



D-4325



D-4330



D-4310

Sieve Shaker

General

This test method determines the particle size distribution of fine and coarse aggregates by sieving. Refer to ASTM C136. The sieve shaker consists basically of a cradle for holding the sieves, a power unit and a base. The cradle consists of a platform fastened to the lower ends of two vertical support rods. The upper ends of which are shock mounted to a horizontal support that are free to pivot about its mounting. A sieve holder, a retaining ring and nuts on the vertical support rods hold the top bar firmly against the nest of sieves.

Model D-4325: Accommodates sieve frames from 3" to 8" diameter, 10 or less full height and 18 or less half height plus pan and cover. Built-in timer. Motorized.

Model D-4330: Accommodates sieve frames from 8" to 12" diameter, seven 3" deep full height, ten 2" deep intermediate height or thirteen 1-5/8" deep half height sieves plus pan and cover. Built-in timer. Motorized.

Model D-4310: Hand-cranked model similar to D-4325 for use in the field or other locations where electric power is not readily available.

Sieve Set: Order separately, see sieve chart.

Installation & Method

Humboldt sieve shakers are shipped complete and ready for operation. Remove all packing materials. Place on sturdy and level surface. Plug power cord into an appropriately grounded outlet.

Collect the field sample according to ASTM D75 and reduce to a test sample according to ASTM C702. Dry to constant weight.

Operation

Select the sieves with mesh sizes that are to be used and stack them together beginning with a pan at the bottom. Then the finest sieve followed by increasing coarser sieves with the coarsest on top. Place stack of sieves in the shaker with the bottom pan resting on the cradle platform. Cover the top sieve so that the stack can be easily secured in the shaker. Secure the stack with the sieve hold-down bar on the top of the stack and screw the nuts on the vertical support rods firmly against the holder. Adjust and tighten the nuts at the top of the vertical support rods according to the weight of the material in the sieves. The greater the weight of the load, the tighter the nuts should be. Start the motor and observe the initial sieving action to see if the sieves are fastened securely, readjust and tighten the nuts if necessary.

Set the built-in timer for the desired shake time and turn the machine on. The machine will stop when the timer has expired.

REPORTS: Weigh the materials and record the weight and percentage of the original dry weight that is retained in each individual sieve and in the bottom pan.

Adjusting Instruction

Select the sieves with mesh sizes that will supply the information needed and nest them beginning with a pan on the bottom. Then the finest sieve followed by increasingly coarser sieves with the coarsest sieve on top. Place a sample into the top sieve and place a cover on it. Place the stack of sieves on the shaker and secure with the hold-down bar, clamping it in place with the knobs on each side.

Depending on the weight of the sieve stack, an adjustment upward of the lower cradle will be needed. Turn the large pulley and note when the eccentric drive has moved the bottom cradle to the extreme right or left of its travel. At this point the shoulder bolt and plastic sleeve should be in the middle of the vertical slot (in lower part of the cradle). If it is not, loosen the top clamp knobs and the hex nuts which position the

bottom cradle on the threaded rods, then adjust them upward lifting the stack until the shoulder bolt with plastic sleeve is centered. Retighten the fasteners (hex nuts and knobs).

When operating correctly, the movement upward and downward of the rod springs should be approximately equal. Test for this by hand turning the pulley one revolution and note the spring deflections at the top and bottom of the travel. If they are not equal repeat the adjustment until they are approximately equal. When they are approximately equal, normal operation can begin.

Maintenance

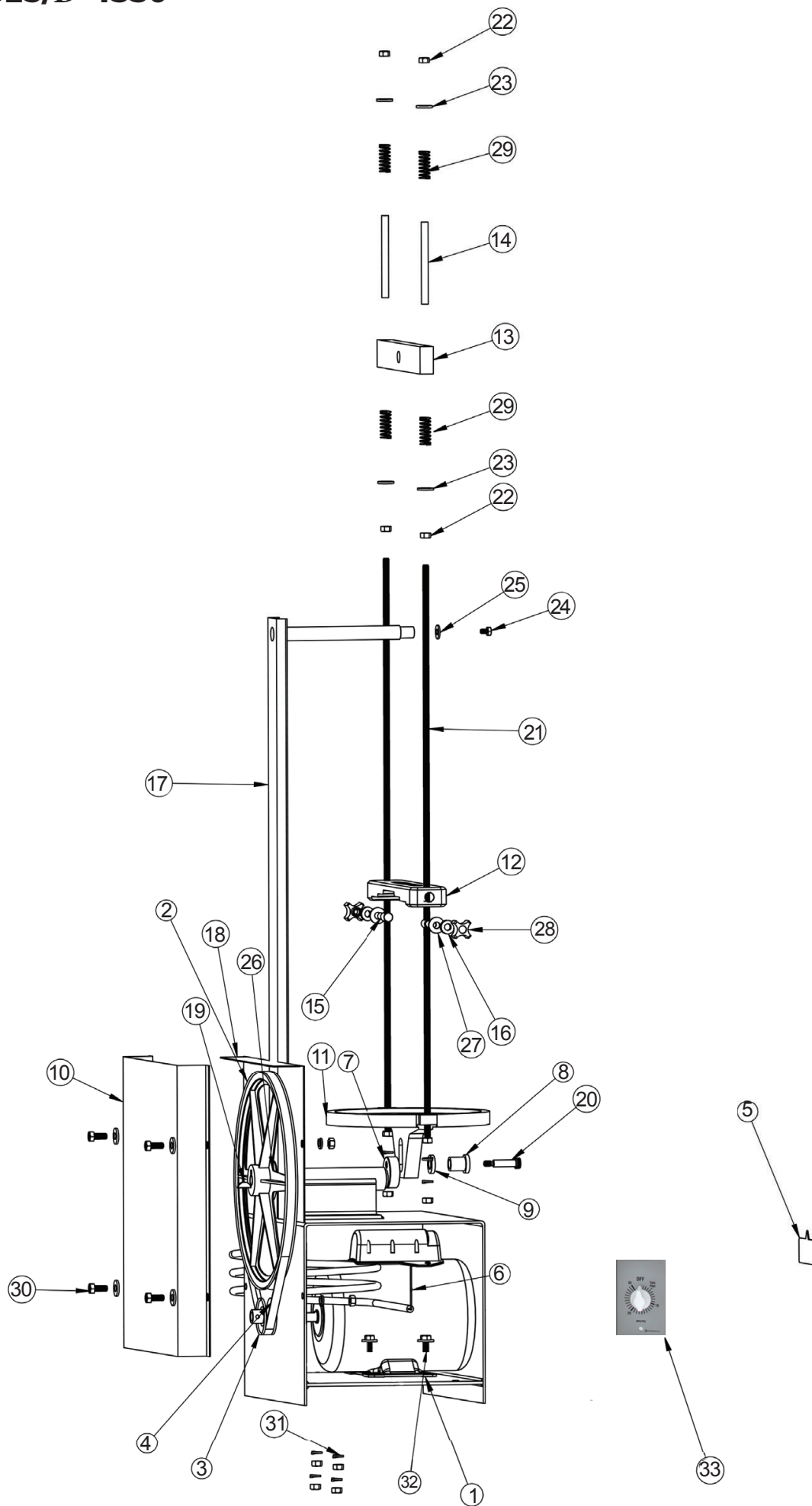
- Oil the main pulley driven shaft weekly.
- Maintain the nuts on the springs tight.
- Check for properly adjusted sieve stack.
- Periodically check all fasteners for tightness.

CAUTION: Keep hands, clothing and other objects away from moving parts when the machine is in operation.

Parts Drawing

ITEM NO.	H-4325 PART NUMBER	H-4330 PART NUMBER	H-4310 PART NUMBER	DESCRIPTION	QTY.
1	H-4325.3.1	H-4325.3.1	-	110V MOTOR	1
2	H-4325.4.1	H-4325.4.1	H-4325.4.1	SHEAVE-12" OD	1
3	H-4325.4.4	H-4325.4.4	H-4325.4.4	SHEAVE-1.5" OD	1
4	H-4325.4.3	H-4325.4.3	H-4325.4.3	1/2 X 40 FHP BELT	1
5	H-2986.10	H-2986.10	H-2986.10	NAME PLATE	1
6	H-4325.3.3	H-4325.3.3	-	ELECTRICAL CORD 8'	1
7	H-4325.6	H-4330.6	H-4325.6	CAMSHAFT ASSEMBLY	1
8	H-4325.8.1	H-4325.8.1	H-4325.8.1	THRUST WASHER	1
9	H-4325.8.2	H-4325.8.2	H-4325.8.2	WASHER	1
10	H-4325.10	H-4325.10	H-4325.10	GUARD	1
11	H-4325.11	H-4330.11	H-4325.11	SHAKER CASTING	1
12	H-4325.12	H-4330.12	H-4325.12	SUPPORT CASTING	1
13	H-4325.14.1	H-4330.14.1	H-4325.14.1	ROCKER ARM	1
14	H-4325.15.2	H-4325.15.2	H-4325.15.2	SPRING TUBE	2
15	H-4325.16.1	H-4325.16.1	H-4325.16.1	STUD	2
16	H-4325.16.3	H-4325.16.3	H-4325.16.3	WASHER	2
17	HA-4425.1	HA-4425.1	HA-4425.1	SHAKER BOX WELDMENT	1
18	H-4325.17	H-4325.17	H-4325.17	INSIDE GUARD	1
19	H-4325.4.2	H-4325.4.2	H-4325.4.2	3/16" X 3/4" WOODRUFF KEY (STL)	1
20	H-4325.9	H-4325.9	H-4325.9	3/8-16 X 1.25" LG SHOULDER BOLT (STL, BLK OXIDE)	1
21	H-4325.13.1	H-4325.13.1	H-4325.13.1	5/16-18 X 31.5" LG THRD ROD (STL, BLK OXD, GRD B7)	2
22	H-4325.13.2	H-4325.13.2	H-4325.13.2	5/16-18 NUT (STL, ZINC PLTD)	16
23	H-4325.13.4	H-4325.13.4	H-4325.13.4	5/16 FLAT WASHER (STL, ZINC PLATED)	12
24	H-4325.14.2	H-4325.14.2	H-4325.14.2	1/4-20 X 3/8" LG H.H.B. (TL, ZINC PLATED)	1
25	H-4325.14.3	H-4325.14.3	H-4325.14.3	1/4 FLAT WASHER (STL, ZINC PLATED)	1
26	H-4325.18	H-4325.18	H-4325.18	SHOULDER BUSHING	2
27	H-4325.25	H-4325.25	H-4325.25	3/8" ID FLAT WASHER (STL, ZINC PLATED)	2
28	H-4325.16.4	H-4325.16.4	H-4325.16.4	KNOB	2
29	H-4325.15.1	H-4325.15.1	H-4325.15.1	SPRING	4
30	H-4325.19.1	H-4325.19.1	H-4325.19.1	5/16-18 X 3/4" LG, HEX HAD SCREW (STL, ZINC PLATED)	4
31	H-4325.19.2	H-4325.19.2	H-4325.19.2	5/16 LOCK WASHER (STL, ZINC PLATE)	12
32	H-4325.19.3	H-4325.19.3	-	5/16-18 x 1" LG HEX HEAD BOLT (STL, ZINC PLATE)	4
33	H-4325.2	H-4325.2	-	Mechanical Timer	1
34	-	-	H-4310	Sieve Shaker, Hand Operated	1
35	-	-	H-4310.1	Washer	1
36	-	-	H-4310.2	Manual Drive Shaft	1
37	-	-	H-4310.3	Handle Bracket	1
38	-	-	H-4310.4	Handle	1

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