strut support and end supports to machinery mount. See Fig. C3.

5. Attach machinery mount hangers to machinery mount. Attach machinery mount to fan ring and side panels. Attach machinery mount hanger braces to hangers, if provided. See Fig. C4.

6. Install fan ring struts. See Fig. C5.

D. FAN INSTALLATION

1. Install fan assembly to shaft. See fan brochure.

2. Set radial clearance between the fan blade tip and the fan ring per chart below. See fan brochure for adjustment procedure.

Fan Diameter, D	D 10 ft. (D 3.05 m)	10 ft. < D < 20 ft. (3.05 m < D < 6.1 m)	D 20 ft. (D 6.1 m)
Min. Clearance	3/8" (10 mm)	3/8" (10 mm)	3/8" (10 mm)
Max. Clearance	5/8" (16 mm)	3/4" (19 mm)	1" (25 mm)

3. Set fan blade pitch per the FIN-FAN® specification sheet. See fan brochure for blade pitch adjustment procedure.

4. Install AV accessory support, if required. See "FAN ASSEMBLY" section of the Parts List for air line fittings and couplings.

5. Install vibration switch, if required. See vibration switch brochure.

6. Install coupling guard and fan guards. See Fig. D1.

7. Install inlet bell. See Fig. D2 and "INLET BELL INSTALLATION FOR FORCED DRAFT UNITS".

E. TUBE BUNDLE FRAME INSTALLATION

1. Attach louvers, if required, to tube bundle frame.

2. Attach steam coil and/or tube bundle frame to side and end panels.

3. Attach steam coil and/or tube bundle frame to center panels, if required.

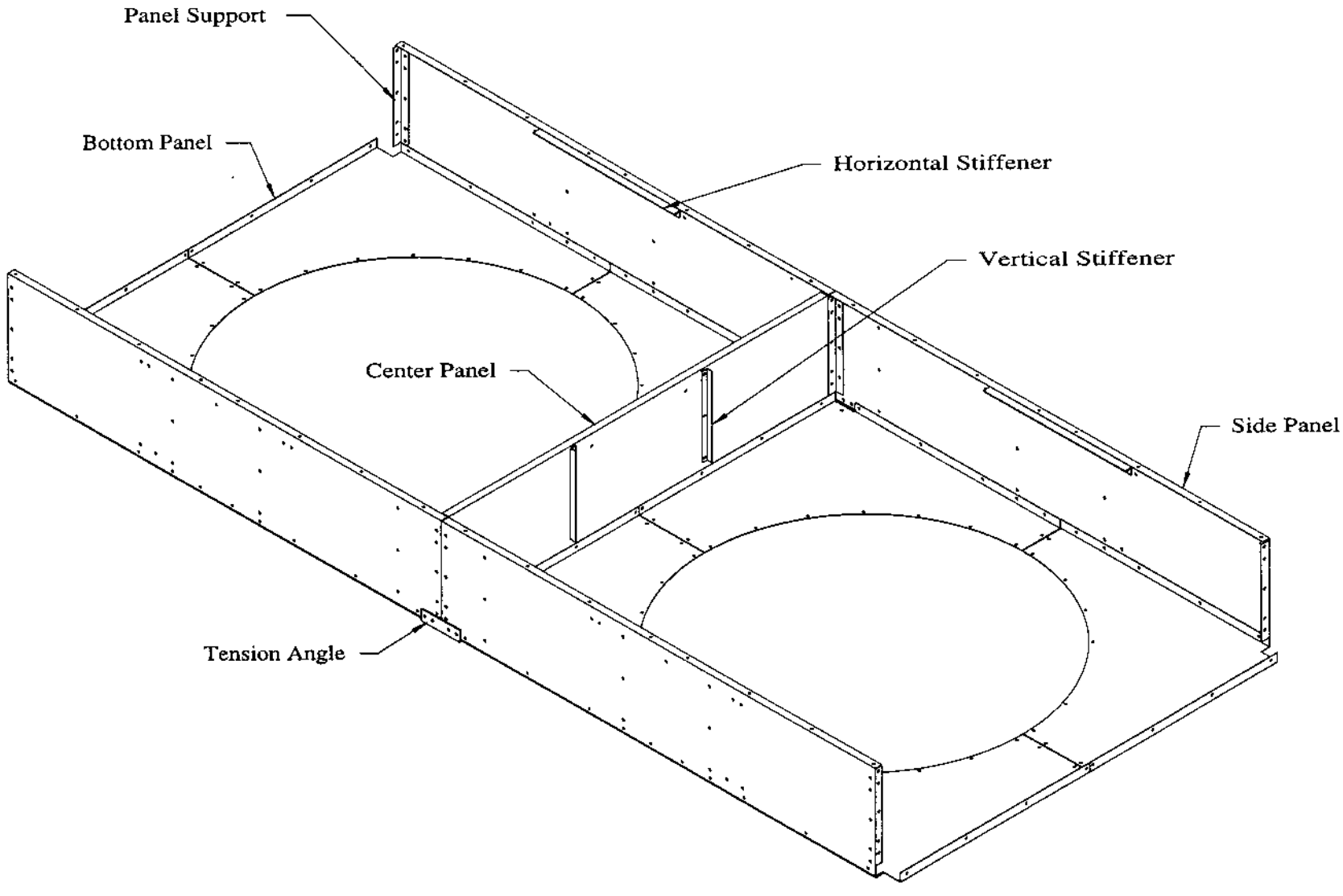

FIG. B1 - BOTTOM, CENTER, AND SIDE PANELS

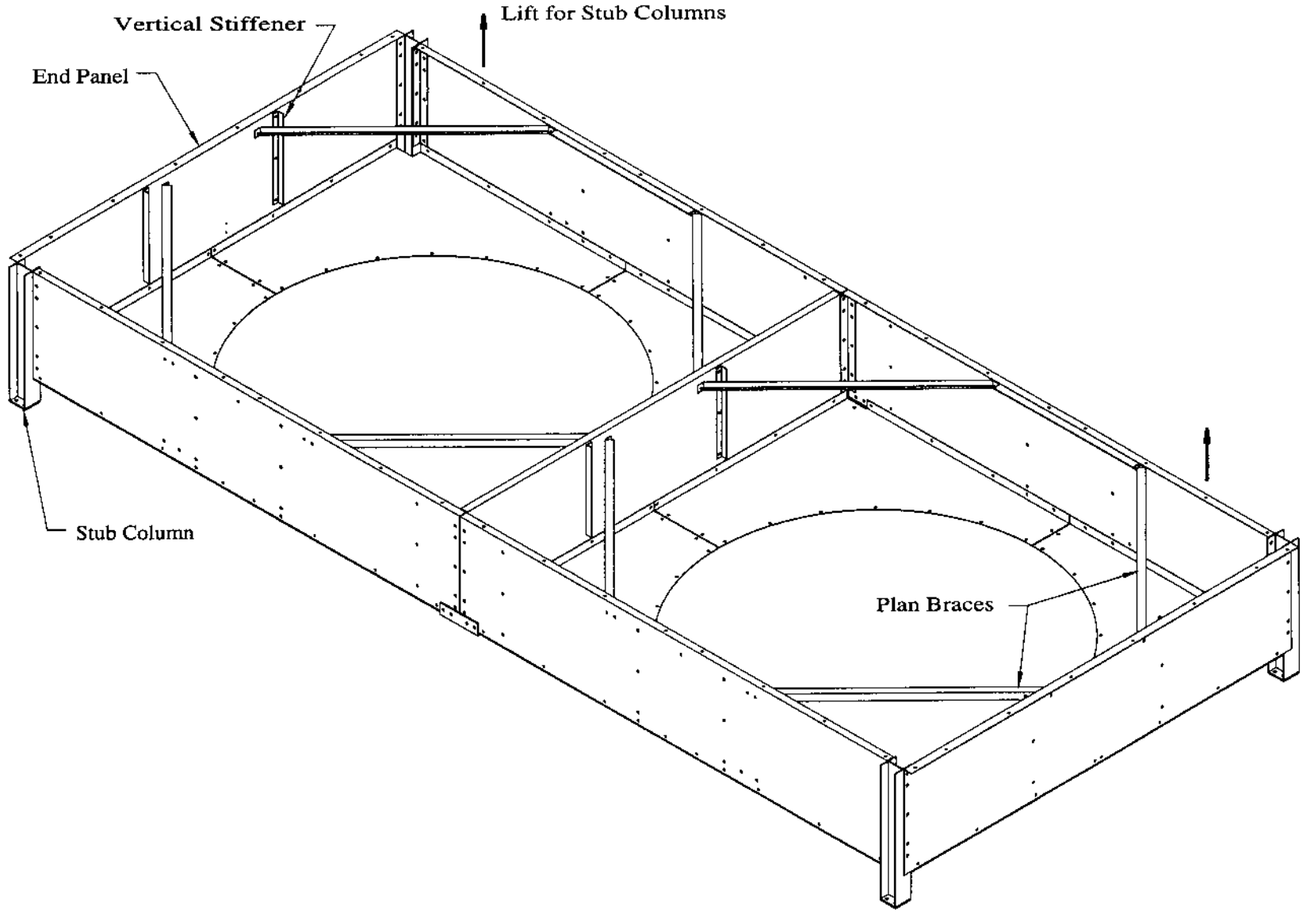

FIG. B2 - STUB COLUMNS, END PANELS, AND PLAN BRACES

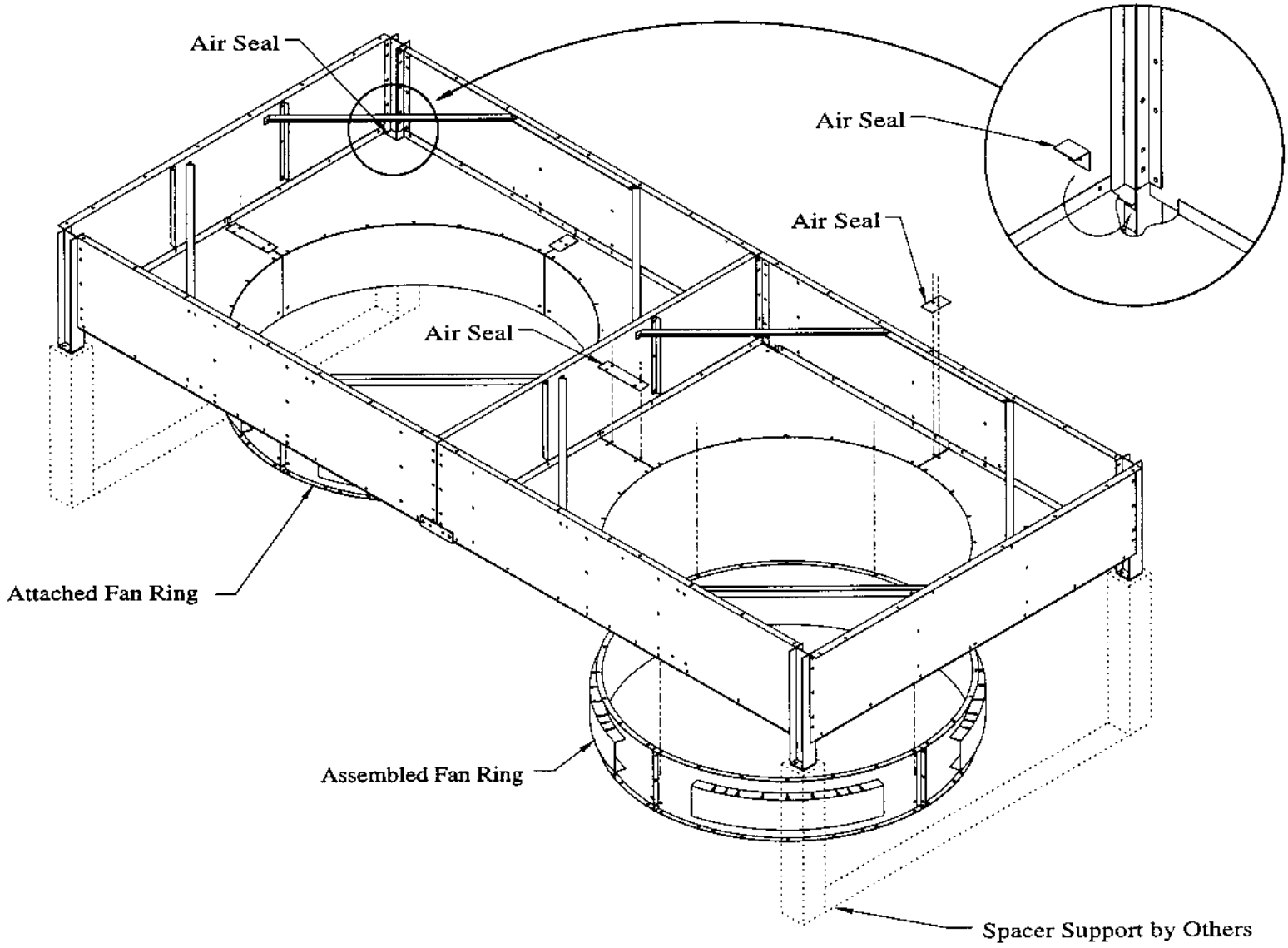

FIG. B3 - FAN RINGS AND AIR SEALS

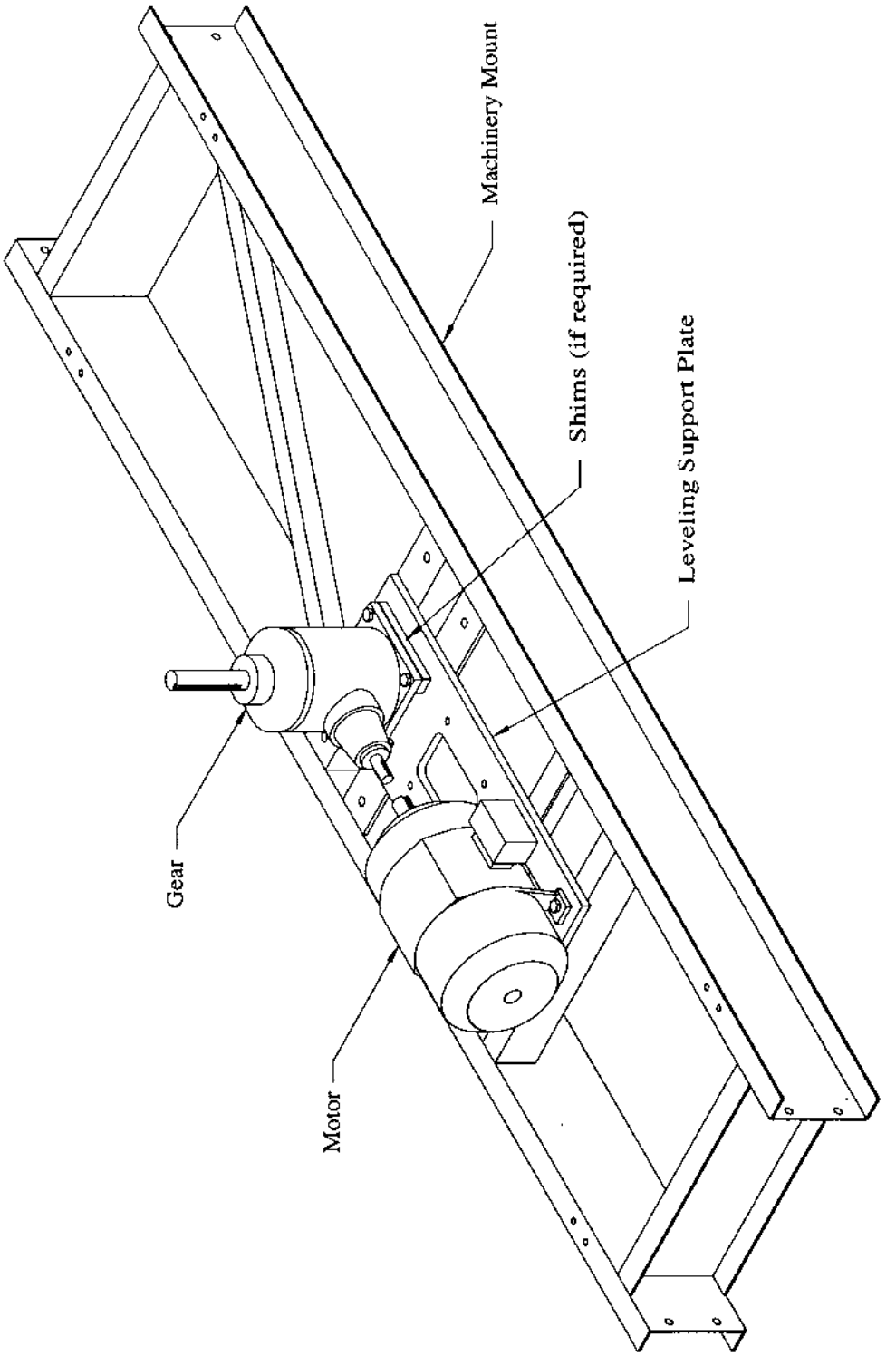

FIG. C1 - GEAR AND MOTOR

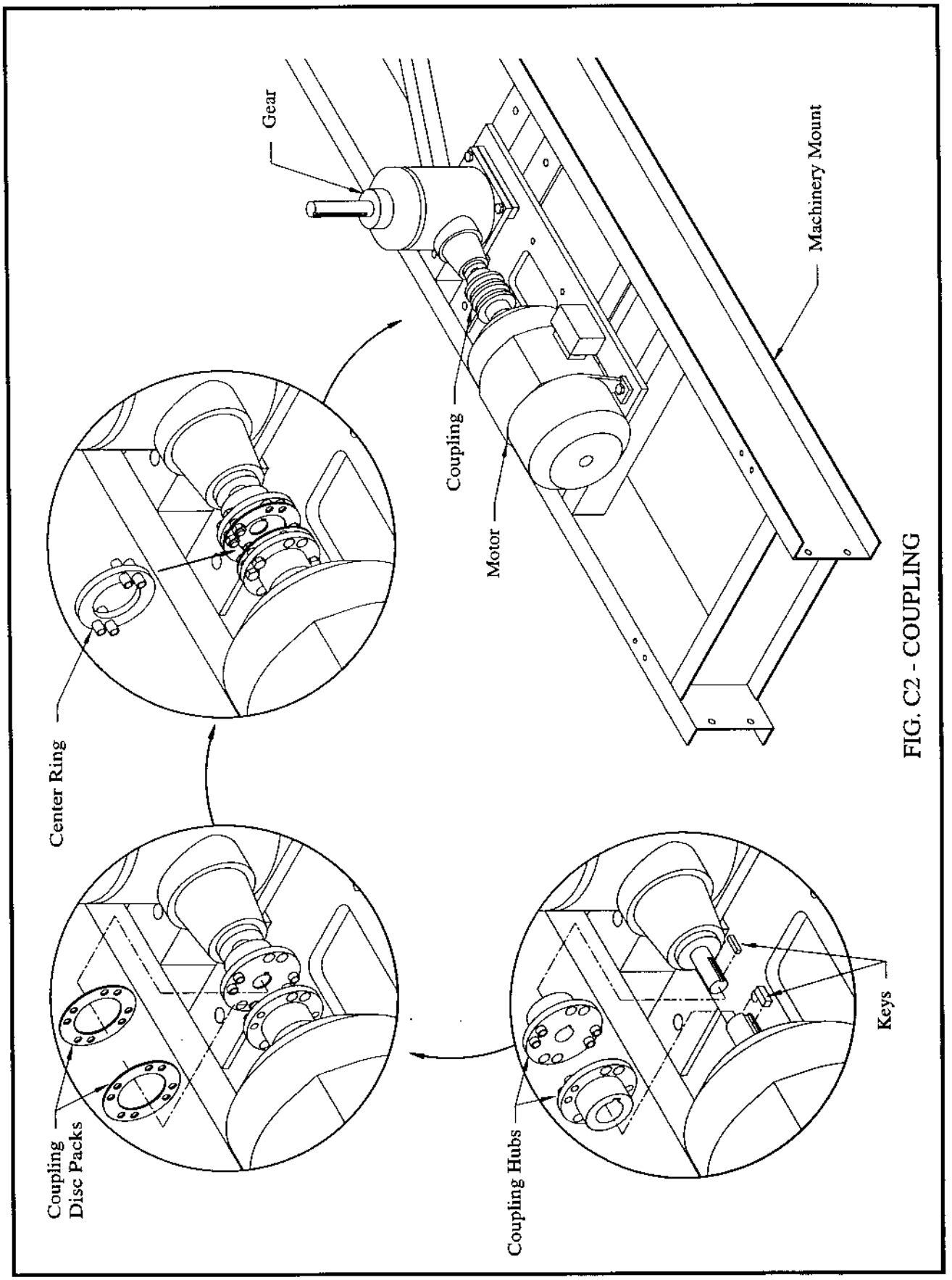

FIG. C2 - COUPLING

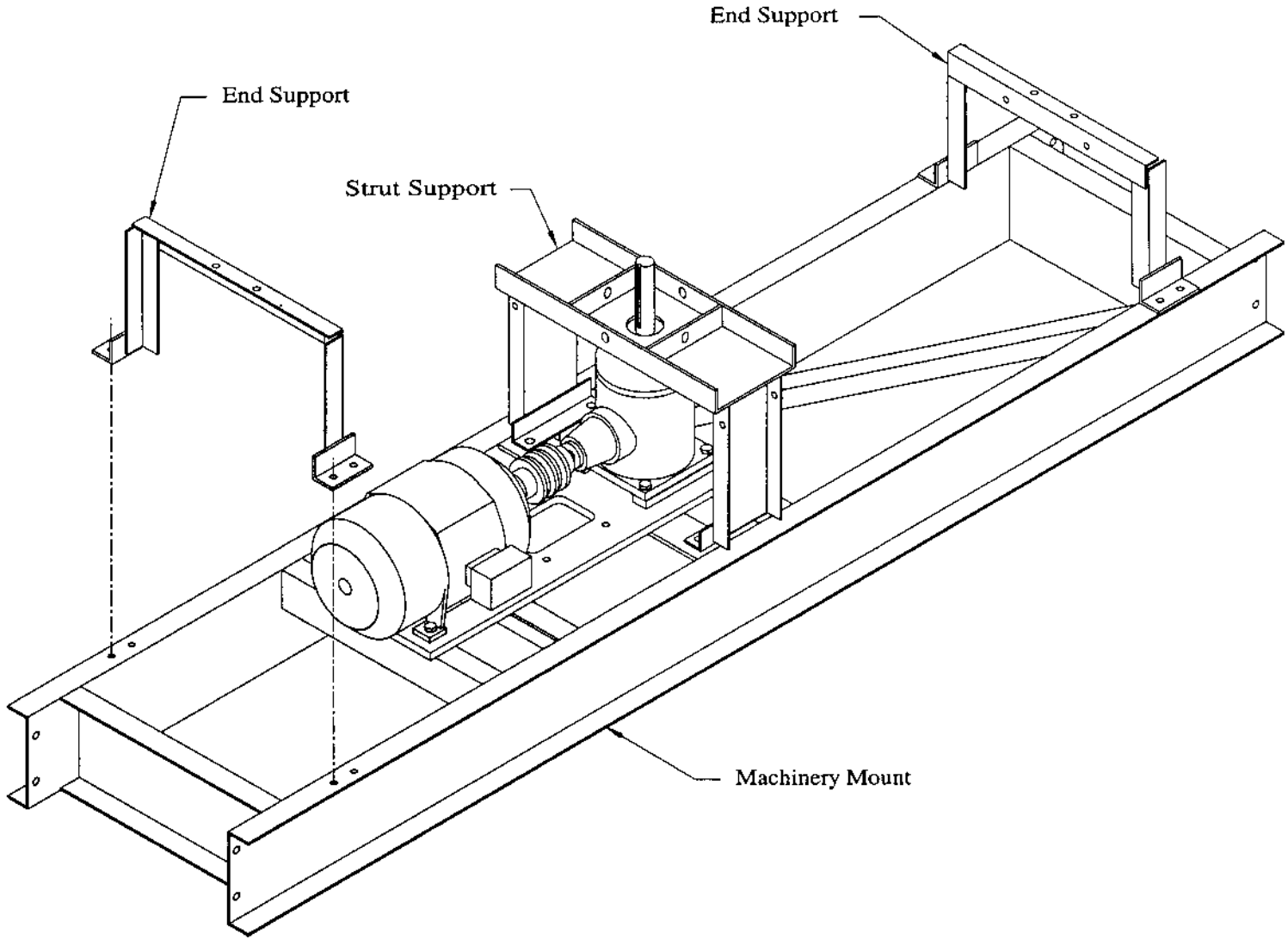

FIG. C3 - STRUT SUPPORT AND END SUPPORTS

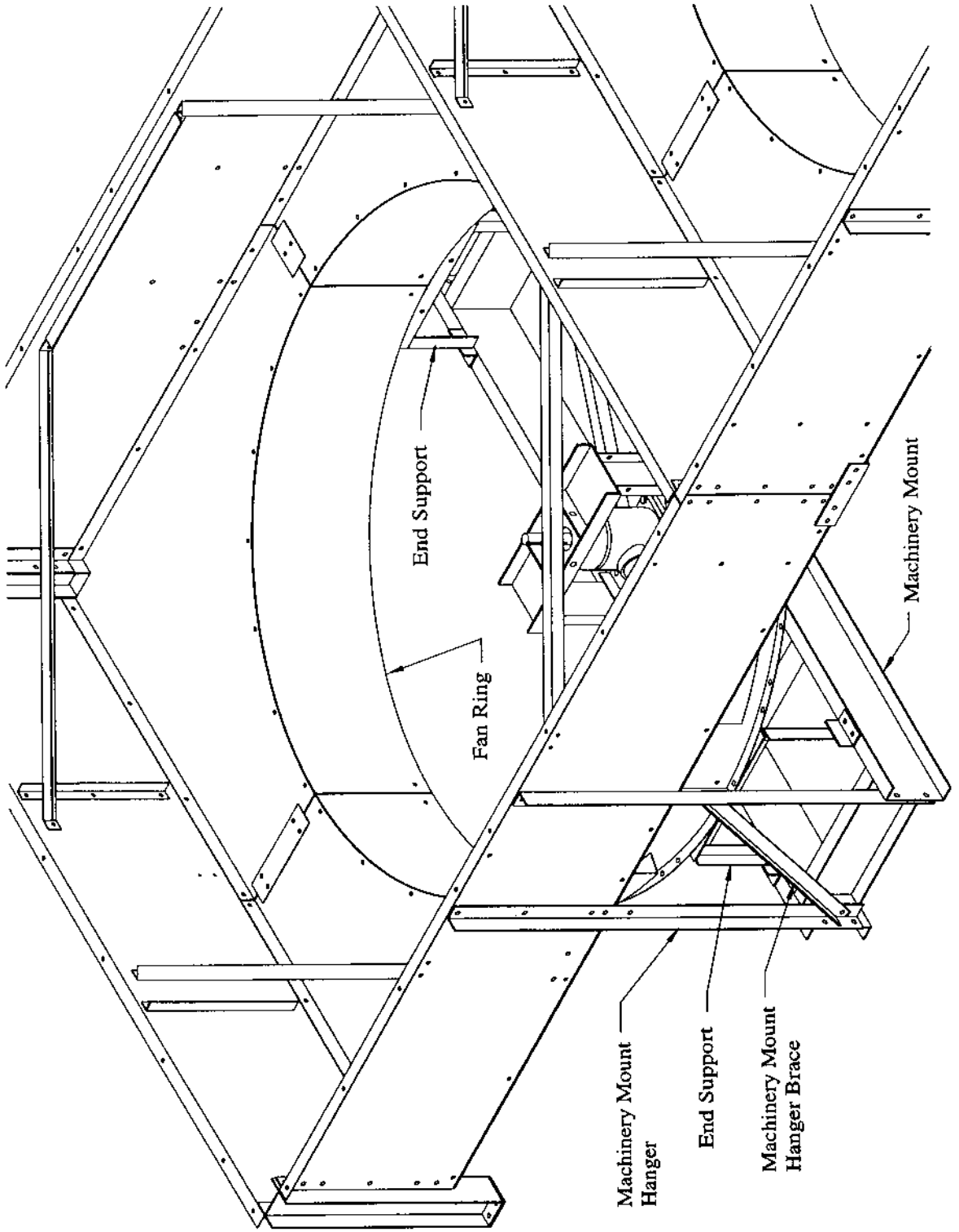

FIG. C4 - MACHINERY MOUNT

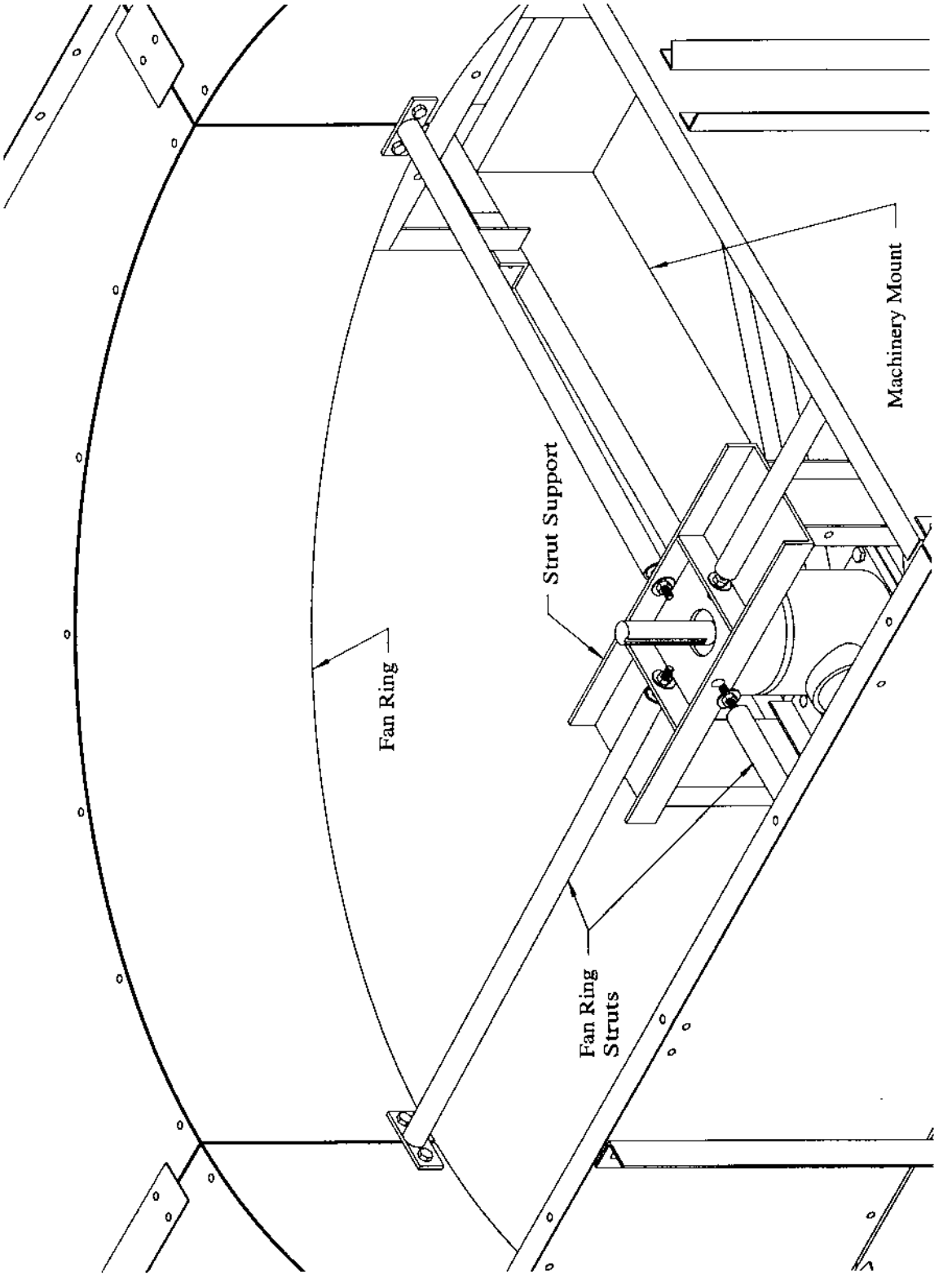

FIG. C5 - FAN RING STRUTS

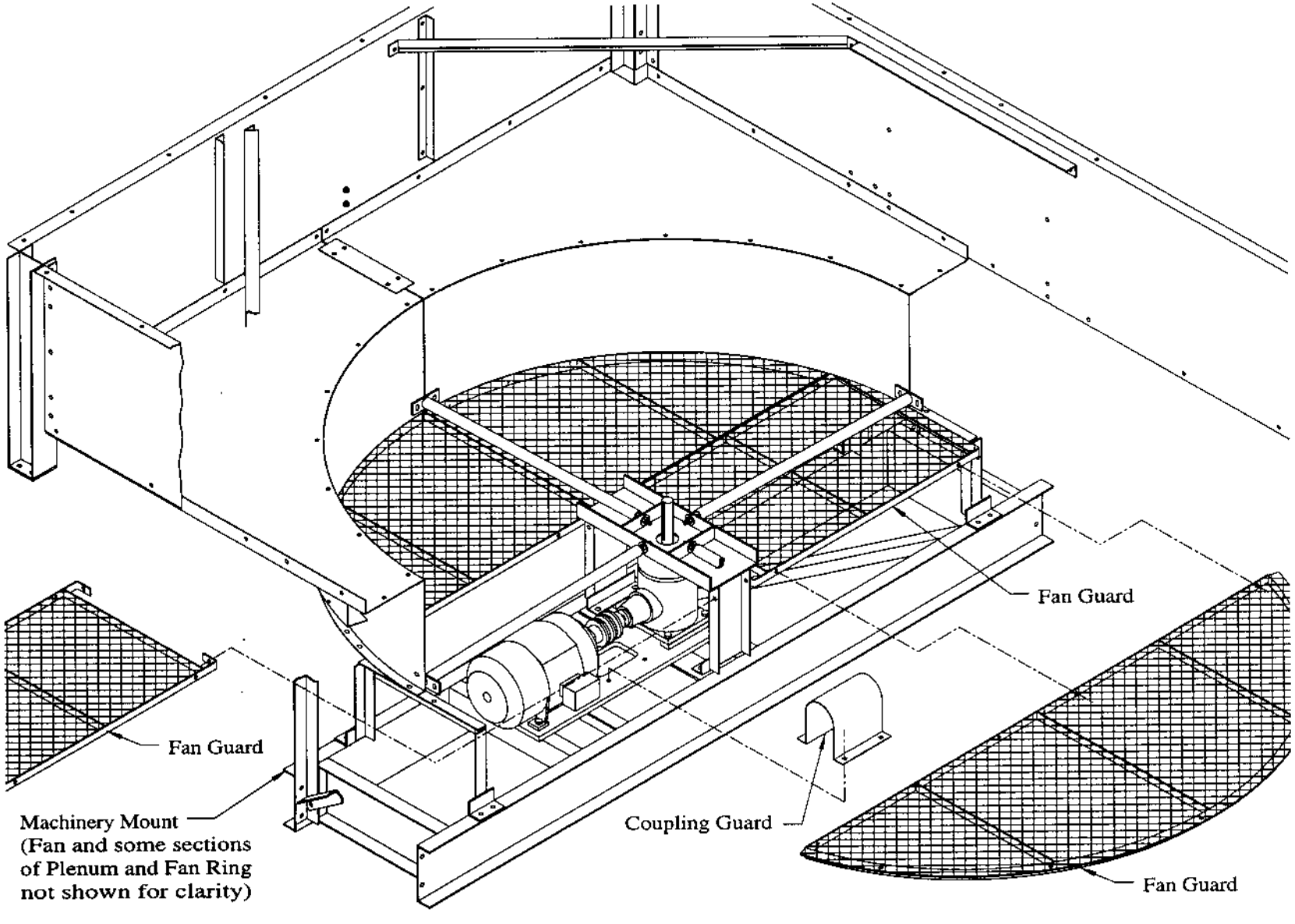

FIG. D1 - COUPLING GUARD AND FAN GUARDS

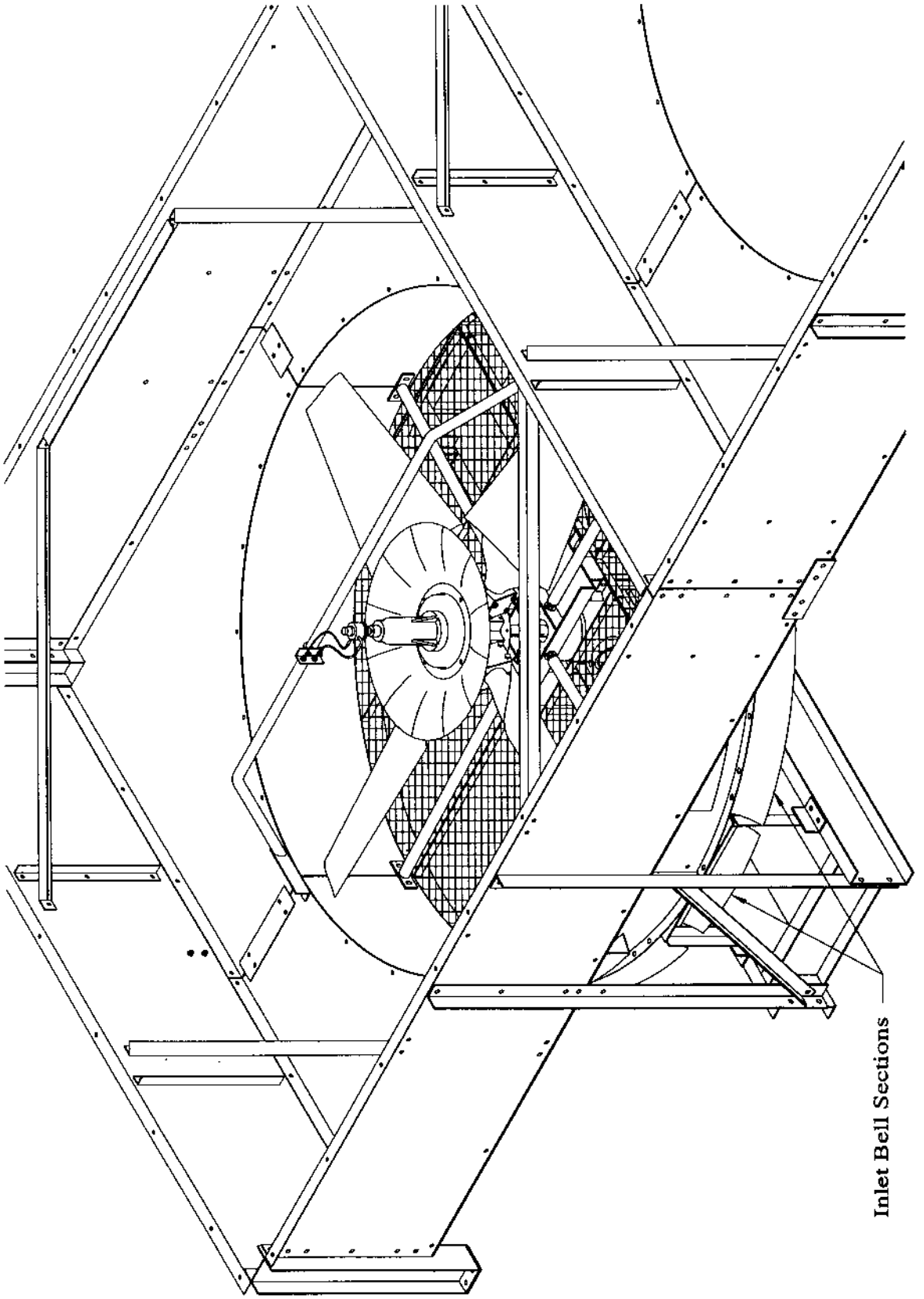

FIG. D2 - INLET BELL