

APPENDIX II TO SUBPART D OF PART 18  
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10	Typical slip-fit angle-type stuffing box and packing gland lead entrance and typical plug for spare lead entrance hole.

Figure 1  
TYPICAL LAYOUT DRAWING OF A MACHINE

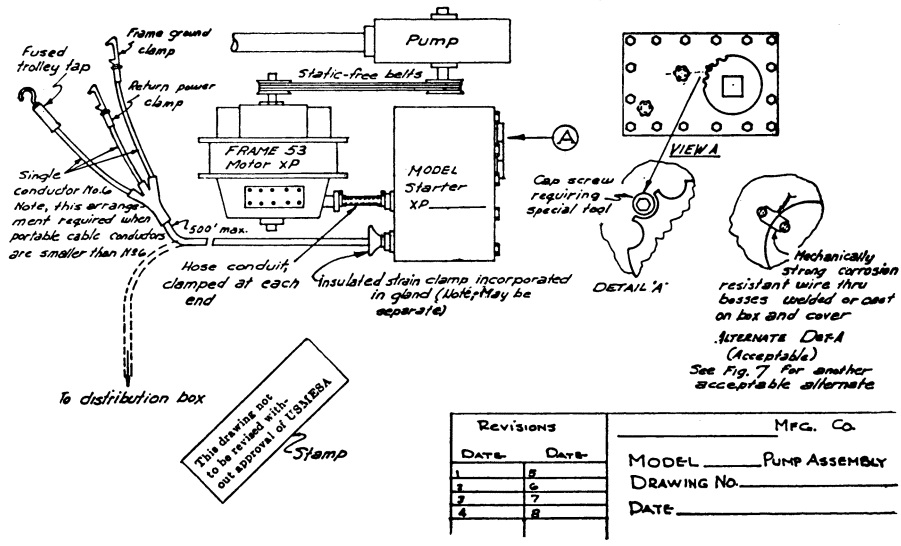


FIGURE 2—SAMPLE BILL OF MATERIAL

B. of M. No. \_\_\_\_\_  
Date \_\_\_\_\_

Revision \_\_\_\_\_  
Date \_\_\_\_\_  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_  
5. \_\_\_\_\_

Bill of Material (Electrical)

(Manufacturing Company)  
Model: \_\_\_\_\_  
(Unit Name)  
Approval 2G- \_\_\_\_\_

Motor: \_\_\_\_\_  
 (Manufacturing Company)

Frame \_\_\_\_\_  
 Hp., \_\_\_\_\_ Volts, \_\_\_\_\_ Ph.,  
 \_\_\_\_\_ Cy., \_\_\_\_\_ R.P.M.  
 X/P \_\_\_\_\_ (Date).  
 \_\_\_\_\_ (Date) Extension.

Starter: \_\_\_\_\_  
 (Manufacturing Company)

Model \_\_\_\_\_  
 Hp., \_\_\_\_\_ Volts.  
 X/P \_\_\_\_\_ (Date)  
 \_\_\_\_\_ Extension.  
 (Date)

Cable—Motor to Starter:  
 Cond. No. \_\_\_\_\_, \_\_\_\_\_"  
 O.D., \_\_\_\_\_' Long

Hose—Motor to Starter Cable:  
 \_\_\_\_\_" I.D., \_\_\_\_\_" O.D., \_\_\_\_\_' Long

Portable (Trailing) Cable—  
 Type: \_\_\_\_\_  
 Cond. No. \_\_\_\_\_, \_\_\_\_\_"  
 O.D., \_\_\_\_\_' Long

Hose—for Portable Cable:  
 \_\_\_\_\_" I.D., \_\_\_\_\_" O.D., \_\_\_\_\_' Long

Hose Clamps—  
 2 for Motor-Starter Hose conduit \_\_\_\_\_" D  
 1 for Portable Cable Hose conduit \_\_\_\_\_" D\*

\*Only when short length of hose is used. Trolley Tap—  
 \_\_\_\_\_  
 (Manufacturing Company)

Model \_\_\_\_\_ with \_\_\_\_\_-ampere fuse.

Rail Clamps, 2.  
 1 Ground Clamp, Cat. No. \_\_\_\_\_  
 \_\_\_\_\_  
 (Manufacturing Company)

1 Return Power Conductor, Cat. No. \_\_\_\_\_  
 \_\_\_\_\_  
 (Manufacturing Company)

or—as Optional

Plug on outby end of potable cable for insertion into receptacle on distribution box or equivalent with short-circuit protective device set at \_\_\_\_\_ amperes.

Static-free Belt  
 Model \_\_\_\_\_  
 Style \_\_\_\_\_  
 Catalog No. \_\_\_\_\_,  
 \_\_\_\_\_  
 (Manufacturing Company)

Guard for Belt—  
 Material \_\_\_\_\_  
 Overall Dimensions \_\_\_\_\_" Long × \_\_\_\_\_"  
 Wide × \_\_\_\_\_" High

NOTE: The foregoing is intended as a guide. Additional electrical components used shall be completely identified.

FIGURE 3—MATERIAL TO BE INCLUDED WITH THE OPERATING INSTRUCTIONS—ON OR WITH THE WIRING DIAGRAM SUBMITTED TO EACH CUSTOMER

(SOMETIMES REFERRED TO AS "CAUTION STATEMENT")

CAUTION

To retain "permissibility" of this equipment the following conditions shall be satisfied:  
 1. *General safety.* Frequent inspection shall be made. All electrical parts, including the portable cable and wiring, shall be kept in a safe condition. There shall be no openings into the casings of the electrical parts. A permissible distribution box shall be used for connection to the power circuit unless connection is made in fresh intake air. To maintain the overload protection on direct-current machines, the ungrounded conductor of the portable cable shall be connected to the proper terminal. The machine frame shall be effectively grounded. The

power wires shall not be used for grounding except in conjunction with diode(s) or equivalent. The operating voltage should match the voltage rating of the motor(s).

2. *Servicing.* Explosion-proof enclosures shall be restored to the state of original safety with respect to all flame arresting paths, lead entrances, etc., following disassembly for repair or rebuilding, whether by the owner or an independent shop.

3. *Fastenings.* All bolts, nuts, screws, and other means of fastening, and also threaded covers, shall be in place, properly tightened and secured.

4. *Renewals and repairs.* Inspections, repairs, or renewals of electrical parts shall not be made unless the portable cable is disconnected from the circuit furnishing power, and the cable shall not be connected again until all parts are properly reassembled. Special care shall be taken in making renewals or repairs. Leave no parts off. Use replacement parts exactly like those furnished by the manufacturer. When any lead entrance is disturbed, the original leads or exact duplicates thereof shall be used and stuffing boxes shall be repacked in the approved manner.

5. *Cable requirements.* A flame-resistant portable cable bearing a MSHA assigned identification number, adequately protected by an automatic circuit-interrupting device shall be used. Special care shall be taken in handling the cable to guard against mechanical injury and wear. Splices in portable cables shall be made in a workmanlike manner, mechanically strong, and well insulated. Not more than five temporary splices are permitted in a portable cable regardless of length. Connections and wiring to the outby end of the cable shall be in accordance with recognized standards of safety.

FIGURE 4—SAMPLE FACTORY INSPECTION FORM

Date \_\_\_\_\_

Inspector \_\_\_\_\_

MACHINE

Designation: \_\_\_\_\_

Type: \_\_\_\_\_ Serial No. \_\_\_\_\_

MOTOR

Manufacturer: \_\_\_\_\_

Serial No.: \_\_\_\_\_ Type: \_\_\_\_\_

Frame: \_\_\_\_\_

Hp. \_\_\_\_\_ F.L. Speed: \_\_\_\_\_ Volts: \_\_\_\_\_ Amps. \_\_\_\_\_

Winding: \_\_\_\_\_ X/P No. \_\_\_\_\_ (or parts list designation).

STARTER

Manufacturer: \_\_\_\_\_

Serial No. \_\_\_\_\_ Type: \_\_\_\_\_

Hp. \_\_\_\_\_ Volts: \_\_\_\_\_ X/P No. \_\_\_\_\_ (or parts list designation).

Short-circuit protection \_\_\_\_\_ amps.

Overload-current protection \_\_\_\_\_ amps.

PORTABLE CABLE

Manufacturer: \_\_\_\_\_

Type: \_\_\_\_\_ Conductors: \_\_\_\_\_

Length: \_\_\_\_\_ O.D. \_\_\_\_\_ MSHA No. \_\_\_\_\_

Is all wiring around machine adequately protected from mechanical damage?

By hose conduit \_\_\_\_\_, Troughs \_\_\_\_\_

Metal tubing \_\_\_\_\_, Other \_\_\_\_\_

By removal of all sharp corners or edges? \_\_\_\_\_

Is wiring separated from hydraulic components? \_\_\_\_\_

Is an adequate insulated strain clamp provided for the portable cable? \_\_\_\_\_

Are all packing glands properly packed so that 1/8-inch clearance remains between packing nut and stuffing box? \_\_\_\_\_

Are lockwashers (or equivalent) provided for all explosion-proof enclosure fastenings? \_\_\_\_\_

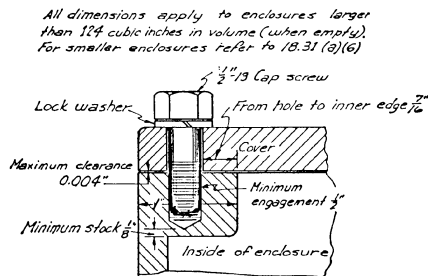
Are all plane joints securely fastened so that an 0.005-inch feeler gage cannot be inserted? \_\_\_\_\_

Are all threaded covers secured? \_\_\_\_\_

How? \_\_\_\_\_

Are all electrical connections secure \_\_\_\_\_ and properly insulated where necessary? \_\_\_\_\_

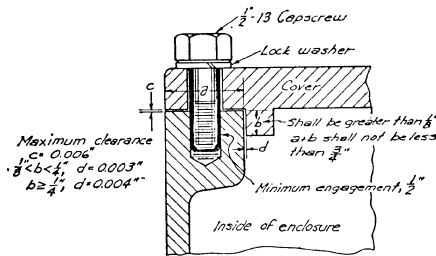
NOTE: Add appropriate material for each explosion-proof enclosure when more than a motor and starter are on a machine.



TYPICAL PLANE JOINT

Figure 5

All dimensions apply to enclosures larger than 124 cubic inches in volume (when empty). For smaller enclosures refer to 18.31 (a)(6)



TYPICAL COMBINATION JOINT

Figure 6

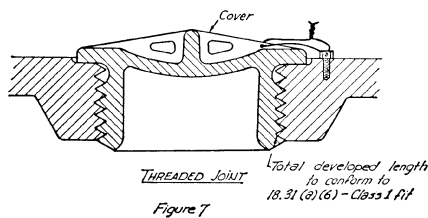


Figure 7

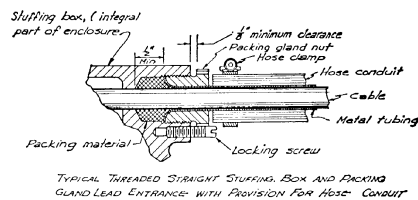
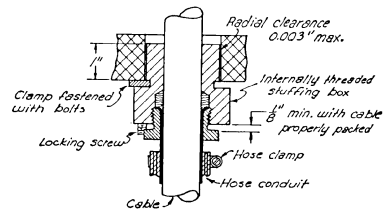
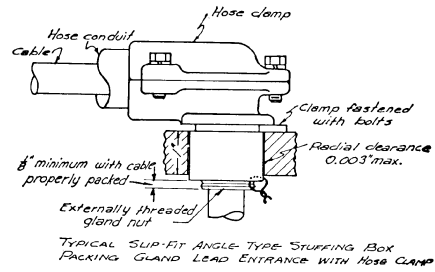
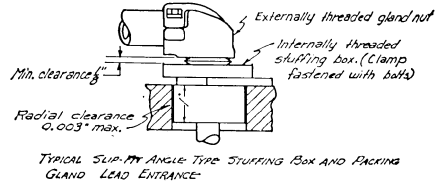


Figure 8



TYPICAL SLIP-FIT STRAIGHT TYPE STUFFING BOX AND PACKING GLAND LEAD ENTRANCE

Figure 9



Plugs shall be secured by spot welding or brazing, weld may be on plug, clamp, or fastening bolt



TYPICAL PLUG FOR SPARE LEAD ENTRANCE HOLE

Figure 10

[33 FR 4660, Mar. 19, 1968, as amended at 42 FR 8373, Feb. 10, 1977; 42 FR 25855, May 20, 1977]

### Subpart E—Field Approval of Electrically Operated Mining Equipment

SOURCE: 36 FR 7007, Apr. 13, 1971, unless otherwise noted.

#### § 18.90 Purpose.

The regulations of this subpart E set forth the procedures and requirements