Concrete Mixer

ASSEMBLY AND OPERATING INSTRUCTIONS/PARTS LIST

CM100

CM120 CM135 CM145

CM155 CM165 CM180

CM190 CM200 CM220

CM240

GENERAL SAFETY RULES

This machine can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may happen Safety equipment such as guards,push sticks, hold-downs, feather boards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard will not make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop . If a procedure feels dangerous, do not try it . Figure out an alternative procedure the feel safer. REMEMBER: Your personal safety is your responsibility.

This machine was designed for certain applications only. We strongly recommend That this machine cannot be modified and/or used for any application other than that For which it was designed. If you have any questions relative to a particular Application,DO NOT use the machine until you have first contacted your local dealer to determine if it can or should be performed on the product.

WARNING : FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE TOOL. Learn the tool's application and limitations as well as The specific hazards to it.
2. KEEP GUARDS IN PLACE and in working order.
3. ALWAYS WEAR EYE PROTECTION.Wear safety glasses. Everyday eyeglasses only have impact resistant lenses;they are not safety glasses. Also use face or dust mask if cutting operation is dusty.
4. REMOVE ADJUSTING KEYS AND WRENCHES. Get into habit of checking to make sure that keys and adjusting wrenches are removed from tool before turning it «on».
5. KEEP WORK AREA CLEAN.Cluttered areas and benches invite accidents.
6. DO NOT USE IN DANGEROUS ENVIRONMENT. Do not use power tools in Damp or wet locations , or expose them to rain. Keep work area well-lighted.
7. KEEP CHILDREN AND VISITORS AWAY. All children and visitors should be kept a safe distance from work area.

8. MAKE WORKSHOP CHILDPROOF-with padlocks, master switches, or by removing starter keys.
9. DO NOT OVERUSE TOOL. It will do the job better and be safer at the rate for which it was designed.
10. USE RIGHT TOOL. Do not force tool or attachment to do a job for which it was Not designed.
11. WEAR PROPER APPAREL. No loose clothing, gloves, neckties, rings, bracelets, Or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
12. SECURE WORK. Use clamps or a vise to hold work when practical. It is safer than using your hand and frees both hands to operate tool.
13. DO NOT OVERREACH. Keep proper footing and balance at all times.
14. MAINTAIN TOOLS IN TOP CONDITION. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories
15. DISCONNECT TOOLS before servicing and when changing accessories such as blades. bits. cutters. etc.
16. USE RECOMMENDED ACCESSORIES. The use of accessories and attachments not Recommended by manufacturer may cause hazards or risk of injury to persons.
17. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in : "OFF" position.
18. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the Cutting tool is accidentally contacted.
19. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function-check for alignment of moving parts. binding of moving parts, breakage of parts, mounting .and any other conditions that may affect its operation. A guard or any other part that is damaged should be properly repaired or replaced.
20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of Rotation of the blade or cutter only.
21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN. POWER OFF. Do not leave tool until it comes to a complete stop.
22. STAY ALERT; WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE WHEN OPERATING A POWER TOOL. DO NOT USE TOOL WHILE TIRED OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATION. A moment of inattention while operating power tools may result in serious personal injury.

23. MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY while motor is being Mounted, connected or reconnected.
24. Keep safe clearance around mixer. Keep all persons（except operator）a Minimum of six feel from the mixer during operation.
25. Do not overload mixer. An overload could damage equipment.
26. Do not move mixer during operation. The mixer could tip over or the motor Could be damaged.

NOTE: Performance of this tool may vary depending on variations in local line voltage

Extension cord usage may also affect tool performance.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

Refer to them often and use them to instruct others

WARNING FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

Specifications

MODEL / CHARACT / EROSTIC	CM100	CM120	CM135	CM145	CM155	CM165	CM180	CM190	CM200	CM220	CM240
Voltage(V)	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240	220/230 /240
Cycles(HZ)	50	50	50	50	50	50	50	50	50	50	50
Drum Capacity(L)	100	120	135	145	155	165	180	190	200	220	240
Drum Opening(cm)	32.4	32.4	35.1	35.1	35.1	37.6	37.6	37.6	40.2	40.2	40.2
Motor Power(W) Speed(pm)	450 2800	450 2800	550 2800	550 2800	650 2800	650 2800	850 2800	850 2800	850 2800	1100 2800	1100 2800
Drum Speed(rpm)	30	30	30	30	30	30	30	28	27	29	29

Unpacking

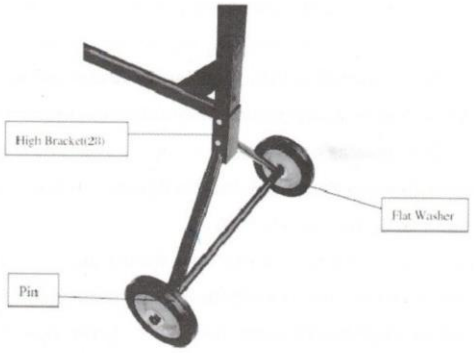
When unpacking, check to make sure that all components are included. Refer to the Assembly drawing on the last page. If any parts are missing or broken, please call Harbor freight Tools at the number on the cover of this manual as soon as possible.

Assembly

Assembly Stand

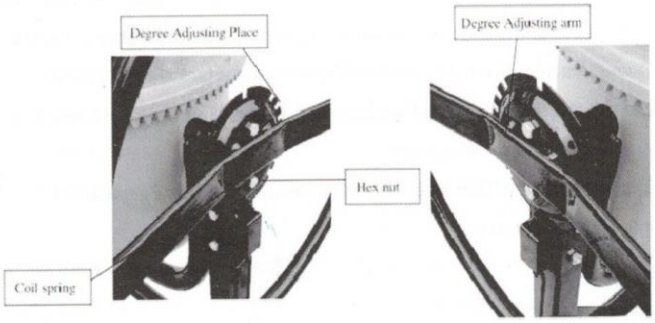
1. place Stand(24) into Hinge Bracket(28) so that Holt holes line up as shown in photo below(stand is shown on its side for ease of assembly),(Also see photo on cover page and Assembly Drawing on last page)
2. Insert Hex Bolt(22) through holes from one side,then Set Washer and Hex Nut from the other side, and tighten with a wrench.
3. Insert Support Bracket(21) onto Stand(24) so that bolt holes line up.
4. Insert Hex Bolt(22) through holes from one side. Then Set Washer and Hex Nut from the other side, and tighten with a wrench.
5. Place Stand upright as shown in the photo on the next page.

6. Place Flat Washer(26) onto Hinge Bracket axle, then the Wheel(27),and Another Flat Washer.
7. Insert (split) pins into the High Bracket (28) axle holes, outside each Flat Washer. That is each washer should be touching the wheel, not the pin.

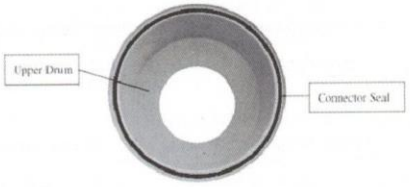


8. Bend each side of the pins outward so they do not fall out.
9. With two people, set the Lower(7) with attached support arm (13) assembly Into Stand Assembly, see photo below.

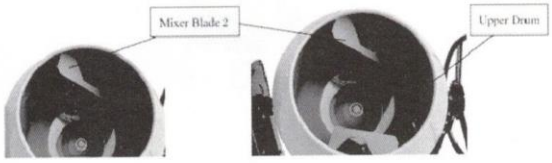
10. Insert Hex Bolt(22)through holes from one side, then Set Washer and Hex Nut from the other side, and tighten with a wrench.
11. Mount Degree Adjusting Place （16） to Iron Tube-R.H.(13) USING TWO Hex. Blots from the outside, Secure from the inside with a Flat Washer, lock Washer Then Hex. Nut.



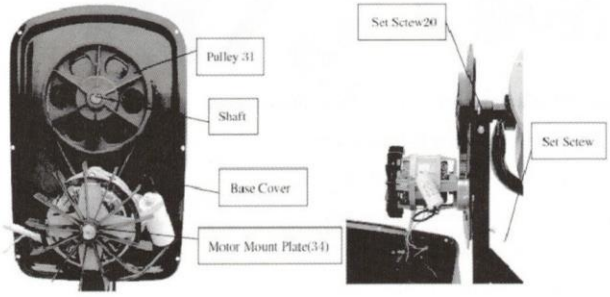
12. Attach Degree Adjusting arm(17) to Iron Tube-R.H(13) shaft as shown above.
    a) Insert Coil Spring into lower hole of Degree Adjusting arm
    b) Press down on Arm until holes align on the pivot shaft.
    c) Insert the M8×65 Hex Bolt and secure with M8 hex nut.
    d) Tighten to a point where the Arm can still move.
    e) Place a Locking Hex . Bolt next to the Hex stud and secure.
13. Glue the Connector Seal(5) to the Upper Drum(3),making sure that the holes In both align. The Connector Seal must be flat on the Upper Drum to ensure a proper seal.



14. Place the Upper Drum(3) on the Lower Drum(7), making sure the mounting Holes align in both
15. Insert the six M6×20 Hex,Bolts into each mounting hole. Inside the Drum. secure each Bolt with a Washer and M6 Hex. Nut.



16. Mount each Mixer(2) inside the assembled drum with the pointed end facing Downward （See photo at bottom of previous page）. Also, the V-shaped bend in The Mixers should be pointed in the direction of the Drum rotation(clockwise). Use the M10×20 Hex. Screw, Set Washer and Hex Nut to secure each Mixer to The upper and lower mounting holes.
17. Mount the inner Motor Base cover(45)to the Iron tube-L.H bearing using the Set Screw(20), Set Washer.

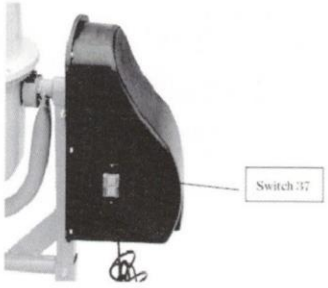


18. Attach the Motor Mount Plate(34) to the inner Motor Base Cover(33) using the Hex. Bolt(20), Set Washer, Hex Nut, and Screw(49). Tighten sufficiently to hold in place. See photo above.
    Note: Once the Motor(47) is mounted, the Mount Plate must be adjusted up or down to tighter the Belt(39).
19. Place the Motor(47), attached by power cable to the outer Motor Base Cover(35),on top of the Motor Plate(34). Refer to the photo on the top Of the next page.
20. Secure the Motor to the Motor Mount Plate using M8×20 Hex.Screw, Set Washer, and hex.Nut. Tighten all four Hex. Nuts hand-tight. The Motor will be adjusted or backward later.
21. Clean the pinion shaft of all plastic protective material and other debris. Also clean out debris from Puller(31) center hole.
22. Squarely push belt Pulley center onto the pinion shaft so that the groove in the pulley engages the Spring Pin. The pulley should be flush with the step on the pinion shaft.
    Caution: Do not pound the Pulley onto the pinion shaft. Damage can occur causing a loose fit.

23. Once the Pulley is pushed in all the way. Use an Allen wrench to tighten the Headless Set Screw on the side of the Pulley hub.
24. Install the pulley Belt(31). Place Belt around Motor drive pulley, then over the belt Pulley(31). Push the Motor inward untie pulley is directly under the belt Pulley. Tighten the four Bolts securing the Motor to the motor mount Plate.
25. Use screws (49) and washer to lock inner motor Base board(45), and check the tightness of belt(39)
26. Check if Motor and belt run well. Regulate the belt Pulley and verify that the Motor drive pulley and belt pulley does not rub against any other part, and that the pulleys turn true. Make adjustments ti motor location as required.
27. Mount the Outer Motor Base Cover .(35)To the inner Motor Base Cover(45) USING SIX m5 Set Screws. Make sure that the power cord from the Motor to the Switch(37) does not com in contact with moving parts.
28. The Cement Mixer assembly is complete. Go back and Re-tighten all screws,nuts and bolts.

Operation

1. Place the Cement Mixer on a solid, even surface.
2. Connect the Power Cord to an electrical outlet(or properly rated extension cord) with a third, ground prong.
3. Add material to the Drum. Typical maximum quantities include:2 gallons water
   3 shovels cement, 15 shovels aggregate rock using a size 3 shovels.
   Warning:Do not attempt to move the Cement Mixer when it is full
   and/or in operation. Injury to personnel could occur.
   Adjust the Drum angel by pulling out on the Degree Adjusting Arm(28),disengaging the locking pins, and push on Arm until the desired angle is reached,Reengage the locking pins.
4. Flip the Switch(37) to the stand(24)or on position.



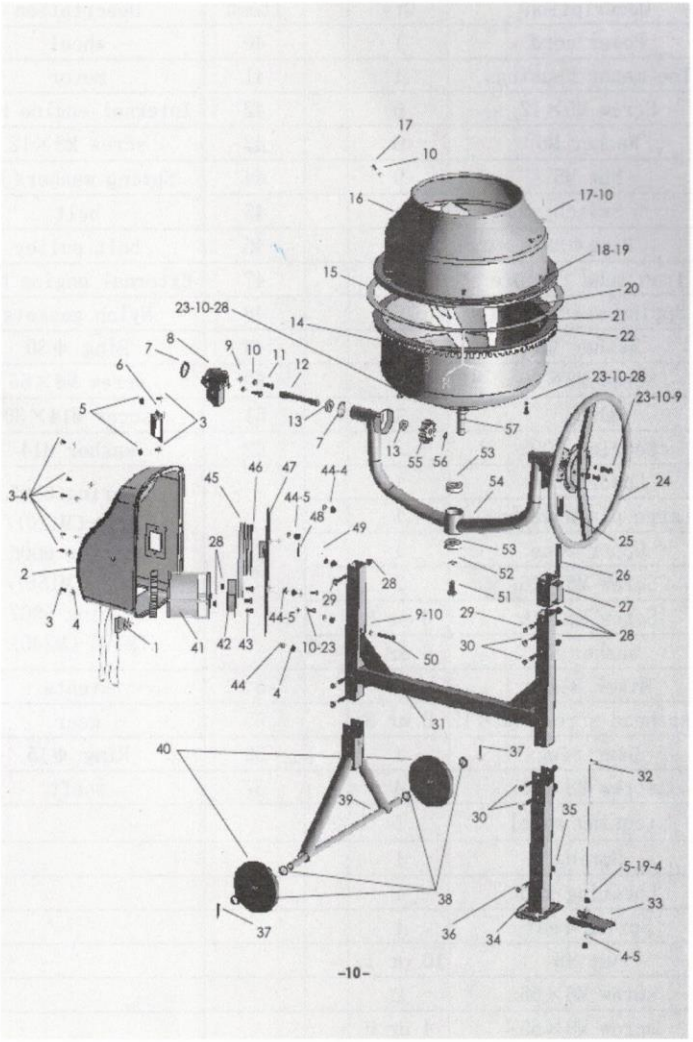
5. Filling and emptying the Drum is best done with the Drum rotating.
   Caution: Never leave the Cement Mixer running while unattended.
   Do not turn Mixer off while working.

6. When finished, flip the Switch to the(37) or off position, and disconnect the power Cord.
7. Turn the Drum angel as far down as possible to drain all fluids from Drum.

Maintenance

1. After use, immediately wash out all debris from the inside and outside of the Cement Mixer . Make sure the Power Cord is disconnected.
2. Do not apply water in or around the Motor Base Cover.
3. Re-tighten belt after the first 25 hours of use. The belt should be able to be pressed in no more that 1/4 inch.
4. Periodically recheck all nuts. and screws for tightness.

Breakdown



Remark:Due to constant improvement on products, all the parameters are subject to real products.

Parts List						
Item#	Description	Qty		Item#	Description	Qty
1	Power cord	1		40	wheel	2
2	The motor housings	1		41	motor	1
3	Screw M5×12	6		42	Internal engine base	1
4	Washer M5	8		43	screw M8×12	3
5	Nut M5	9		44	Spring washers M5	6
6	Switch	1		45	belt	1
7	Ring Φ38	3		46	belt pulley	1
8	Iron tube fixture	2		47	External engine base	1
9	Spring washers M8	5		48	Nylon gaskets	1
10	Washer M8	9		49	Ring Φ30	1
11	Screw M8×25	2		50	screw M8×55	1
12	shaft	1		51	screw M14×30	1
13	Bearing 6002	2		52	washer M14	1
14	Lower Drum	1		53	Bearing 6205 CM100-CM120)/ Bearing 6006 CM135-CM155)/ Bearing 6007 CM165-CM240)	2
15	Large plain washer	1				
16	Upper Drum	1				
17	Screw M8×16	2				
18	Screw M6×16	6 or 8				
19	washer M6	6 or 8				
20	Mixer Blade	2		54	stents	1
21	cross head screws M6×12	6 or 8		55	gear	1
22	Gear ring	1		56	Ring Φ15	1
23	screw M8×16	4		57	shaft	1
24	steering wheel	1				
25	Spring	1				
26	Locating rod	1				
27	Spring seat	1				
28	Nut M8	10 or 12				
29	screw M8×65	2				
30	screw M8×65	4 or 6				
31	stents	1				
32	tie rod	1				
33	Pedal	1				
34	stents	1				
35	Lock Nut M8	1				
36	screw M8×70	1				
37	Pin	2				
38	washer Φ27	4				
39	A tripod	1				