GILSON COMPANY, INC.

OPERATING & SERVICE MANUAL

GX-4A1 Gilso-Matic Screening Units

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SAFETY INSTRUCTIONS

Whether you are the owner, employer, operator, or maintenance person for this machine, safety is your responsibility. You are responsible for operating and maintaining this equipment in compliance with these instructions and for using common sense. You should always review and completely understand these safety and operating instructions before using this machine.

DANGER: This machine operates on electrical current. Improper use could result in electric shock, electrocution, injury by explosion, or even death.

I. ALWAYS make sure the motor and other electrical components are appropriate and properly configured for your intended use and your available power source. Your Gilso-Matic is wired for 230V/60Hz and comes with a 3-HP motor. This motor is not explosion proof.

II. ALWAYS check electrical wiring for loose connections and for pinched or frayed wires.

III. ALWAYS properly ground the Gilso-Matic when setting up, and ALWAYS be sure it is properly grounded before operation.

IV. ALWAYS disconnect and lock out the power supply before performing maintenance or repairs on your Gilso-Matic.

DANGER: Do not use the Gilso-Matic in an explosive or hazardous atmosphere. It is NOT explosion-proof or approved for operation in hazardous locations. Before using a Gilso-Matic in your operation, make sure it is appropriately designed for your application.

WARNINGS

1. Operate only in properly-ventilated area.

2. Your Gilso-Matic must be adequately mounted to a substantial, rigid foundation, preferably a substantial, poured concrete floor. Otherwise the machine will vibrate excessively and tear itself apart.

3. Level the Gilso-Matic before operation.

4. Stop the Gilso-Matic if excessive vibration or machine movement occurs.

5. The Gilso-matic uses compressed air to unload. Do not operate this system without checking all hoses and fittings beforehand.

6. Do not operate the Gilso-Matic without all guards and covers in place.

7. Keep all parts of your body away from moving parts of the machine while it is operating.

8. Do not wear loose clothing which might be caught in moving parts of the machine.

9. Wear safety glasses, protective clothing, and hearing protection. Wear approved NIOSH/MSHA respirator as required by the sample to prevent your inhaling any dust which may be considered hazardous.

Table of Contents

I. Introduction: This Manual Contains

A) Guidelines for installation, maintenance, and operation of Gilso-Matic GX model series.

B) Part listings.

C) Drawings: This manual covers the standard design. However, user specifications sometimes require speed, amplitude, hopper-feeder and discharge modifications to the basic design. If your unit has special design features there will be notes on an addendum sheet attached to this manual.

II. Site Requirements

A) Space requirements for the basic units are:

MODEL	LENGTH	WIDTH	HEIGHT
GX-4A2	88	44	66
GX-4A1	109	44	107
GX-5A2	88	44	72
GX-5A1	109	44	111

*all dimensions in inches

B) Operational space requirements: Models GX-4A2 and GX-5A2 need 2 to 3 feet of additional ceiling height to tilt the screen section. At least 6 feet of additional length space is required to lower the hinged collection chutes section to access the tray section.

C) Support: A rigid frame or slab foundation should be provided to mount the unit. No shock absorbing materials should exist between the foundation and the ground. The unit can be elevated above scales or other screening units as required for efficient sample processing.

D) Electrical: The unit requires 3.5 KVA electrical supply, using 220 volt 3 phase current (unless other wise marked on equipment).

E) Air: The unit requires 70 to 80 psi house air supply, preferably a 1/2" line, but 1/4" N.P.T. is minimum.

III. Uncrating and Set-Up

A) Remove all crating materials. There are no other blocks, pads, shims or bolts which need to be removed. Place the unit on the prepared frame or slab. Shim with steel sheet pieces under mounting rails until wire cloth surfaces are level.

B) Units with Hopper-Feeder have Hopper-Feeder crated separately and the electrical panel is attached to a Hopper-Feeder support. Units without Hopper-Feeder have the electrical panel mounted on uprights from the mounting rails.

C) Units with Hopper-Feeder must be wired by matching numbers on wire ends to terminal numbers in the control box.

D) The main electrical power cable can be run along mounting rails from any convenient point.

E) Attach air supply line to inlet side of the regulator Oiler (part #100). If the unit has a Hopper-Feeder, attach Hopper-Feeder air line to the tee next to the Regulator Oiler box.

IV. No Load Run

A) After installation is complete make sure all fittings are tight and trays are secure.

B) Charge the air line and adjust outlet pressure to 65-70 psi.

C) The correct configuration for the Gilso-Matic prior to the run is:
1. Electrical Main Switch "OFF" (#201).
2. Press "STOP" Button (#204).
3. All Pneumatic Control Switches "OFF" (#205).
4. Control Panel Box "Locked" (#207).
5. Screen section horizontal (untitled).
6. If collection chute section has special manual gates, close them manually.
7. Hopper-Feeder Vibrator Switch (#205) "OFF" (on Hopper-Feeder models).

D) Throw the Electrical Main Switch (#201) to "ON".

E) One-by-one throw each Pneumatic Control Switch (#205) on and off to check complete extension and retraction cycle. All pneumatic cylinders should be returned to the retracted position (except optional Hopper-Feeder cylinders, #H-20 and #H-21).

F) Depress "START" Push button (#203). Any loud metallic knocking sound with no load would indicate loose wire cloth section or other problems which must be corrected before unit is loaded. Wire cloth is secured in each tray by 3 mechanical clamps connected to a Drawbar (Fig. 1, #22) at the Hopper-Feeder or control panel end of the Gilso-Matic. To secure wire cloth sections tighten Draw Bolts (Fig. 1, #23) on each side of each tray.

V. Basic Operation

A) Hopper-Feeder loading - For Gilso-Matic models with Hopper-Feeder, load no higher than level with Hopper top. The Hopper-Feeder Gate (Fig. 4, #H-5) is opened to fill Vibratory

Chute (Fig. 4, #H-9) with a sample. Vibrator (Fig. 4, #H-19) is turned on to prevent bridging and to feed material at an even rate. Vibratory Chute Lip (Fig. 4, #H-12) is then opened to spread material over top screen.

B) Screen loading: The Gilso-Matic screen can be loaded while running or not, depending on sample characteristics. At completion of screening no screen tray should have more than a monolayer of material. Overloading a tray decreases screening efficiancy and can cause wire cloth damage. Sample should preferably be fed slowly into the rear of the top screen tray while screen unit is vibrating. Large smples should be processed by repetitive screening cycles while accumulating separated material in collection chutes. Care must be taken not to overfill any of the collection chutes.

C) Close vibratory chute lip.

D) When the screening period is finished (5-10 minutes) depress the "STOP" Push Button (#204) to end shaking cycle.

E) Actuate the "TILT" air solenoid to fully extend the cylinders. Never "START" vibration unless the screen section is fully tilted or completely flat otherwise the Tray Tilt Pneumatic Cylinders (Fig., 1#6) may be damaged.

F) Once tray section is completely tilted depress "START" Push Button (#203) switch to shake loose residual particles into the collection chutes.

G) Return screening section to level by placing the "TILT" switch to "OFF".

H) Sequence collection chute "GATE" switches to release samples one-by-one from the bottom-up. The wiring of the gate solenoids is fixed to prevent improper sequencing. If your unit has special hand operated gates follow the same sequence manually. The sample can be accumulated onto a scale platform or in separate containers as needed.

VI. Maintenance:

1) Lubrication: The guide rollers (Fig.1 - #8 and #14) should be greased every 12 running hours. All other greased fittings should be loaded at least every 30 days under normal conditions.

Maintain the air-line oiler level with a light spindle oil (150 - 200 S.S.U. at 110 degrees F.)

Lubrication and maintenance of the drive-train requires raising the screen section to remove the dust cover over the gear box. Care should be taken to establish two passive restraints to the tilted screen section.

2) Timing Belt Replacement: The Timing Belt (Fig. 2-#D-22) can be replaced without removing the main drive shaft by following these steps:

A) Position the vibrating tray assembly in the tilted-up position* Securely block the rear frames tubes on both sides so as to maintain the up position with the air and electric power turned off.

B) Turn off the air and electrical supply to the entire machine.

C) Remove left side sheet metal cover over power train components under the trays.

D) Remove Connecting Rod (Fig. 1,#17) from the end of the drive shaft on left side of frame (opposite from belt drive).

Note: Inner Bearing Race (Fig. 2,#D-25) of the connecting rod large end will stay on Eccentric (#D-5B) at this stage of disassembly.

E) Note the rotational position* of the Counterweight Shafts (Fig. 2, #D-l6A & B) and punch mark shaft, hub and timing pulley (Fig. 2,#p-21) at adjacent surfaces for later re-alignment.

* "Rotational Position" refers to the ship between the counterweights (#D-18A & B) and Eccentrics of the counterweights is down with counterweight clamps (#D-17A & B) being up and level with each other. When counterweights are down , then high spot of the Eccentrics (#D-5A & B) and the vibrating frame of the machine must be up. If this normal rotational relationship is not maintained, severe vibrations will develop.

If inspection determines that one or both counterweights are out of phase with eccentrics then counterweights must be freed from each other by removing timing belt and disconnecting the Non-Metallic Gear (#D-14) parts of this section. Disconnecting at both points results in both counterweights dropping to the down position. The Driven Sheave (#D- 3) can be rotated until high spot of the Eccentrics (#D-5A & B) are up. The Timing Belt (#D-22) and Non-metallic Gear (#D-14) can be re-installed or replaced as needed.

F) Remove the bolts and setscrew from the Flange Bearing (Fig. 2, #D-8B) behind the Eccentric (#D-5B) and push the bearing assembly along the shaft toward the timing pulleys approximately two inches.

G) Use a bearing puller to remove the Inner Bearing Race (Fig; 2,#D-25) from the Eccentric (#D-5B).

Note: A pad approximately 1 1 / 2" in diameter is required between the bearing puller center screw and the eccentric to ensure pulling the bearing race only at this time.

H) Remove the eccentric from the drive shaft by loosening the set screw over the location key; then use a bearing puller,

I) Remove the Timing Pulley (#D-23) from the Counterweight Shaft (#D-16A) by dis-assembly of the Counterweight Shaft Bushing (#D-24).

J) The Counterweight Shaft Bushing (#D-24) is removed by a two step procedure;

1) Remove all three cap screws from the hub face.
2) Place all three cap screws removed in step "1" into the three threaded jackscrew holes of the hub flange and equally balance the tightening of them until the assembly is loose enough to remove the pulley and hub from the counterweight shaft.

K) The old timing belt and the new timing belt can now be interchanged by flexing them through the double-keyhole-shaped opening at the exposed end of the drive shaft.

The re-assembly is in the reverse order of disassembly with one addition. When the Connecting Rod Large End Inner Bearing Race (#D-25) is pressed onto the eccentric, it is required to apply a "LOCKTITE" bearing coating on the press fit surfaces to ensure proper performance.

3) Non-metallic gear replacement (counterweight drive): The non-metallic gear (#D-14) on the rear gear Counterweight Shaft (#D-16B) can be replaced by following these steps:

A) Position the vibrating tray assembly in the tilted up position. Securely block the rear frame tubes on both sides so as to maintain the up position with the air and electric power turned off.

B) Turn off the air and electrical supply to the entire machine.

C) Remove the right side sheet metal cover over the power train components under trays.

D) Note the rotational position of the counterweight shaft (#D-16B) and scribe reference lines, etc., on components on adjacent surfaces for use in realignment, See note under VI,2),e).

The re-assembly is in the reverse order of disassembly with attention placed on tightening the bushing in a manner that positions the counterweights in the proper timed relation.

E) Remove the non-metallic counterweight shaft gear by disassembly of the Counterweight Shaft Bushing (#D-12)

F) The bushing is removed by a two-step procedure.

1) Remove all three cap screws from the bushing face.
2) Place all three cap screws removed in step "1" into the three threaded jackscrew holes of the bushing flange and equally balance the tightening of them until the assembly is loose enough to remove the bearing and hub from the counterweight shaft.

VII. Parts Obtainable from Gilson or Locally

Main frame, .drive train, wire cloth and screen tray replacement parts should be ordered from Gilson.
Other standard components can be ordered from Gilson or obtained from local sources using following list:

ELECTRICAL CONTROL PANEL & MOTOR			
KEY	**FIG.NO.**	**NO.REQ'D**	**DESCRIPTION**
200	*	1	Acme Electric control voltage transformer model #TA-1-81213 250 VA 460V 230V, 3PH, 60HZm 120V, 1PH.
201	*	1	Allen Bradley #1494F NF30 Series A disconnect (Gilson description = Electrical Main Switch)
202	*	1	Allen Bradley #709 full voltage motor starter.
203	*	1	Allen Bradley start push button #800H-AKIA (Gilson description = "START" Push Button.
204	*	1	Allen Bradley stop push button #800H-BK6A (Gilson description ="STOP" Push Button.
205	*	7**	Grainger #4X846 SPST toggle switches (Gilson description = Pneumatic Control Switches & optional Hopper-Feeder-Vibrator Switch)
206	*	1	Dayton #3N678 motor 3HP 1165RPM 460-230V 3PH 60HZ 213T Frame.
PNEUMATIC COMPONENTS			
100	*	1	ARO #28223-1/4" filter-regulator lubricator. (Gilson description = Regulator Oiler)
16	1	2	Automatic Valve Co. #115B air cylinder 3" bore x 16" stroke. * not illustrated
101	*	7	Humphrey #062-4El-36 solenoid air valve.
102	*	6	Automatic Valve Co, #115C air cylinder 1 1/2" bore x 3"stroke. (2 additional for optional Hopper-Feeder models. Fig 4,#H-20 & H-21)

VIII. Replacement Parts

MAIN VIBRATING FRAME (Components Purchased Seperately)			
KEY	**FIG.NO.**	**NO.REQ'D**	**DESCRIPTION**
3	1	1	Main vibrating frame only*
4	1	56	Nylon bushing, tray mount,
24	*	24	Sleeve, tray mount.
25	*	4	Sleeve, tray-cylinder mount. :
26	*	24	Cap screw, tray mount-
27	*	4	Cap screw, tray-cylinder mouiit.
28	*	28	Tray mount, flat washer rlock washer &
10	1	2	Rear vibrating frame.
11	1	6-4**	Tray-Regular, complete except wire cloth.
12	1	0-1**	Tray-lntermed.," " " " .
13	1	0-1**	Tray-Large, " " " " .
		1	Pan, bottom location below trays.
		1	Mounting floor rails , welded sub-assembly
		8	Frame-to-rails mounting cap screw, L. washer & hex nut.
	*	1	V-belt guard, backplate & clip assembly.
	*	2	Back plate mounting cap screws, lock washer & hex nut.

* not illustrated ** These parts are different for GX-4 & GX-5 models. Where two numbers are shown for NO.REQ'D, first is for GX-4 & 2nd for GX-5,

KEY	FIG.NO.	NO.REQ'D	DESCRIPTION
STATIONARY FRAME (Components Purchased Seperately)			
1	1	1	Base frame.
2	1	2	Base frame cover.
29	*	16	Base frame cover screws & lock washer.
5	1	6	Guide roller adjustment plate.
30	*	6	Guide roller adjustment plate screws & jam nut.
6	1	1	Channel guide frame - left hand.
7	1	1	Channel guide frame - right hand.
8	1	4	Lower Guide Roller.
31	*	4	Lower guide roller cap screw,lock washer & nut.
32	*	4	Lower guide roller grease zerk.
9	1	4	Channel guide frame mounting spacer plate.
33	*	16	Cap screws, lock washer & nut.
14	1	4	Upper Guide Roller.
34	*		Upper guide roller spacer plate.
35	*		Upper guide roller flat washer.
36	*		Upper guide roller lock washer & nut.
37	*	8	Upper guide roller grease zerk.
38	*	1	Gilso-Matic nameplate.
39	*	4	Gilso-Matic nameplate mounting screws.
DRIVE TRAIN (Components Purchased Seperately)			
D-1	2	1	Drive Sheave, motor shaft location (including taper lock hub & key).
D-2	2	1	V - Belt.
D-3	2	1	Driven sheave, taper lock hub & key.
D-4	2	1	Drive Shaft.
D-5A,B	2	Ipr.	Eccentric, matched pair.
D-6A,B	2	2	Key, eccentric positioning.
D-7A,B	2	2	Set screw, eccentric locking.
D-8A,B	2	2	Flange Bearing, drive shaft support.
D-9	2	1	Gear, Counterweight drive (steel).
D-10	2	1	Key, Counterweight drive gear.
D-11	2	1	Set screw, Counterweight drive gear.
D-12	2	1	Counterweight Shaft Bushing.
D-13	2	1	Key, counterweight shaft gear.
D-14	2	1	Non-metallic gear, counterweight shaft.
D-15A,B	2	4	Flange bearing, Counterweight shafts.
C,D	2	24ea.	Bolt, L. washer & nut, flange bearing mounting drive & counterweight shafts.
D-16A,B	2	2	Counterweight Shaft.
D-17A,B	2	2	Counterweight Clamp.
D-18A,B	2	2	Counterweight.
D-19A,B	2	2	Key, Counterweight locating.
	2	8ea.	Cap screw & lockwasher, C'weight clamp.
D-20	2	1	Timing Pulley, drive shaft,
D-21	2	1ea.	Bushing & key.
D-22	2	1	Timing Belt.
D-23	2	1	Timing Pulley, counterweight shaft,
D-24	2	1ea.	Bushing & key.
17	1	2	Connecting Rod.
		4	Grease zerk, connecting rod.
18	1	2	Cap, connecting rod large end.

* not illustrated

DRIVE TRAIN CONTINUED (Components Purchased Seperately)			
KEY	**FIG.NO.**	**NO.REQ'D**	**DESCRIPTION**
D-25	2	2	Inner Bearing Race, connecting rod large end.
D-26	2	2	Bearing, connecting rod large end.
D-27	2	2	Race, 1" width, connecting rod small
D-28	2	2	Race, 3/4" width, connecting rod small end.
D-29	2	2	Bearing,1" width connecting rod small end.
D-30	2	2	Bearing,3/4" width connecting rod small end.
COLLECTION CHUTE (Components Purchased Seperately)			
C-l	3	1	Side panel and chute sub-assembly.
C-2	3	1	Cover, front face, top.
C-3	3	6	Gasket, front face covers.
C-4	3	6	Backup strip, front face cover gaskets.
C-19	*	30	Machine screw and lock washers, cover gasket retaining.
C-5	3	5	Cover, front face mid level.
C-6	3	12	Bearing, gate pivot shaft.
C-20	*	12	Grease zerk, gate pivot, shaft bearing lock washer & hex nut.
C-21	*	24	Bearing mount, gate pivot shaft.
C-7	3	6	Gate
C-8	3	12	Seal, gate edge location.
C-9	3	12	Backing plate, gate edge seals.
C-22	*	36	Round head screw, lock washer & nut, gate edge seals.
C-10	3	6	Arm, gate shaft mounting.
C-23	*	6	Key, gate shaft arm.
C-11	3	6	Pivot operating link, pivot pin mounted.
C-12	3	6	Inter linkage 3/16"., gate operating.
C-13	3	6	Inter linkage 1/4"., gate operating for cylinder option only.
C-14	3	6	Manual gate operating handle assembly for manual model only.
C-24	*	12	Shoulder bolt, inter linkage, both ends, 6 for manual model.
C-25	*	6	Shoulder bolt, inter linkage, to pivot pin block, for manual model only.
C-15	3	6	Linkage mount, pivot pin supporting.
C-26	*	6	Shoulder bolt, pivot pin location.
C-27	*	12	Flat washer, pivot pin location.
C-16	3	6	Mount, pneumatic cylinder attachment.
C-28	*	12	Nuts, self locking, all linkage bolts.
C-29	*	6	Shoulder bolt, cylinder to mount.
C-30	*	12	Cap screw, lock washer, flat washer, linkage mount to unit angle iron.
C-31	*	12	Cap screw, lock washer, flat washer, cylinder mount to unit angle iron.
C-17	3	1	Cover & hinge assembly,front face bottom.
C-32		5	Cap screw & lock washer, Collector assembly hinge to bottom rails.
C-33	*	22	Cap screw, lock washer & nut, all front face covers.
C-18	3	2	Hold down, collector assembly rear corners.
C-34	*	2	Cap screw and lock washer hold down tightening.

* not illustrated

KEY	FIG.NO.	NO.REQ'D	DESCRIPTION
MAIN FRAME PNEUMATICS (Components Purchased Seperately)			
16	1	2	Pneumatic cylinder, tray tilt.
103	*	2	Rod clevis, tray tilt cylinder.
104	*	4	Lock nut, clevis pin & cotter pin, tray tilt cylinder.
105	*	4	Street ell & pipe bushing, pneumatic cylinder fittings.
106	*	10	Hose barb air line fittings.
		10	Hose clamps, air line connecting.
107	*	2	Pipe tee, regulator & solenoid outlet.
108	*	8	Close pipe nipple, regulator & solenoid outlet.
109	*	1	Solenoid, pneumatic control, tray tilt.
110	*	1	Street ell, pneumatic regulator outlet.
111	*	2	Air hose, solenoid to cylinder rod end.
112	*	2	Air hose, solenoid to cylinder head end.
113	*	1	Air hose, solenoid to air line regulator.
114	*	4	Round head machine screw & hex nut, control solenoid mount.
116	*	1	Enclosure, lubricator - regulator.
117	*	4	Cap screw, lock washer, lubricator regulator mounting.
OPTIONAL HOPPER FEEDER PNEUMATICS (Components Purchased Seperately)			
H-20	4	1	Pneumatic cylinder, hopper upper vessel gate.
118	*	1	Rod clevis, hopper upper vessel gate.
119	*	2	Clevis pin, cotter pin, hopper upper vessel gate.
120	*	1	Lock nut, cylinder rod to clevis.
H-21	4	1	Pneumatic cylinder, vibrator chute lip.
121	*	2	Clevis pin, cotter pin, vibrator chute lip.
122	*	1	Rod clevis, vibrator chute lip.
123	*	1	Lock nut, cylinder rod to clevis.
124	*	2	Solenoid, hopper gate & chute lip.
125	*	2	Close nipple, solenoid outlets to cylinder ports.
126	*	2	Street ell, cylinder port to hose barb.
127	*	1	Pipe elbow, 90 degree male, pipe tee to solenoid.
128	*	1	Pipe tee, solenoid air line supply.
129	*	8	Hose barb fitting.
130	*	1	Air hose, supply line tee to solenoid.
131	*	1	Air hose, solenoid to chute lip cylinder.
132	*	1	Air hose, solenoid to hopper gate cylinder.
133	*	1	Air hose, supply line tee to regulator.
134	*	8	Hose clamps.
135	*	1	Pipe tee, at regulator outlet.
136	*	1	Close nipple, at regulator outlet.
COLLECTION CHUTE PNEUMATICS (Components Purchased Seperately)			
137	*	6	Solenoid, collector gate cylinder control.
138	*	6	Plastic tubing, collector gate cylinder air lines.
139	*	6	Close nipple, solenoid to cylinder port.
140	*	12	Tubing to solenoid & cylinder port fittings.
141	*	6	Pneumatic cylinder, collector gate latching.
142	*	6	Rod clevis, collector gate cylinder.
143	*	6	Clevis pin, cotter pin.
144	*	6	Lock nut, cylinder rod to rod clevis.

* not illustrated

KEY	FIG.NO.	NO.REQ'D	DESCRIPTION
COLLECTION CHUTE PNEUMATICS CONTINUED (Components Purchased Seperately)			
145	*	1	Pipe coupling, regulator outlet.
146	*	5	Air hose, gate solenoid connectors.
147	*	1	Air hose, regulator to gate solenoids.
148	*	12	Hose barb fittings, solenoid & collector gate cylinder ports.
149	*	12	Hose clamps, collector gate hoses.
150	*	5	Pipe tee, collector gate solenoids.
151	*	5	Close nipple, collector gate solenoids.
152	*	2	Street ell, collector gate solenoids.
HOPPER FEEDER PARTS			
H-1	4	1	Hopper, upper vessel weldment.
H-2	4	1	Leg, sub-assembly, right side.
H-3	4	1	Leg, sub-assembly, left side, (control panel support).
H-4	4	1	Cross bracing.
	*	8	Lock washer/ hex nut, leg assembly to upper vessel.
H-22	*	4	Cap screw, lock washer, hex nut, rear brace to legs .
H-5	4	1	Hopper Feeder Gate .
H-6	4	2	Pillow block bearings, hopper bottom gate.
H-7	4	2	Shaft set collar, hopper bottom gate.
H-23	*	4	Cap screw, lock washer & hex nut, pillow block bearings to hopper.
H-8	4	2	Pin, air cylinder to hopper mount.
H-24	*	2	Cotter pin, air cylinder to hopper mount
H-9	4	1	Vibratory Chute.
H-25	*	1	Cap screw, flat washer & self locking hex nut, bottom chute rear mount.
H-10	4	2	Rubber mount, bottom chute rear mount.
H-11	4	2	Pin, air cylinder to vibratory chute cotter pin, air cyl. to vibratory chute
H-12	4	1	Vibratory Chute Lip.
H-13	4	2	Bracket, vibrating chute gate attachment
H-26	*	4	Cap screw, lock washer, and hex nut, bracket to chute attachment .
H-14	4	2	Shaft set collar, vibrating chute gate shaft.
H-27	*	2	Cap screw, lock washer, and hex nut, vibrator attachment.
H-15	4	2	Rod, bottom chute front support.
H-16	4	2	Spring, bottom chute front support.
H-17	4	4	Cup washer, bottom chute front support.
H-18	4	6	Hex nut, bottom chute front support.
ELECTRICAL (Components Purchased Seperately)			
207	*	1	Control Panel Box.
206	*	1	Motor.
208	*	1	Panel door switch identification labels.
201	*	1	Main Electrical Switch.
209	*	1	Fuse block, main service input.
210	*	3	Fuses.
200	*	1	Control voltage transformer (optional 3PH input).
202	*	1	Motor starter, magnetic type.
211	*	3	Overload heaters.
212	*	1	Terminal strip mounting track.
213		2	Terminal strip inserts, end type.

* not illustrated

ELECTRICAL CONTINUED (Components Purchased Seperately)			
KEY	**FIG.NO.**	**NO.REQ'D**	**DESCRIPTION**
214	*	18	Terminal strip inserts , mid type.
215	*	6	Cable blocks , self stick type.
216	*	7	Cable ty-raps.
217	*	1	Controller, for hopper feed vibrator.
H-19	4	1	Chute Vibrator.
205	*	9	Pneumatic Control Switches.
203	*	1	Start Push Button.
204	*	1	Stop Push Botton.
218	*		10 ga. motor hook up wire.
219	*		16 ga. control circuit wire.
220	*	1	Terminal box, collector gate solenoids.
221	*		Wire terminal spade type connectors.
222	*		Green-field conduit, 1/2" & 3/8" sizing.
223	*	1	90 degree, 1/2" Greenfield connector (motor).
224	*	3	Straight 1/2 " Greenfield connector, control panel & terminal box locations
225	*	9	Straight 3/8 " Greenfield connectors.
226	*	9	90 degree, 3/8" Greenfield connectors.
TRAY PARTS (Components listed per tray and purchased seperately)			
	*	1	Wire cloth units a) larger than 4" order model #GXA-99 b) 4M to #4 order model #GXA-100 c) #5 to #14 order model tGXA-101
	*	1	Door sub-assembly.
	*	5	Screw, door hinge mounting.
19	1	6	Eccentric pivot screw with lock nut.
20	1	6	Link arm with (2) roll pins.
21	1	6	Quadrant plate with roll pin.
22	1	2	Drawbar.
23	1	2	Draw Bolt with collar & cross pin.

* not illustrated

IX. DRAWINGS- (ATTACHED)

X. OPTIONAL DESIGN NOTES

1)Your Gilso-Matic does not have any options requiring special notes.

2)Your Gilso-Matic has special design features requiring additional notes. See attached sheets so marked.

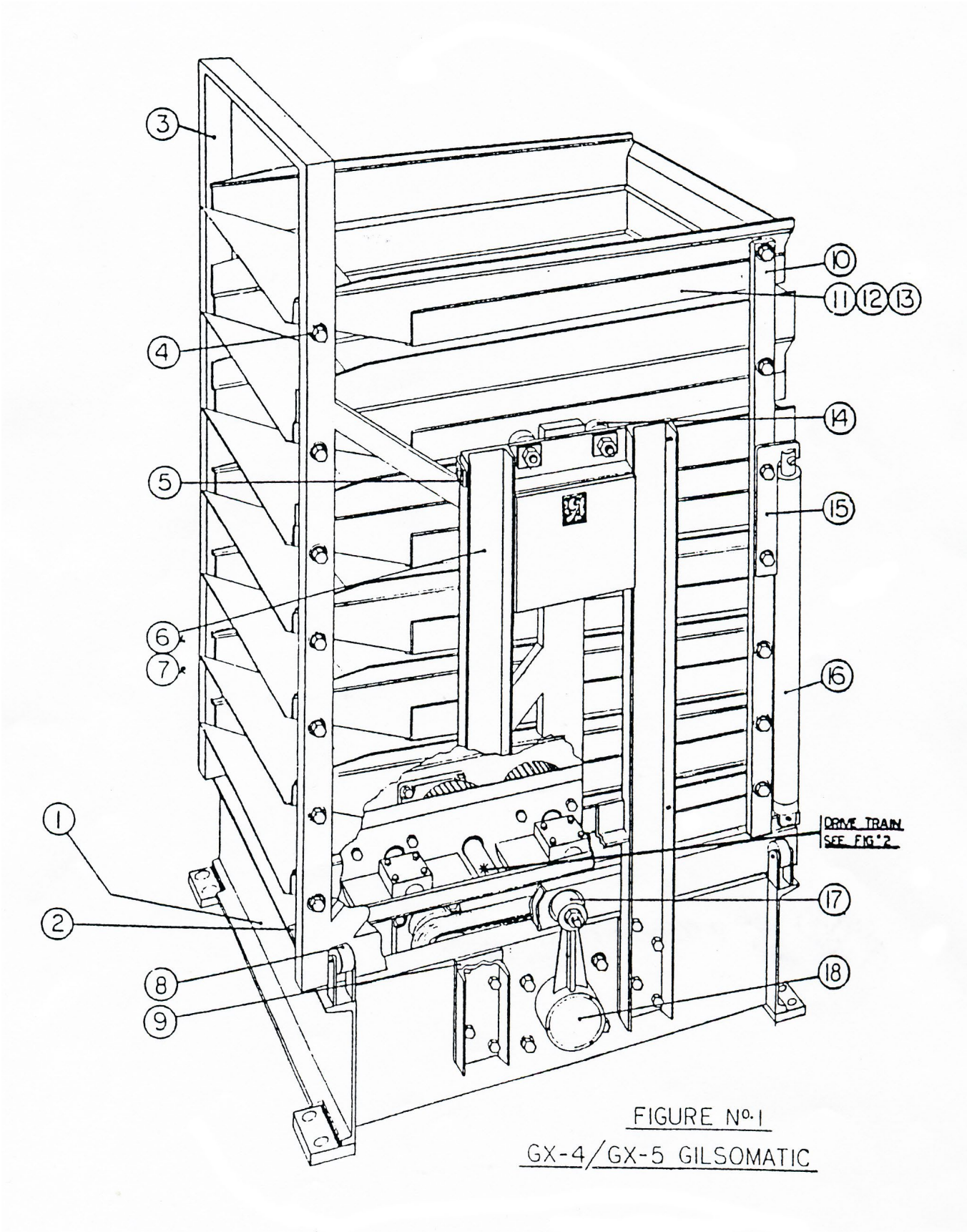

FIGURE No. 1

GX-4/GX-5 GILSOMATIC

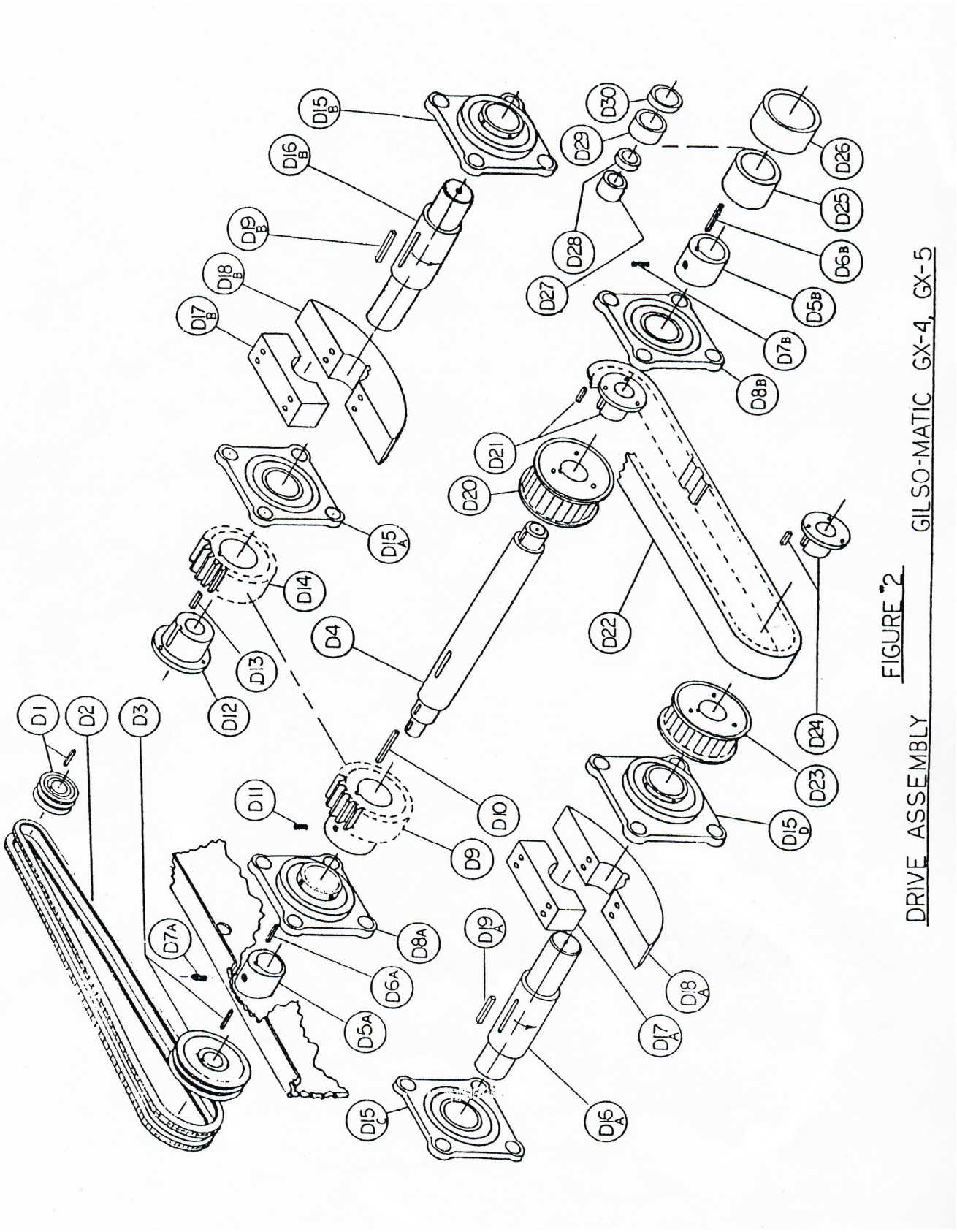

FIGURE #2

DRIVE ASSEMBLY GILSO-MATIC GX-4, GX-5

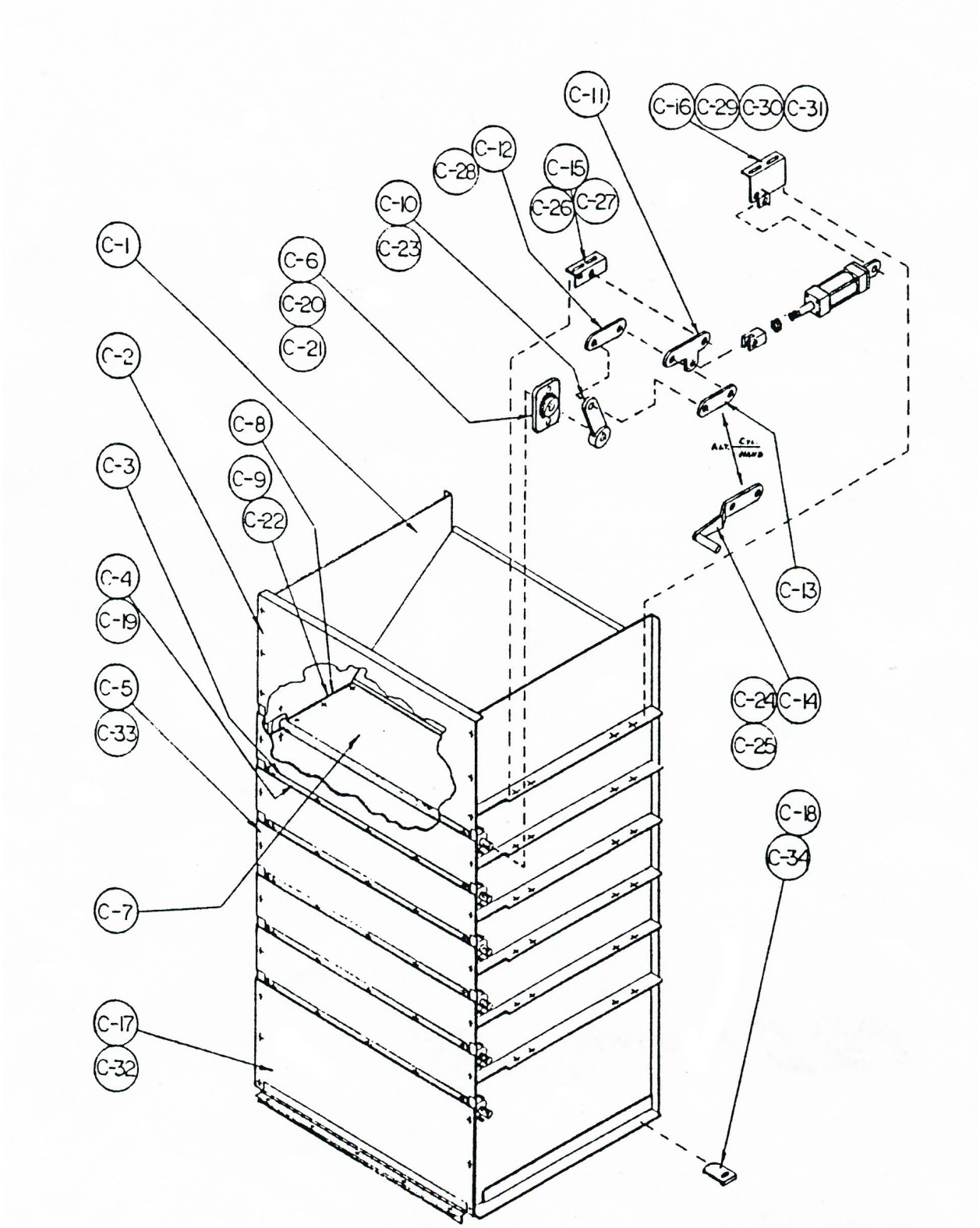

FIGURE NO. 3

COLLECTION CHUTES ~~ GX-4, GX-5

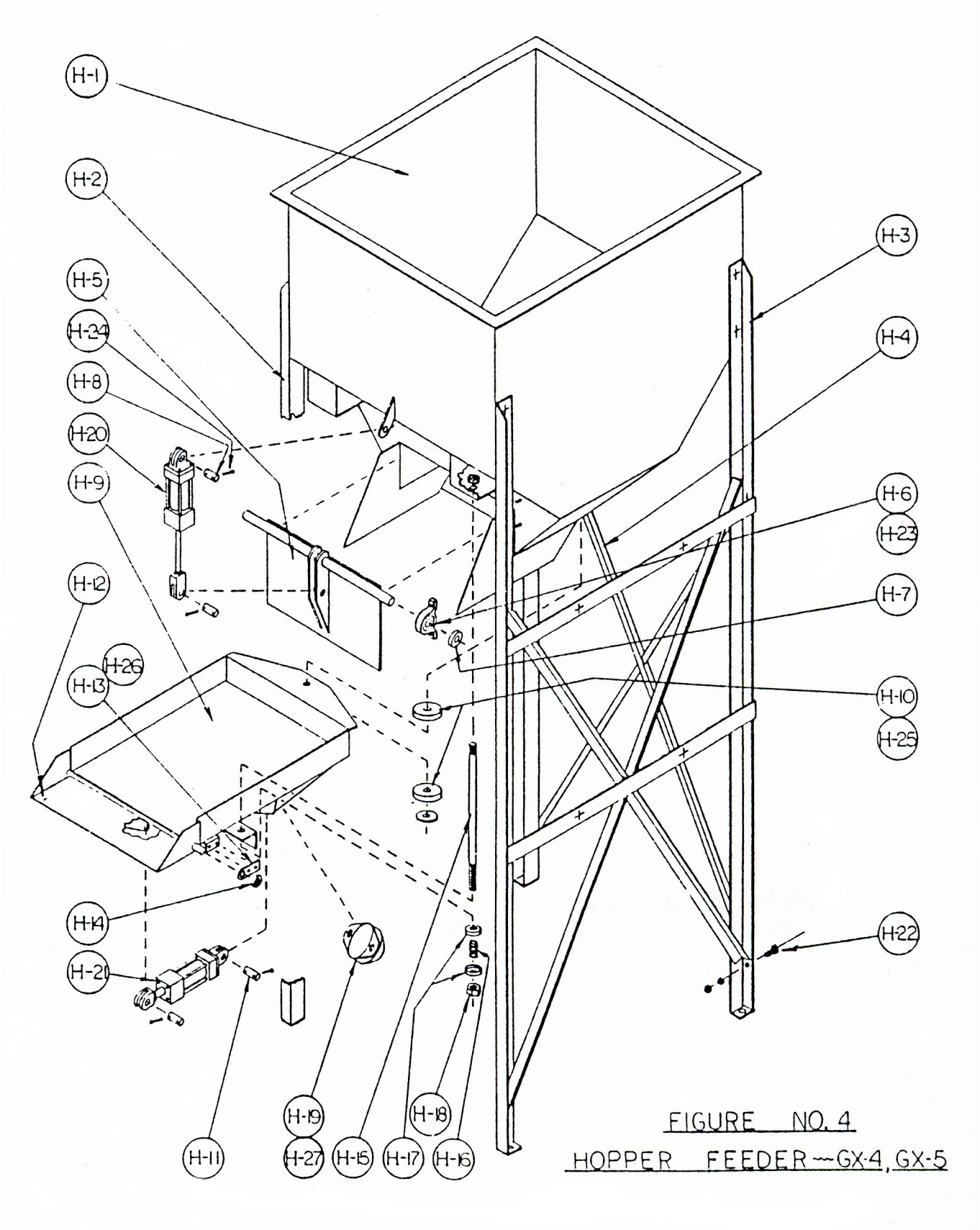

FIGURE NO. 4

HOPPER FEEDER — GX-4, GX-5

XI. INSTALLATION OF ECGENTRICS GILSO-MATIC

- Eccentrics (D5A and D5B) are manufactured in pairs and must be installed in pairs.

- You will find a number stamped on the end of each eccentric. Install each eccentric on the drive shaft so that the numbered end faces the outside of the machine and ‘is visible from the end of the shaft.

(These instructions and a copy of Figure 2 are sent with an order for eccentrics.)