

# Owners Manual



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## **BEFORE YOU START**



All of us here at Cart-Away Concrete Systems thank you for becoming a member of the Cart-Away family of customers!

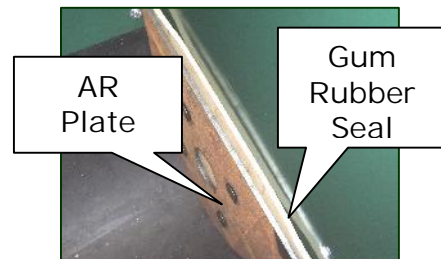
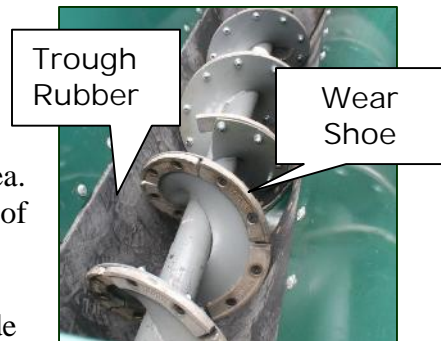
We are confident that you have purchased the best equipment, built to the highest quality standards and supported by a very knowledgeable staff.

For many first-time customers the terms we use to describe our equipment and its parts will be new. Before you begin reading the operation manual, please take a moment to familiarize yourself with some of the terms we use for the Concrete MD unit:

- **Power Unit:** This piece of equipment has the engine and hydraulic tank used to power the Mixing Unit.
- **Mixing Unit:** Also called the Mixer Unit, this piece of equipment is where the raw materials are mixed into concrete.
- **Batch Buckets:** These are the containers used to measure the sand & gravel to make the concrete.
- **Bag Breaker Screen:** This is a screen located between the fork pockets that prevents large materials/debris to contaminate the mix and also acts as a spot to split open the sacks of cement that are used in the mix.
- **Selector Valve:** A valve located on the Power Unit that when in the correct position allows the hydraulic fluid to return to tank while the engine is running and the hoses are not connected to the Mixer Unit.
- **Bucket Height:** This is the height of the discharge gate that allows concrete to be dispensed into a bucket. The legs on the Mixing Unit can extend up and down for various heights. The four legs use pins to hold the desired height.



- **Wheel Barrow Height:** This is the height of the discharge gate that allows concrete to be dispensed into a wheel barrow.
- **Hand Valve:** This is the valve located on the Mixing Unit that controls the auger direction rotation.
- **Fork Pockets:** Rectangular tubes mounted to the top of the Mixing Unit used by a forklift to move the unit when available.
- **Discharge Gate:** The cover that closes off the spout where the concrete dumps from the Mixing Unit.
- **Wear Shoes:** Plates of special alloy steel that are wear resistant. These plates or “shoes” are bolted to the auger to increase its longevity.
- **Trough Rubber:** The rubber bottom of the mixing area. This rubber trough fits up tightly against the bottom of the mixing auger.
- **Gum Rubber Seals:** These are rubber seals, both inside and outside the mixing chamber, that help protect the auger bearings from premature wear.
- **AR Plates:** These are Abrasion Resistant steel plates that protect the ends of the Mixing Unit from the wear caused by the mixing of the raw materials.
- **Tow Bar:** This is the hitch and support bar for attaching the unit to a vehicle for towing.
- **Wheel Assembly:** These are the assemblies that slide in the axle brackets and get pinned into place so the unit may be towed.
- **Leg Pins:** Four leg pins are used to position the mixing unit into a desired height.



For additional details or questions please call us:  
 800-909-9809 or [www.theconcretemd.com](http://www.theconcretemd.com)

## Concrete MD Operating Instructions

The materials are loaded into the mixing area through the bag breaker screen of the Mixing Unit. Water and cement are added first and then the sand and gravel are dumped from measured batch-buckets. These dry materials mix with the water using the auger to produce concrete. Optional loading can be accomplished by using pre-mixed concrete in bags or super sacks.

*Warning: This style of mixer must be loaded slowly so as to not overwhelm the mixing action of the auger. Loading too fast will "lock-up" the auger and stop mixing. (See auger un-locking procedures)*

Because the Concrete MD mixes by volume, you will want to work from a recipe that is calibrated with the two batch-buckets. A standard recipe is provided with each mixer. Repeating the same recipe is the only way to maintain a consistent outcome. The recipe that is provided with the Concrete MD is calibrated to produce ½ meter of ready-mix concrete in a full batch.

### DIRECTIONS:

- Place the Concrete MD on a firm and level surface prior to mixing.
- Raise and pin the legs to the appropriate discharging height (buckets or wheelbarrows)
- Make sure the Bag Breaker Screen is in place.
- Check oils and fill the fuel tank on the Power Unit.
- Connect the Power Unit hoses securely to the Mixer Unit.
- Pull up the handle on the selector valve located on the Power Unit.
- Start the engine. Set the engine speed to full throttle.
- Push the Hand Valve on the Mixing Unit to the "mix" position.
- Add water to the middle of mixer according to the recipe.
- Add cement bags per the recipe using the bag breaker.
- Add materials to the proper Batch Box(es) according to the recipe. Fill Batch Boxes level to the top.



- Dump proper number of filled Batch Boxes per the recipe.
- If water needs to be added, add it slowly to the center of mixer.
- When mixing is complete, place bucket or wheelbarrow below Discharge Gate.
- Pull the Hand Valve into the middle “stop” position.
- Open Discharge Gate slowly.
- Pull the Hand Valve to the “dump” position to empty the mixer.
- When empty, repeat the mixing instructions again or clean the mixer.

## RULES FOR SAFE OPERATION

This equipment is a sophisticated, yet simple, piece of machinery. It is designed to mix aggregates and cement in a consistent manner using hydraulic power. The unit is easily operated; however, it is extremely important that all safety precautions be strictly adhered to in order to prevent injury.



- Know the equipment’s controls and how to stop it quickly. **Read this Owner’s Manual!**
- This unit is a low-speed high-torque mixer run by high pressure hydraulics. Anything caught in the moving parts may be crushed or torn in a fraction of a second.
- **Instant stopping of all moving components is achieved by turning off the engine.**
- Do not allow children to operate this machinery at any time. Do not allow anyone to operate it without proper instruction.
- Pay attention to who is around the equipment. Caution everyone to stay away from all moving or rotating parts.
- Keep your eyes and mind on the machine’s operational procedures. Don’t let other interests distract you while near the machine.
- Clear the work area of objects that might be tripped over or create a fall into moving or rotating parts.
- Always turn off the engine and disengage the hydraulic lines from the power unit before making adjustments or repairs to the Mixing Unit.
- Take all possible precautions when leaving the machine unattended, such as turning off the engine.
- Always disengage the power before reaching into the mixing unit. **DO NOT under any circumstances reach into the mixing unit while the engine is running!**
- Never place hands or feet on or in moving or rotating parts.

- Do not stand on the hydraulic motor of the Mixing Unit or the tank of Power Unit.
- Do not wear loose fitting clothing that could get caught in moving or rotating parts of either the Mixing Unit or the Power Unit.
- Wear eye protection when operating the equipment.
- Only operate the equipment outdoors or in a well ventilated area.
- Wear a dust mask and safety goggles when operating under very windy conditions or when cement dust can blow into eyes or mouth.
- Use care when moving the power or mixing units to avoid back injury.
- Only operate the equipment on a level surface.
- Keep all safety devices in place.
- Keep all nuts, bolts, and screws tight to be sure that the equipment is in safe working order.
- Do not change the factory settings of the hydraulic components unless instructed by a factory technician or the Customer Service Department.
- Use the equipment only in daylight or good artificial light.
- Never make a mechanical adjustment while the equipment is running unless advised to do so in this manual or the Customer Service Department.
- If you don't know...Ask!!

### **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.



## MATERIAL AND MIXING INFORMATION

Cart-Away has designed the Concrete MD to be loaded accurately using our proven recipe. To ensure that you are making the same quality concrete you will need to have good materials in the proper quantity.

### Cement:

Cement, also known as “Portland Cement” is a fine powder made from ground-up limestone, clay and shale. This light gray powder is found in sacks. Each sack shown on the recipe label is one 94lb (42.5kg) sack. Make sure you are using the same size sacks or the equivalent in weight to make a proper mix.

### Fine Aggregates:

This is the sand you will use for the recipe. Your sand should be screened to remove any debris such as sticks or stones. DO NOT use beach sand because it contains salt or other corrosives that will corrode rebar or other strengthening steel and will degrade the concrete at a faster pace.

### Course Aggregates:

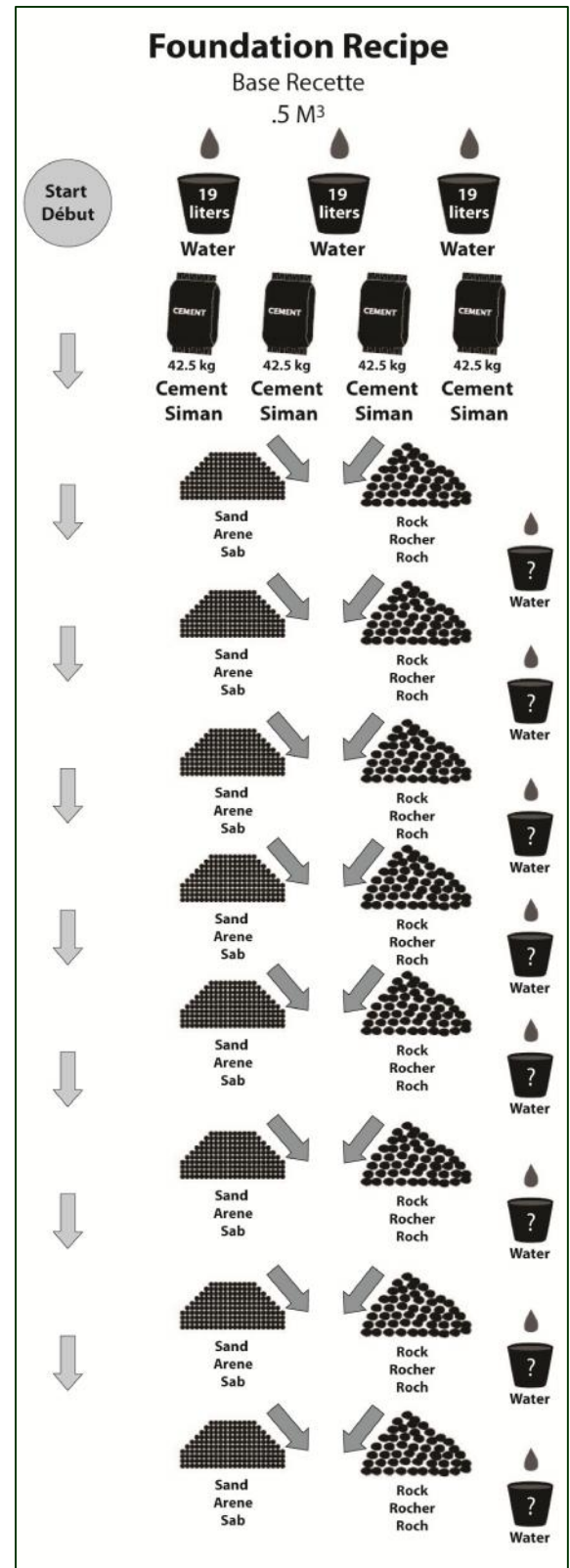
This is the rock or stone you will use for the recipe. This should also be screened to remove any debris such as sticks and stones larger than 3/4” (2cm). Using stone larger than 3/4” (2cm) can damage the trough rubber of the unit.

### Mixing Tips:

Mixing procedures with the Concrete MD may vary slightly due to moisture content in the aggregates. Here are some things to watch for and what to do:

#### MIX IS TOO WET

If the mix is too wet or runny this means that the amount of water in the recipe needs to be reduced. Rainy conditions cause sand and stones to hold moisture and cause a recipe to become too wet. Reducing the amount of water put in at the start is a good way to avoid this condition.





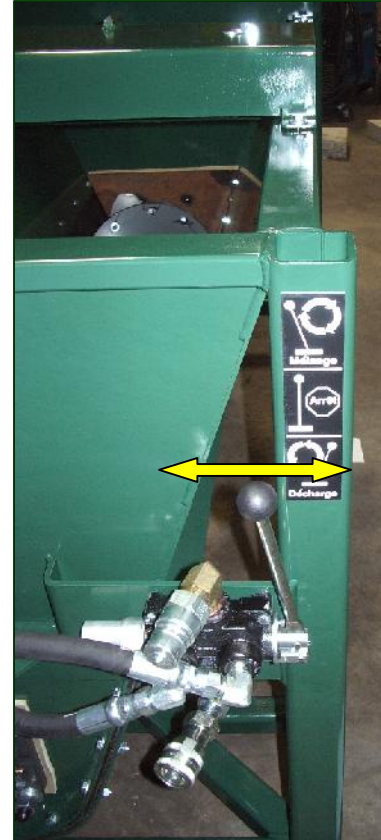
If you find your batch too wet, simply add some more aggregates and cement until the mix dries out. However, you must maintain the ratio in the mix recipe. For example, if you add one batch bucket of sand and one batch bucket of rock, you will need to add 1/2 sack of cement, as well.

### MIX IS TOO DRY

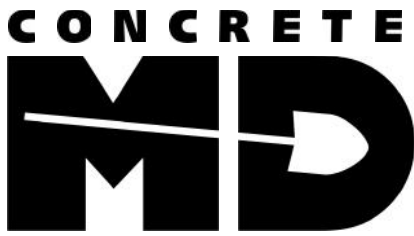
If the mix is too dry the auger will slow down or even lock-up and stop. This will usually happen near the end of the recipe, or if you are dumping dry materials too fast. As you near the last batch bucket loads, add them slowly and allow the aggregates to be mixed in thoroughly. If the auger begins to slow down and the engine RPM reduces, you must add water. Add water to the center of the mix in small amounts. Allow the water to completely mix in before adding more. Slowly the mix will loosen up and you may continue with the recipe.

If the mixer becomes locked-up, with the auger stopped and engine stalled, the following steps will help you:

- Put the hand valve lever in the center (Stop) position.
- Use a shovel to move the dry material away from the auger at each end of the mixer. If necessary, remove this mix from the unit, but do not throw it away.
- Add about a gallon (4 liters) to each end of the mixer.
- Start the engine. Push the hand valve lever to mix. If the engine begins to stall, quickly shift the hand valve lever to reverse the auger. Continue like this, switching directions before the engine stalls, working the auger back and forth, until the auger runs smoothly again.
- If you took any materials out of the mixing unit, slowly add back in as the mixing auger is turning, blending it back into the batch.
- Add water in small amounts as the entire mix begins to move. Then continue adding the remainder of the recipe as you continue to monitor the water.



## Concrete MD Cleaning Procedures



If you are mixing repetitive batches of concrete, there is no reason to clean out the unit between loads. However, if you are not mixing another batch you will need to clean out the mixer.

The Concrete MD with it's open top allows good access for cleaning.

There are two options for cleaning the mixer:

1. Without pressurized water
2. With pressurized water.

### Cleaning the Mixing Unit without pressurized water

1. Move the Mixing Unit and Power Unit to the clean out area.
2. If not already connected, attach the hydraulic hoses from the Power Unit to the Mixing Unit. Do NOT start the engine on the Power Unit at this time.
3. Fill a five-gallon bucket with water.
4. Close and secure the discharge gate.
5. Using a long-handled brush, splash water from the bucket into the Mixer Unit and remove any residue with the brush. Pay special attention to the corners of the mixing area.
6. Pour any remaining water from the bucket into the Mixing Unit.
7. Start the Power Unit and activate the auger. Allow the auger to spin in one direction for 2-3 minutes and then repeat in the opposite direction. This should remove most of the build-up on the auger.
8. For any remaining build-up on the auger, use the brush to scrub it off AFTER turning off the engine and disconnecting the power unit.
9. Once the unit is clean, open the discharge gate and run the auger in the dump mode to empty the Mixer Unit into a wheelbarrow or into a clean-out area.



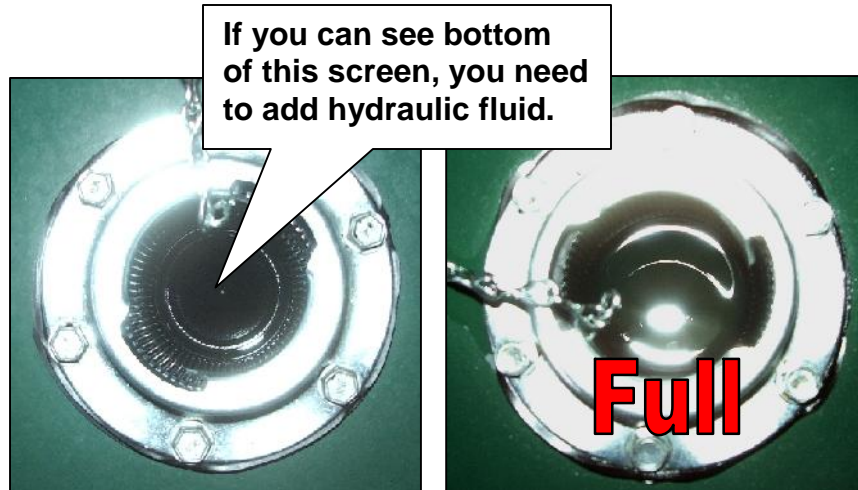
### Cleaning the Mixing Unit With Pressurized Water

1. Move the Mixing Unit and Power Unit to the clean out area.
2. If not already connected, attach the hydraulic hoses from the Power Unit to the Mixing Unit.
3. Start the engine on the Power Unit.
4. Use a pressurized water source and rinse the unit until clean paying special attention to the mixing auger and discharge opening.

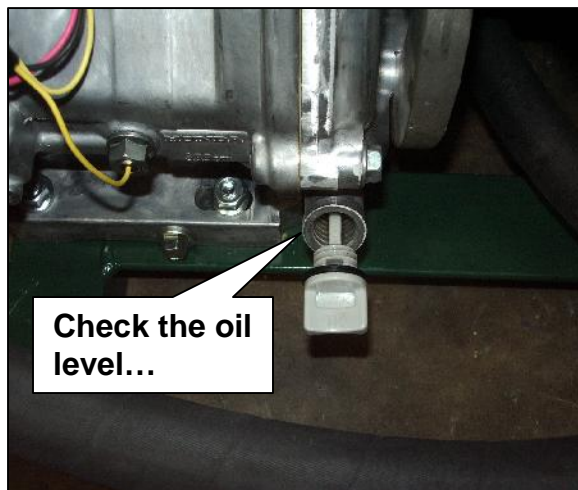
# CONCRETE MD

## Daily Maintenance Tasks

1. Visually check the hydraulic fluid level in the Power Unit.



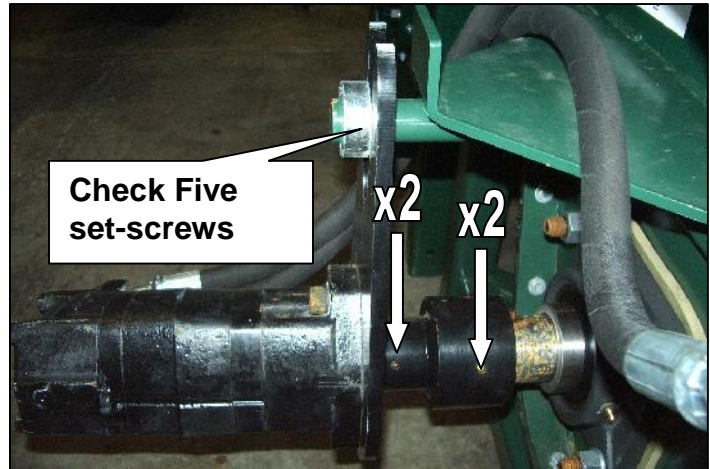
2. Visually check the fluid levels for the Engine.



3. Grease both bearings.



4. Check and tighten the set screws.



# CONCRETE MD

Every 90 Days Tasks

