

Owners Manual



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C.U.B.E.

Material Loading Instructions

The conveyor loading system on the top of the C.U.B.E. moves the dry aggregates into the mouth of the mixing drum. Cement can be introduced into the drum by using the hydraulic bag breaker chute or by breaking sacks directly into the drum. These dry materials mix with the water in the drum to produce concrete. Optional loading can be accomplished by using pre-mixed concrete in bags or super sacks.

Because the C.U.B.E. mixes by volume rather than weight, it will be important that you calibrate your loading tractor. Most use water in the loading bucket to make these calibrations. 202 gallons of water is equal to one-yard of volume. Use the water meter on the cube to fill the bucket and track the water amount. Mark the inside of your loading bucket with some logical increments of a yard, like 1/2 or 1/3. This will allow you to calculate the number of bucket loads required for most batch sizes.

In all cases the instructions for preparing the C.U.B.E. for loading will be the same.

1. It is critical that the C.U.B.E. is safely positioned on a firm and level surface.
2. Check and fill the fuel tank on the engine, if applicable.
3. Turn the GearSaver knob until the valve "clicks" into the center position.
4. Start the engine and set it at full throttle.
5. Turn the GearSaver knob **clockwise** into the **MIX** direction until the drum is spinning at full speed.
6. Load some water prior to introducing dry materials. (The rule of thumb is to pre-load about ½ of the total water planned for your mix)
7. You will want to add all the cement powder into the drum prior to loading in the sand and gravel. To add cement powder you will use the hydraulic control handle to unfold the bag breaker arm. Attach the bag breaker scoop to the arm and secure it with the provided pin. **Stop the drum from rotating while loading cement.**
8. Use the handle to lower the chute to a reasonable loading height and drop a bag of cement powder into the knife. Empty and discard the bag.
9. Use the handle to quickly move the chute up and against the drum to throw the powder into the mix. When all bags are loaded remove the bag breaker scoop and retract the bag breaker bar as far in as it will go. **WARNING: If you do not remove the bag breaker scoop prior to tilting the frame to dump the concrete damage to the unit will occur.**
10. Move the conveyor control handle up into the on position to start moving the belt.
11. Begin loading the dry materials slowly onto the top loading conveyor. (Practice will teach the speed at which to dump material on the belt. Dumping too fast will over fill the diverter opening and cause material to bypass onto the ground)
12. It will probably take two or three tractor bucket loads to reach the C.U.B.E.'s total mixing capacity, so repeat #11 as often as necessary.
13. Use the water meter to measure the water to create the mix consistency that you desire.
14. After all of the materials are loaded into the drum, check the mix and add water as needed with a garden hose.

C.U.B.E.

Operating Instructions to Unload the Concrete.

The advantage of using a mixing drum is that water can be added at anytime to “freshen” the mix. When adding water to a drum that is full of concrete, raise the mouth of the drum up to it’s highest position in order to blend the water into the mixture.

1. **Remember to remove the cement bag breaker scoop before tilting the drum. Failure to do so may result in equipment damage or injury.**
2. Place a wheelbarrow or tractor bucket at the discharge end of the C.U.B.E.
3. Turn the GearSaver knob **counter-clockwise** to the center position (it will click into neutral) to stop the drum from turning.
4. **Slowly** raise the tilt frame up using the “Raise/Lower” lever on the control panel until the wet concrete begins to flow out of the drum. **WARNING: By tilting the drum too quickly, you risk a weight shift in the drum that can cause the hydraulic systems to be overridden and dump all of the concrete onto the ground.**
5. After the wheelbarrow or bucket is full, lower the tilt frame back into the down position and turn the GearSaver knob clockwise to about 50%. This will allow the drum to mix the materials while you empty the concrete into the form.
6. Repeat steps 4 to 6 until the drum is nearly emptied.
7. Move the wheelbarrow or bucket under the mouth of the drum and move the tilt frame all the way up to dump out the drum.
8. Use GearSaver knob to reverse the drum rotation to full speed.
9. This will begin to screw the remaining concrete out of the drum.
10. Continue dumping the concrete and then return the tilt frame down to the mixing position using the “Raise/Lower” lever.
11. Repeat steps 9 to 10 until all the concrete is removed from the drum.



C.U.B.E.

Drum Cleaning Procedures

It is not necessary to use a great deal of water to clean the mixing drum. Note that any water used to clean the very back of the drum, while the drum is in the "MIX" mode, will be pulled toward the drum head where it will also clean the mixing paddles.

1. Move the tilt frame down to about the half-way point using the "Raise/Lower" handle. Stop the frame at the point where the material diverter is still up and out of the way of the mouth of the drum. You want to be able to see down into the drum without the diverter in your way.
2. Turn the GearSaver clockwise to full speed. This is the MIX direction.
3. Use a spray nozzle on a hose to wash down the spiral fins and the mixing paddles (the ones with the holes). Pay special attention to the concrete build-up to the back side of the spiral fins near the mouth of the drum.
4. After the debris is removed from the fins and paddles, turn the GearSaver knob to neutral.
5. Move the wheelbarrow or tractor bucket under the mouth of the drum so as to catch clean-up water.
6. Use the "Raise/Lower" handle to tilt the frame up for dumping the drum.
7. Turn the GearSaver knob counter-clockwise to DUMP.
8. The wash water and debris will empty into the bucket.
9. When the tilt frame is tipped all the way up and the drum opening is in the fully down position, use the spray nozzle to concentrate the water pressure on the front of the drum to let the water wash over the paddles and fins as it moves toward the wheelbarrow.
10. When the drum is clean, return the tilt frame down to the lowest position and then the C.U.B.E. is ready for storage or to be moved to the next job site.

Cleaning Note: Make sure that you remove the rocks and sand from the conveyor belt prior to moving the C.U.B.E. down the road. This will save the possibility of purchasing a windshield or injuring others.



C.U.B.E.

Maintenance & Precautions

Following a few simple precautions and a planned maintenance schedule will greatly extend the life of your equipment. Pay attention to and monitor regularly all of the safety devices on your C.U.B.E.

1. Lubricate the GearSaver parts with a lubricant regularly.
2. Check the engine oil level every day prior to starting the engine.
3. Follow the maintenance and service intervals of the engine owner's manual.
4. Check the level of hydraulic fluid every day and keep it topped off.
5. Lubricate the bag breaker joints regularly for smooth operation.
6. Grease the caster bearings every month or as needed.
7. Grease the tilt frame assembly every month or as needed.
8. Lubricate the conveyor bearings every month or as needed.
9. Lubricate the conveyor chain every month or as needed.
10. Adjust the conveyor belt tracking for centering in the slider bed regularly.

CUSTOMER SUPPORT

Cart-Away Concrete Systems, Inc. is committed to building quality equipment and supporting your ready-mix business. We want you to know that we are here to help you and your service staff.

Your satisfaction and positive "word of mouth" concerning our products and our company is our highest priority, so contact us with any issues.

On Weekdays from 6AM to 5PM (PST) 800-909-9809 503-434-4444

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Cart-Away Equipment Safe Operation List

- Read and understand your equipment's operation manual prior to operation.
- Print this operational list and provide it, along with verbal training, to every person who operates this equipment.
- Any and all damaged or defective parts should be reported to equipment owner and then repaired or replaced prior to use.
- Safety guards must be in place and in good working order before the owner of the equipment allows it to be used.
- Carefully read and follow any safety decals and signs. Keep them in good condition and replace damaged decals. Replace any safety decals and signs following any repainting. Decals are available through the Cart-Away parts department.
- Follow all maintenance instructions – including turning off engines and disconnecting any power feeds, electrical cords, or spark plug wires prior to performing any service or repairs.
- Never operate any equipment while under the influence of drugs or alcohol.
- Dress appropriately for running equipment. Do not wear loose clothing, rings, and wristbands. It is recommended that you wear sturdy footwear, long pants and use OSHA approved eye and noise protection while operating this equipment.
- It is recommended that you wear an OSHA approved dust mask or respirator when needed.
- Never allow children to operate or play with any equipment. Keep children and pets at a safe distance and be aware of their location during the movement/operation of the equipment.
- Operate the equipment only on firm and level ground.
- Never un-hook a loaded trailer from the towing vehicle.
- Never lubricate or adjust functions while the equipment is in operation.
- Keep hands and other body parts a safe distance from any rotating pulley, caster or drum. Never attempt to stop the movement of any function using human contact.

CALIFORNIA PROPOSITION 65 WARNING: Engine exhaust and some of its constituents are known in the state of California to cause cancer, birth defects and other reproductive harm.

- Never operate an internal combustion engine in a confined space. Engines discharge carbon monoxide, a poisonous, odorless, invisible gas. Death or serious injury may result if inhaled. Operate only in areas with proper ventilation.
- Use extreme caution when handling, storing and using dangerous fuels. Fuels are highly volatile and explosive in a vapor state. Do not add fuel indoors or while the engine is running or when hot. Stop and cool the engine before adding fuel and storing the equipment. Do not smoke near fuels.
- Ignition and electrical systems can cause severe electrical shock. Avoid contact with breakers, magneto and battery ignition systems on engines or panels.
- Never work in any electrical panel without disconnecting electrical power.
- Servicing any electrical components should only be accomplished by qualified personnel.

