

ASSEMBLY INSTRUCTIONS FOR INDUCED DRAFT, BELT 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, hoods, 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 tube bundle frames.
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. HOOD ASSEMBLY

1. Prop up hood end panels with 3 ft. (0.9 m) wood timbers, or other support. Loose bolt corner splice angles to end panels. Loose bolt hood side panels to corner splice angles. Attach vertical stiffeners to end and side panels. These stiffeners may be bolted tight at this time. Loose bolt hood top panels to side and end panels. Leave out bolts which are also attached through fan ring sections. See Fig. B1.
2. Loose bolt fan ring quarters to each other and then loose bolt fan ring to top panels. See Fig. B2.
3. Square off the hood and tighten all bolts.
4. Install inlet bell. See Fig. B3 and "INLET BELL INSTALLATION FOR INDUCED DRAFT UNITS".
5. Attach louvers, if required, to tube bundle frame.
6. Place tube bundle frame, with louvers and steam coil, if required, on a 4 ft. (1.2 m) spacer support. Attach machinery mount to tube bundle frame. Attach hood assembly to tube bundle frame assembly. Lift hood using eyebolts or hooks through the fan ring stiffeners or through the top flange holes at splice bars. Remove shaft-thru air seals, if required, for installation of fan mount. See Fig. B4.
7. Lift fan mount through top of fan ring and lower down onto machinery mount. Reinstall shaft-thru air seals, if required, after fan mount is bolted to machinery mount. Install fan ring struts. See Fig. B5.

C. SHAFT INSTALLATION

1. Attach bottom bearing, with grease connection facing the machinery mount side channel to which remote grease fittings will be installed. Install fan shaft, tapered end up, through the top of fan mount to the bottom bearing. Fan shaft shoulder should rest on bearing race. See Fig. C1.
2. Attach top bearing, with grease connection facing the machinery mount side channel to which remote grease fittings will be installed. Use full dog point set screw in keyway. Make sure set screw does not contact bottom of keyway by backing screw off one full turn after screw touches bottom of keyway. DO NOT tighten any set screws to shaft. Install flinger by tapping with wood to prevent damage to flinger. See Fig. C2.
3. Align shaft, tighten bearing bolts, and tighten bottom bearing set screws.
4. Install grease lines to fan shaft bearings. See Fig. C3 and "DRIVE ASSEMBLY" section of Parts List for grease line fittings and couplings. Grease bearings per "LUBRICATION INSTRUCTIONS FOR FAN SHAFT BEARINGS".

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 fan guards, if required.

E. BELT DRIVE INSTALLATION

1. Attach motor to motor mount. Attach motor mount assembly to machinery mount. Attach motor mount belt guard to motor mount. See Fig. E1 and "MOTOR INSTALLATION AND REMOVAL PROCEDURE".
2. Apply grease ("NEVER-SEEZ" or equivalent) to motor shaft and lower end of fan shaft. Care should be taken to prevent grease from contacting bushing tapered surfaces or bushing bolts. These surfaces should remain ungreased for proper sprocket seating.
3. Install both sprocket bushings (or sheave bushings, as required), with keys, onto shafts and tighten set screws over keys. See Fig. E2. See "DRIVE ASSEMBLY" section of the Parts List to set vertical location of large sprocket bushing.
4. Install small sprocket on motor shaft and hand tighten bushing bolts tight enough to hold in place. Install large sprocket on fan shaft and hold firmly against bushing taper while tightening bushing bolts.
5. Place a straight edge across bottom face of both sprockets and align so that they are parallel with each other $\pm 1/8"$ (3 mm). Motor may need to be adjusted on the motor mount for alignment. Shimming motor feet may also be needed. Tighten bushing bolts per manufacturer's recommendation and recheck for alignment.

6. Install belts and adjust for tension. See Fig. E3 and "BELT INSTALLATION AND TENSIONING INSTRUCTIONS".
7. Install vibration switch, if required. See vibration switch brochure.
8. Install belt guard. See Fig. E4.

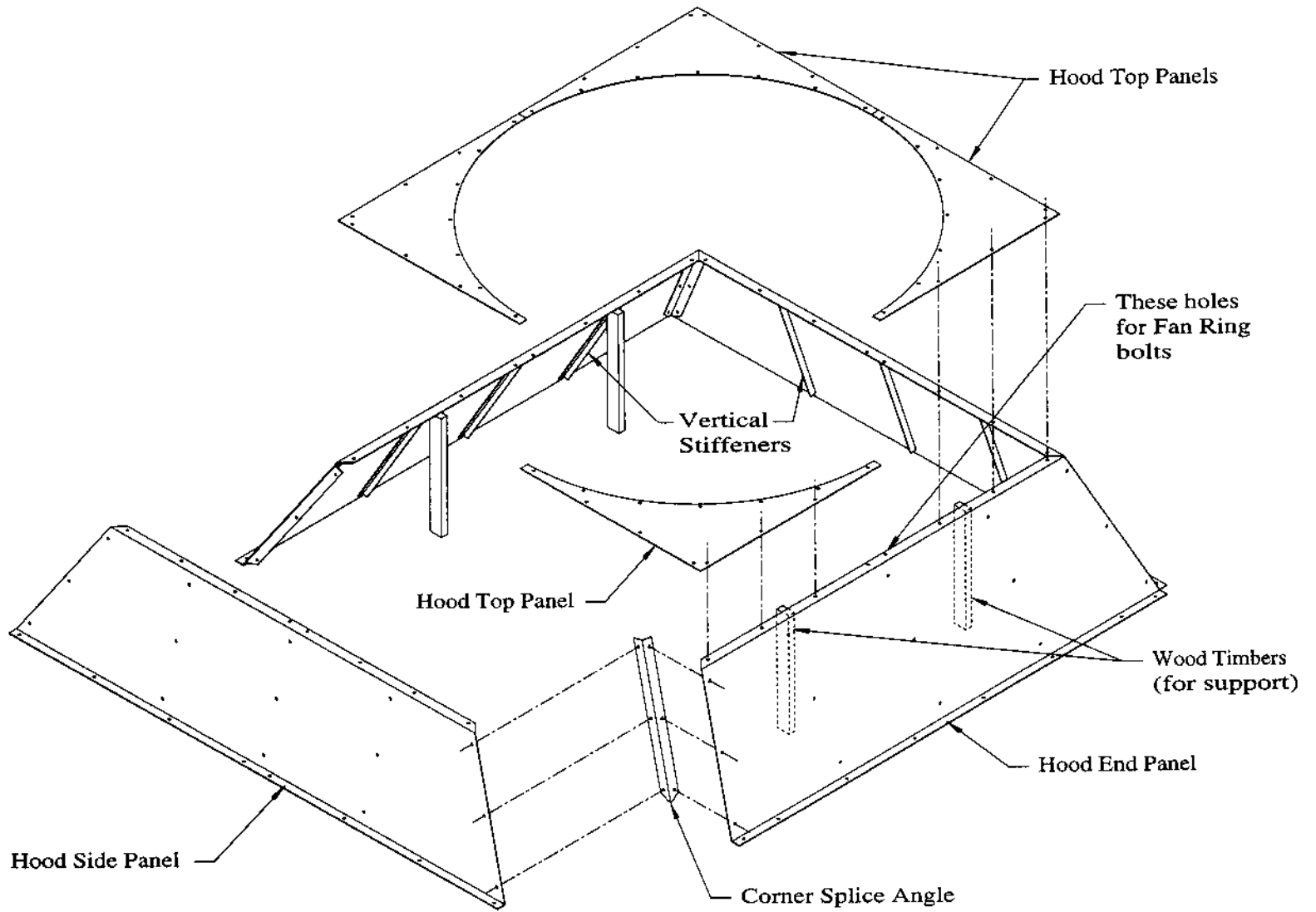


FIG. B1 - END, SIDE, AND TOP PANELS

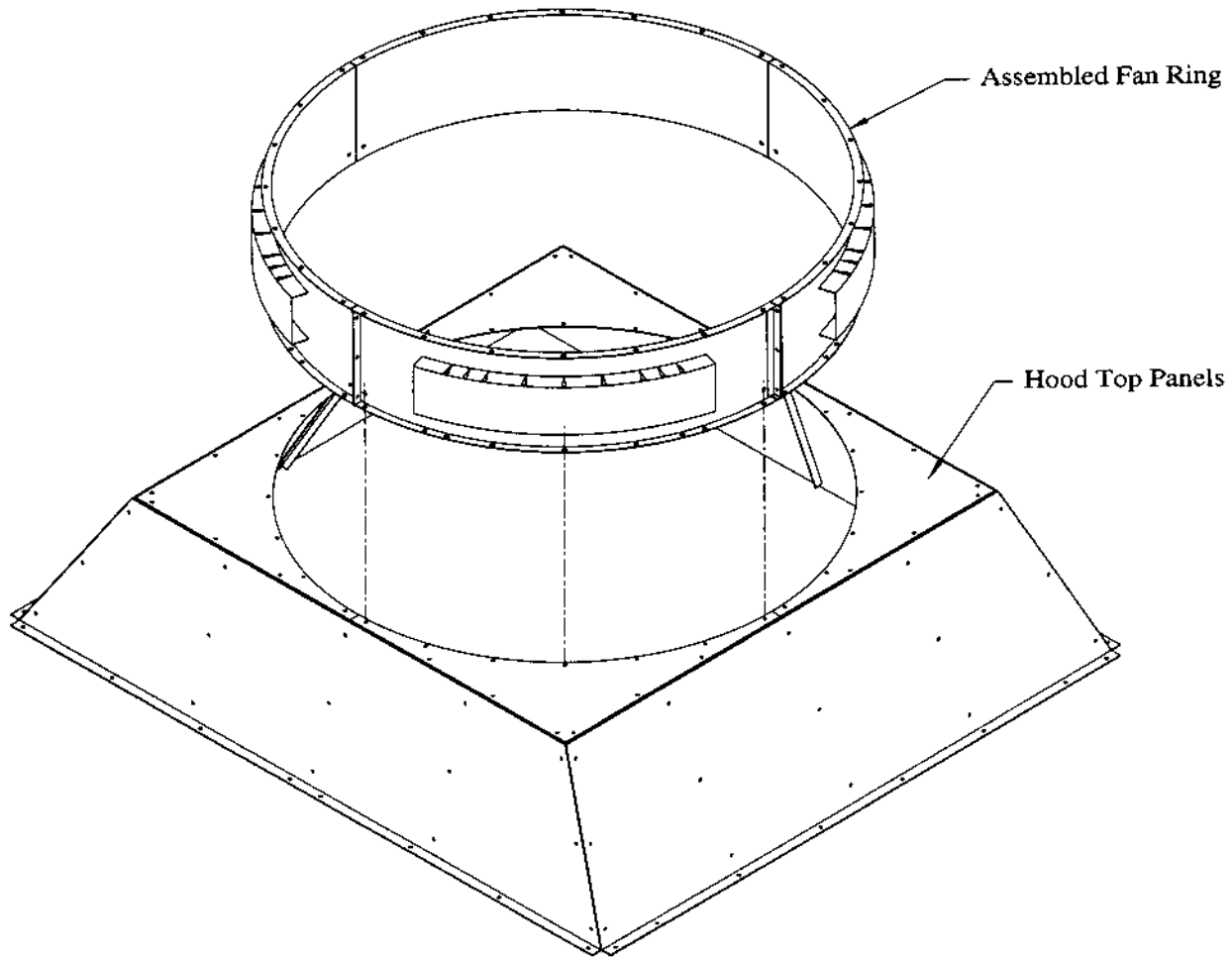
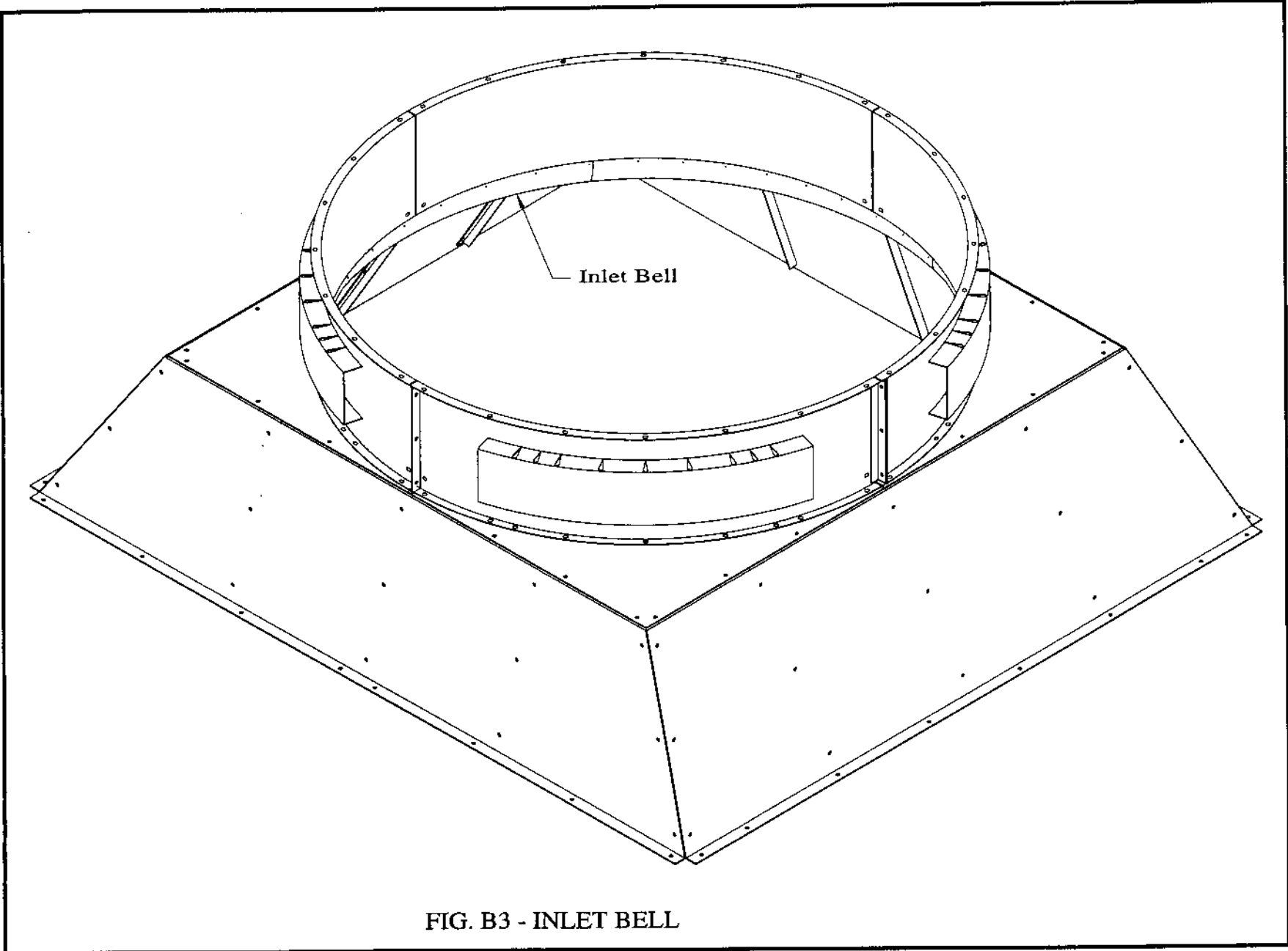


FIG. B2 - FAN RING



Inlet Bell

FIG. B3 - INLET BELL

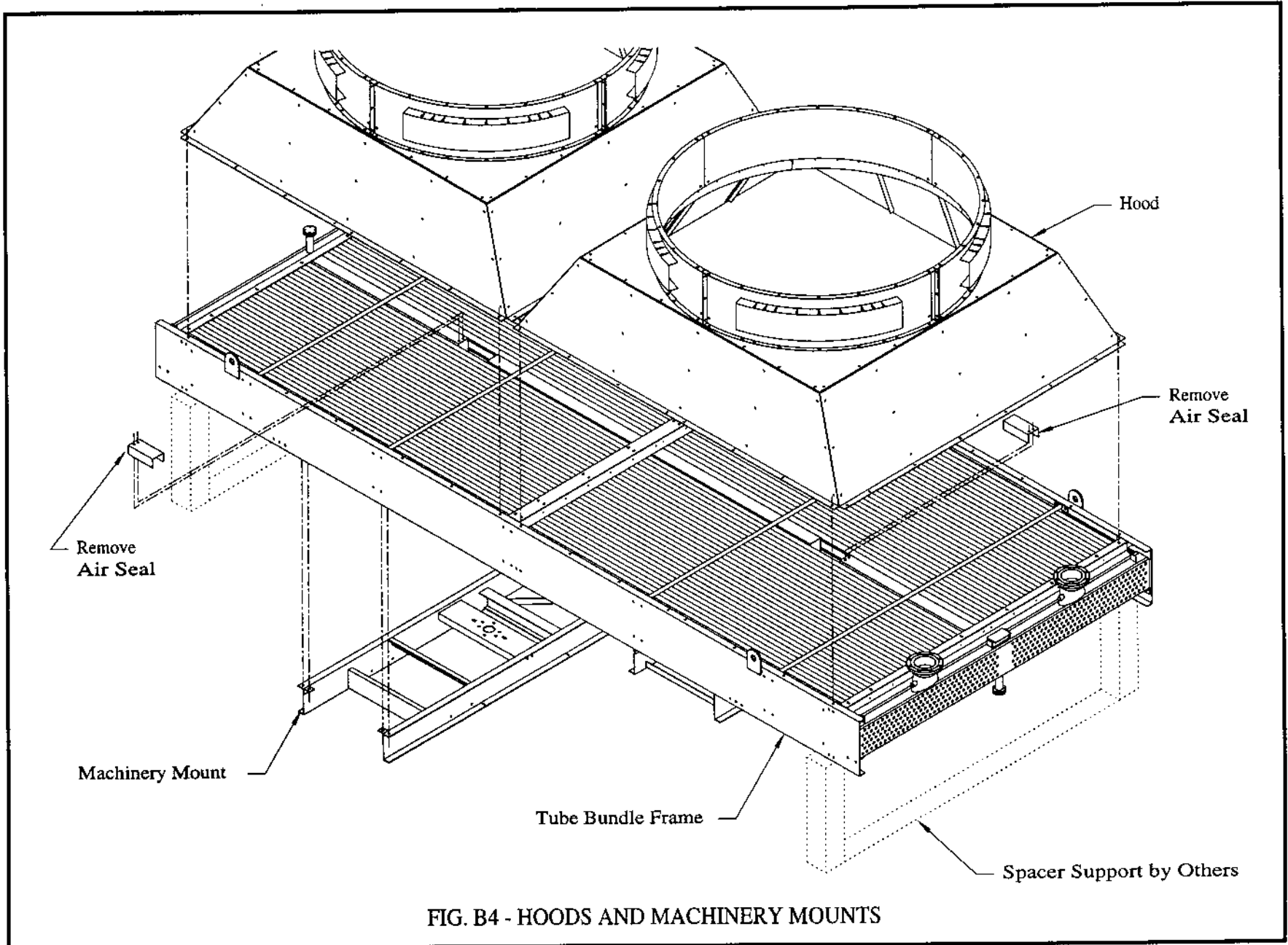
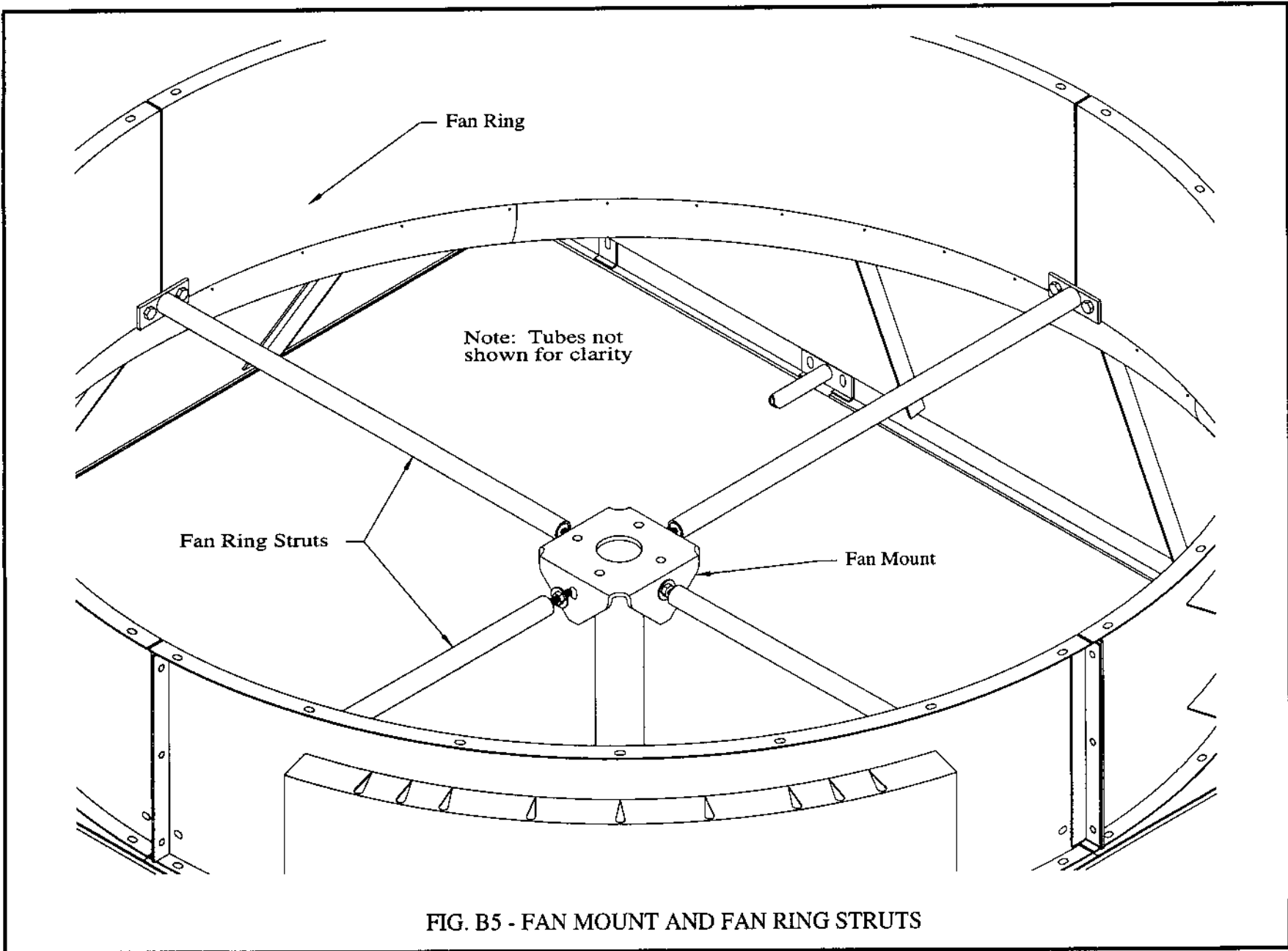


FIG. B4 - HOODS AND MACHINERY MOUNTS



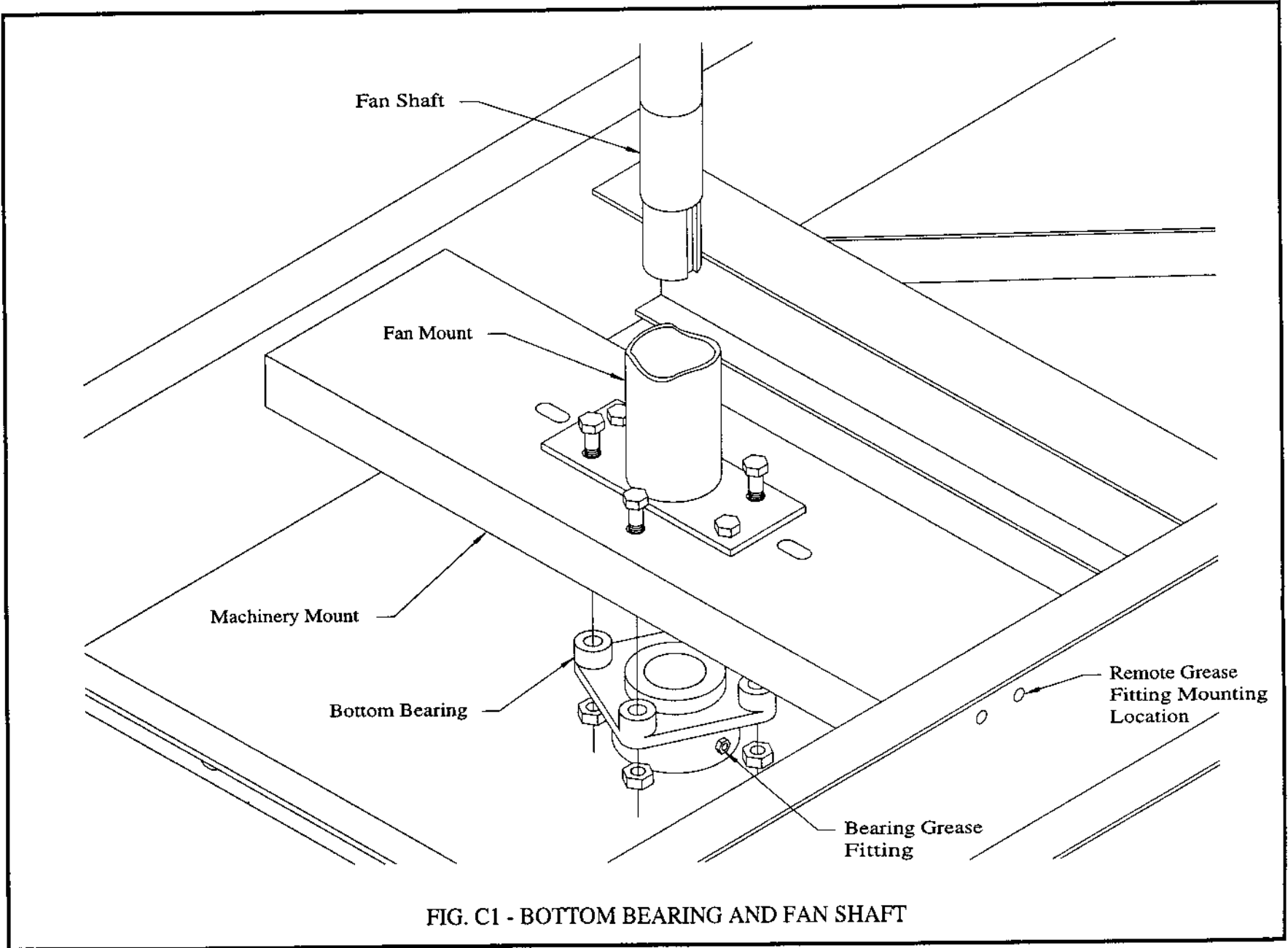


FIG. C1 - BOTTOM BEARING AND FAN SHAFT

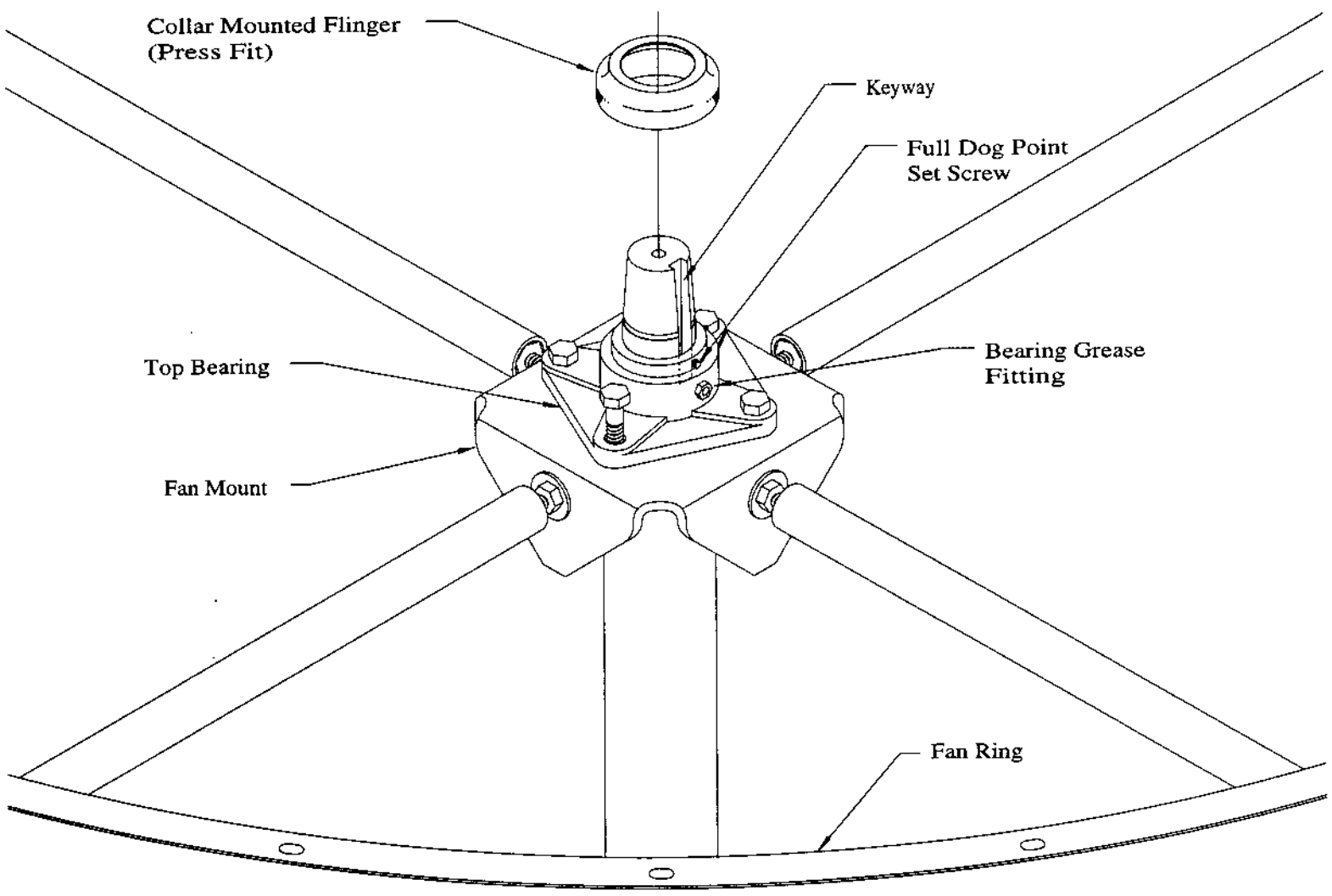


FIG. C2 - TOP BEARING

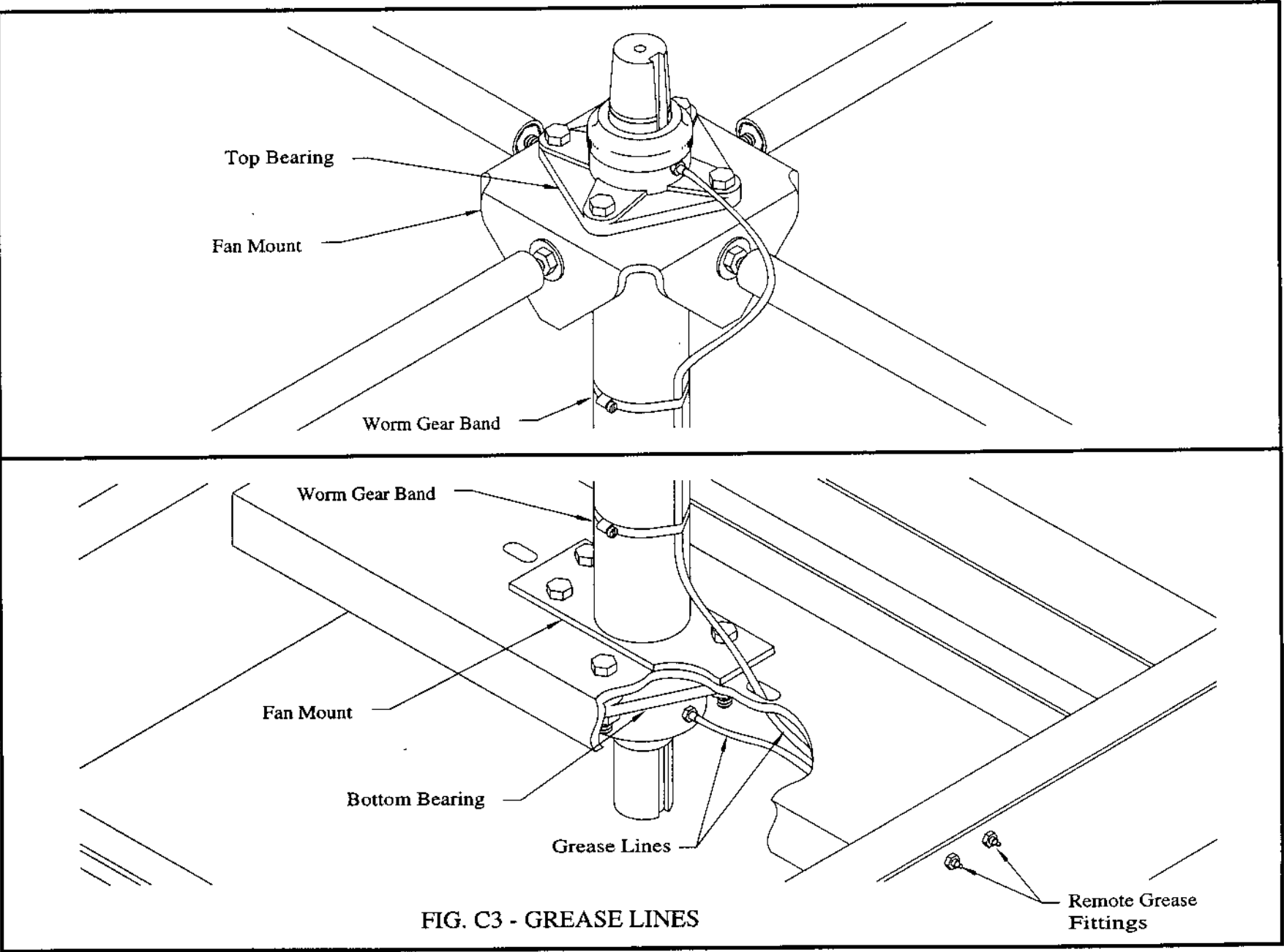


FIG. C3 - GREASE LINES

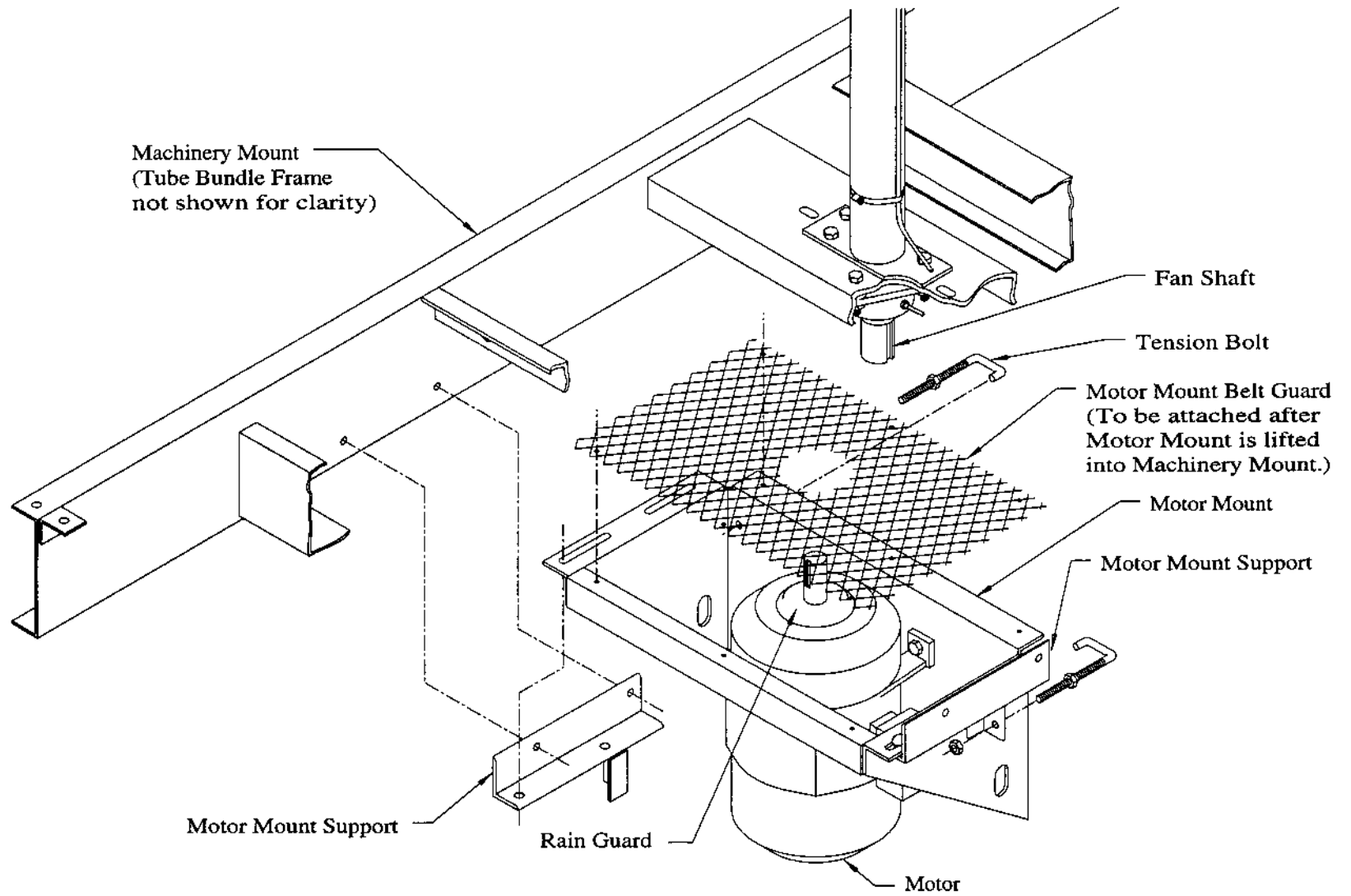


FIG. E1 - MOTOR MOUNT

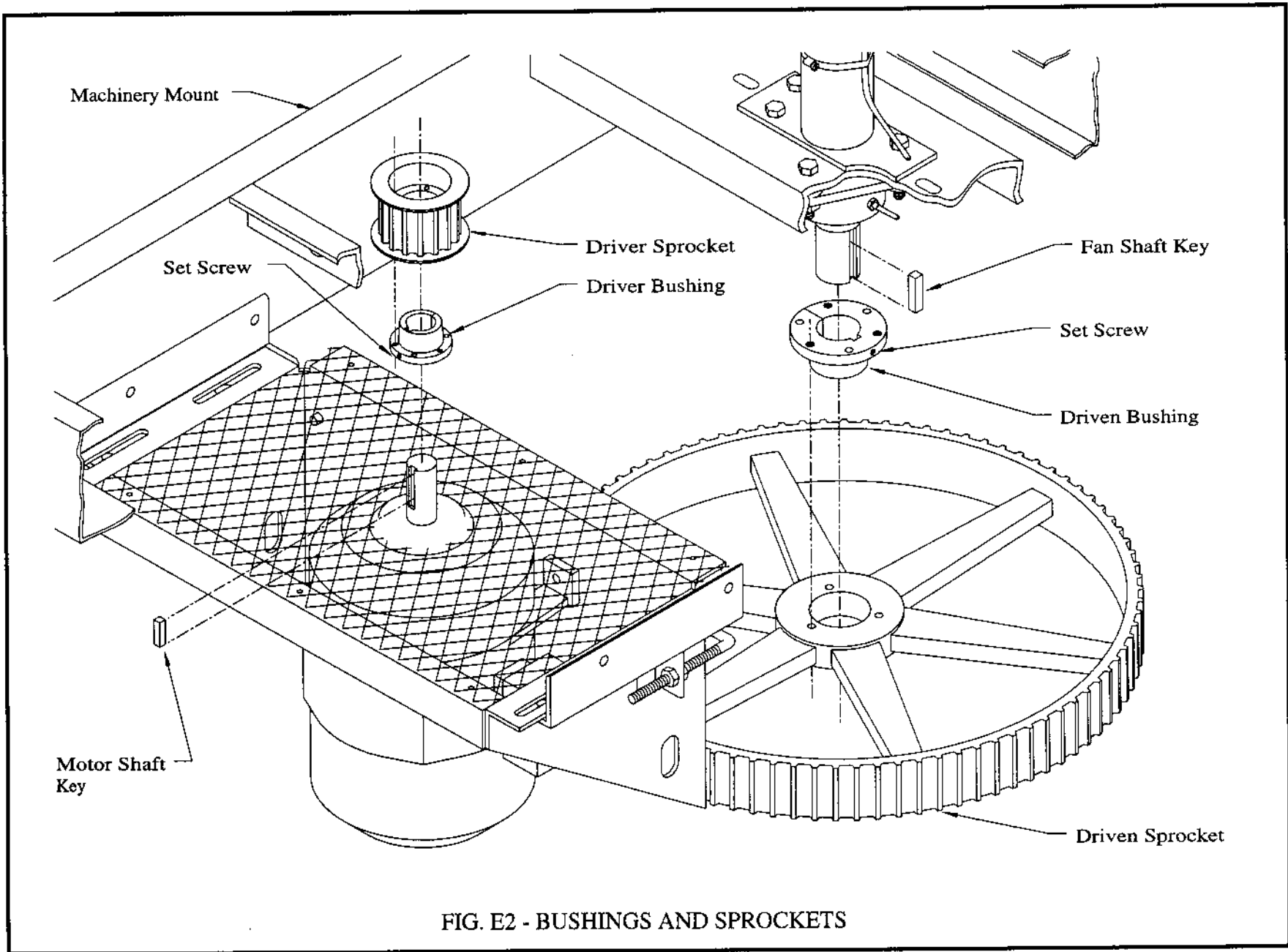
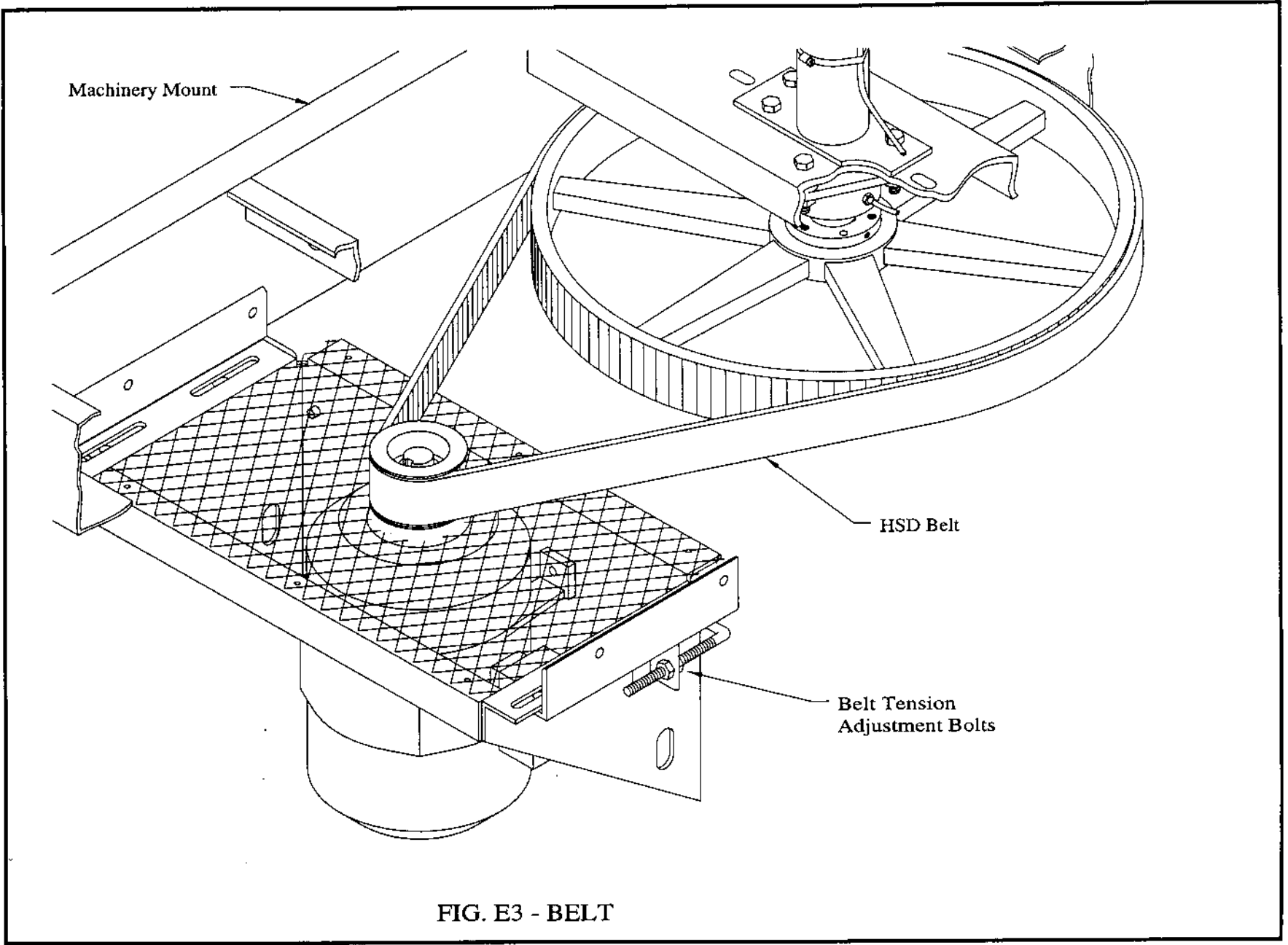


FIG. E2 - BUSHINGS AND SPROCKETS



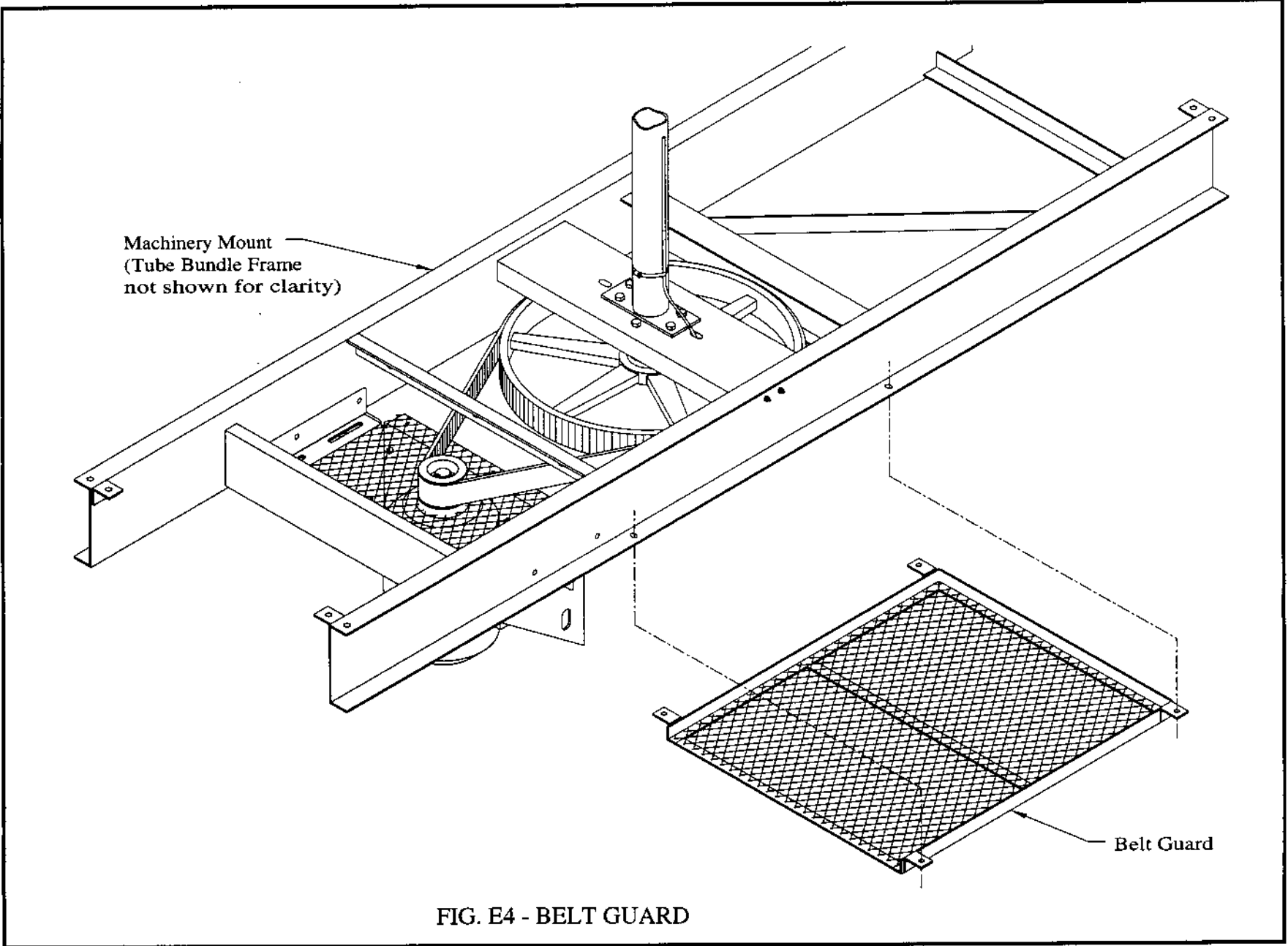


FIG. E4 - BELT GUARD