

OPERATING INSTRUCTIONS

LEHMAN STUDIO STAR CASTING TABLES/EXTERNAL PUMPS (MODELS: EX4, CT425M, CT630(M), CT850)

IMPORTANT:

Do not attempt to use your casting table/external pump without reading the operating instructions and fully understanding its operation. Check the machine for damage caused in shipment before attempting to use it.

These casting tables are equipped with a pump relief bypass system that allows slip to circulate back into the tank when the pouring nozzle is closed. There is a small amount of agitation as a result of this but not enough to mix slip or reclaim trimmings. An optional mixer is available for these purposes.

MAXIMUM SLIP CAPACITIES ARE AS FOLLOWS:

CT425M - 25 U.S. GALLONS

CT630(M) - 30 U.S. GALLONS

CT850 - 40 U.S. GALLONS

WARNING:

The motor on these machines is equipped with a grounded electrical cord. Always be sure the motor is fully grounded. If the receptacle (outlet) you are using is not grounded, it is recommended that you have a ground line installed. **AN UNGROUNDED CORD CAN CAUSE SEVERE ELECTRICAL SHOCK!**

ABOUT THE PUMP:

The Lehman Studio Star external pump was designed for the small to medium size ceramic studio. It is not suitable for production casting or commercial use.

This pump is located on the outside of the tank and is coupled directly to the motor with a flexible coupling. This pump is not designed to be submersed in slip.

The pump has packings that are exposed to the slip. These packings keep the shaft aligned as well as to keep the pump from leaking. The packings will wear due to the abrasive nature of slip. They can be adjusted when leakage occurs (see section on care and maintenance), but they will eventually have to be replaced when adjustment no longer stops the pump from leaking. Because the packings are subject to wear, **DO NOT LET THE MACHINE RUN EXCESSIVELY WHEN YOU ARE NOT POURING MOLDS.**

Pumping capacity varies from four (4) to seven (7) gpm depending on model and slip viscosity.

PREPARING YOUR MACHINE FOR USE:

These models require some very simple assembly. You will have to attach the pouring hose and nozzle to the pump discharge nozzle and tighten the hose clamp.

You are now ready to test your pump. Turn the machine on and run it dry to make sure that the pump is turning freely. Do not let it run for long periods of time without liquid in the tank. If everything seems to be in working order, fill the tank to the desired level with slip and circulate the slip through the hose and back into the tank. This procedure will get rid of any air trapped in the hose and allow you to get the feel of the nozzle before attempting to fill any molds.

FILLING/DRAINING MOLDS:

Arrange your molds on the table top area. Small molds and large molds with small bases should be set on boards that will span two or more dowels. Hold the nozzle over the pour hole, turn the machine on and open the nozzle. Fill the mold slowly to keep the slip from splashing onto the interior walls of the mold. Filling the mold too fast can cause air bubbles in the greenware. The pouring nozzle will allow you to regulate the flow of slip from a small trickle up to a full stream.

When the molds are ready to drain, tip them over to drain right back into the tank.

LEAVING THE MACHINE AFTER POURING:

When you are finished pouring for the day, refill the machine. This will keep the slip from drying on the sides of the tank. You can take a few ounces of water and gently pour it on top of the slip to create a thin (1/8") moisture seal and cover the machine until you are ready to pour again.

Certain precautions should be taken when leaving the machine for an extended period of time (more than two weeks). It is advisable to pump the slip out of the machine and into resealable containers. Fill the tank with water and pump the water through the machine. This will clean out all of the pump parts as well as the hose and nozzle. You can also take this opportunity to wash down the inside of the tank. Now pump out the dirty water and put in three or four gallons of clean water. The machine can be left indefinitely with water in it.

When you are ready to pour again, pump the water out and fill the tank with slip. This procedure will save you hours of cleaning later.

CARE AND MAINTENANCE:

The life of your casting table/external pump will be determined by the care you give the machine. We feel it is in your best interest to *keep it clean!!* The fiberglass tank of your machine may be scraped with a plastic or wooden utensil. A rubber squeegee works well to keep the liquid pushed down in the tank. Do not use a metal scraper as it will permanently scratch the fiberglass.

The external pump requires occasional maintenance. The pump will start to leak around the shaft indicating that the packings are wearing. Tighten each of the packing gland screws 1/4 of a turn until the leaking is stopped. This compresses the packings around the shaft and creates a tighter seal. When you have no adjustment left on the screws, replace the packings.

The pouring nozzle requires as much attention as any other part of the machine. The slip dust that is created in the casting room will dry up all of the lubrication on the plunger stem o-ring causing it to stick (usually in the open position). This is easily remedied by soaking the nozzle in a bucket of water overnight. When you take it out of the water, dry it off and hold the nozzle upside down (with the plunger stem pointing up). Put one drop of light weight oil around the stem and depress the handle of the nozzle several times to allow the oil to get down to the o-ring inside. The nozzle can be disassembled for cleaning occasionally, just remember to lubricate the o-ring during reassembly.

REBUILDING THE PUMP:

Even with excellent maintenance, the slip will eventually wear the shaft and packings making it necessary to replace them.

It is easiest to unbolt the pump head and take it off of the machine to rebuild it. Refer to the pump schematic and completely disassemble the pump head to check the parts for wear. The two bronze bushings, the stainless steel shaft, and the packings are subject to the most wear. Replace parts as necessary and reassemble.

When you put the pump head back on the machine, it is very important to make sure it is aligned with the motor. **MISALIGNMENT WILL CAUSE UNDUE WEAR TO THE PUMP HEAD.** Once you have everything back together, turn the pump by hand to make sure it turns freely. If it doesn't, check and adjust as necessary.

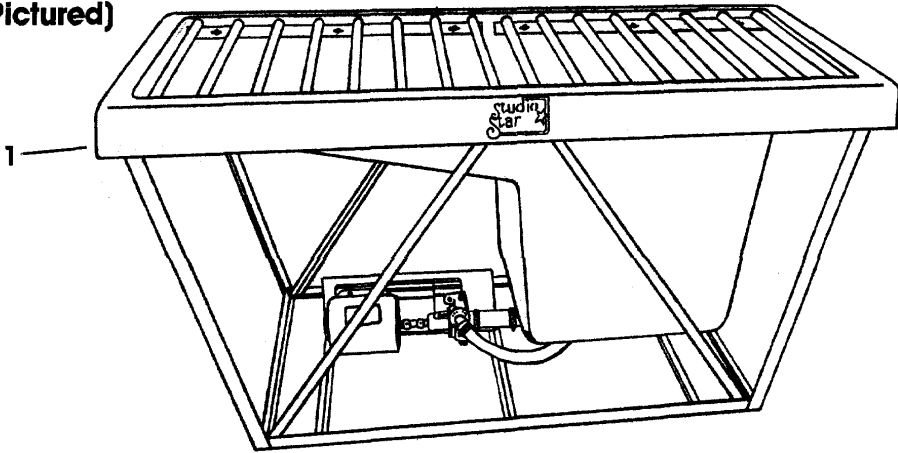
**If you need technical assistance or need to order parts, you may contact our
SERVICE DEPARTMENT at:**

**Lehman Mfg.
304 N. Fairgrounds Rd.
Kentland, IN 47951
(219) 474-6011**

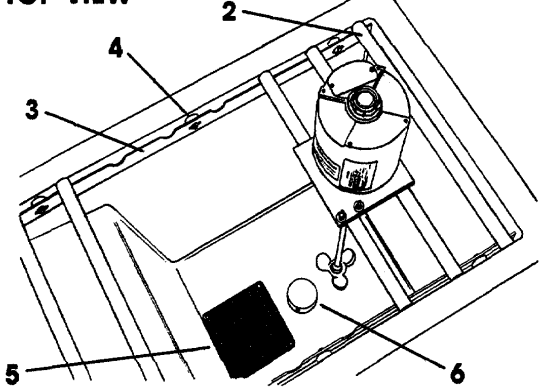
Our hours are 8am to 5pm CST Monday THRU Thursday
Please have your model and serial number ready when you call.

SCHEMATIC FOR LEHMAN STUDIO STAR CT425M-CT630-CT850 CASTING TABLES

CT425M
CT630 (Pictured)
CT850

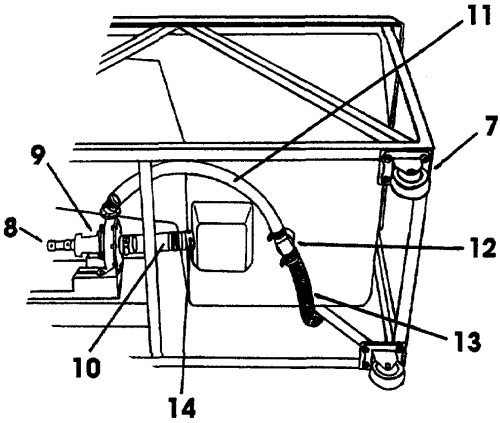


TOP VIEW

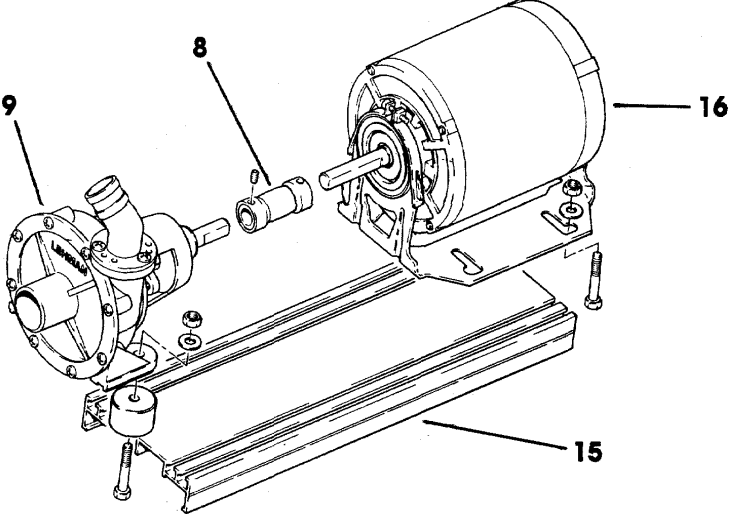


SHOWN WITH OPT MIXER

BOTTOM VIEW



EX4 PUMP



LEHMAN STUDIO STAR CASTING TABLE / EXTERNAL PUMP PARTS LIST

NO.	DESCRIPTION	CT425M	CT630	CT850
1	Tank & Frame Assembly	CT4075	CT6075	CT8075
2	White Birch Dowel Rod	CT4101	CT6101	CT8101
3	Aluminum Dowel Rail	AR4211	AR3008	AR4211
4	1/4-20 X 1 1/4" HHCS W/Washer & Spacer	250	250	250
5	6" X 6" Stainless Steel Screen	CT565	CT6565	CT6565
6	Agitation Cap	CT0250	CT0250	CT0250
7	1 1/4" X 4" Rigid Caster	SM106	SM106	N/A
8	Flexible Pump Coupling	2X497	2X497	2X497
9	Pump Head (Complete)	XB400P	XB400P	XB400P
10	Inlet Hose	CT4121	CT6121	CT8121
11	Relief Hose	CT4367	CT6367	CT8367
12	1" Tee Fitting (Female Pipe Thread)	1402010	1402010	1402010
13	1" X 8' Hose W/Fitting	SS1008	SS1008	SS1008
14	#16 Ss Hose Clamp	HC6716	HC6716	HC6716
15	Pump Mounting Bracket	SS120	SS120	SS120
16	1/2 Hp Motor (110 - 120 Volt)	GF2054	GF2054	GF2054

PARTS NOT SHOWN

Motor to Switch Wiring Harness	CT4197	CT6197	CT6197
Toggle Switch	4X846	4X846	4X846
Switch Cover	SC450	SC450	SC450
1 1/4" x 4" Rigid Plate Caster	SM106	SM106	
1 1/4" x 4" Swivel Plate Caster	SM105	SM105	N/A
Power supply cord	1VEP4	1VEP4	1VEP4
1/4 - 20 x 3/4" Hex Head Cap Screws(SS)	CS25012	CS25012	N/A
10-24 x 5/8" Pan Head. Machine. Screws	PH18710	PH18710	PH18710
1/4-20 hex nuts (SS)	HN250	HN250	HN250
Agitation Orifice	CT0260	CT0260	CT0260
Romex Connectors	RC500	RC500	RC500
Caster Mounting Bracket	N/A	CT6107	N/A