

# OPERATION AND PARTS MANUAL

# Collomix<sup>®</sup>

## MODEL TMS 2000 COMPACT MIXER

Revision # 3 (01/23/14)

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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES

## **WARNING**



### **SILICOSIS WARNING**

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory diseases, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

## **WARNING**



### **RESPIRATORY HAZARDS**

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm. If you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturers or suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the materials being used.

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### **NOTICE**

Specifications and part numbers subject to change without notice

# SAFETY INFORMATION

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.



## SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER**, **WARNING**, **CAUTION** or **NOTICE**.

## SAFETY SYMBOLS

### **DANGER**

Indicates a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**.

### **WARNING**

Indicates a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.

### **CAUTION**

Indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE INJURY**.

### **NOTICE**

Addresses practices not related to personal injury.

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety messages.

## GENERAL SAFETY

### **CAUTION**

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



- Avoid wearing jewelry or loose fitting clothes that may snag on the controls or moving parts as this can cause serious injury.

- **NEVER** operate this equipment when not feeling well due to fatigue, illness or when under medication.



- **NEVER** operate this equipment under the influence of drugs or alcohol.



- **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

- **ALWAYS** check the equipment for loosened threads or bolts before starting.

- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

# SAFETY INFORMATION

## NOTICE

- This equipment should only be operated by trained and qualified personnel 18 years of age and older.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.
- **NEVER** use accessories or attachments that are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.
- **ALWAYS** know the location of the nearest fire extinguisher.
- **ALWAYS** know the location of the nearest first aid kit.
- **ALWAYS** know the location of the nearest phone or **keep a phone on the job site**. Also, know the phone numbers of the nearest **ambulance, doctor** and **fire department**. This information will be invaluable in the case of an emergency.



## MIXER SAFETY

### DANGER

- **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe **bodily harm or even death**.
- **DO NOT** mix **flammable** or **explosive** substances.



### WARNING

- **NEVER** place your hands inside the drum while starting or operating this equipment.
- **NEVER** disconnect any **emergency or safety devices**. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.
- Before operating mixer, ensure that guard hood is in position and correctly fitted.



### CAUTION

- **NEVER** lubricate components or attempt service on a running machine.

## NOTICE

- **ALWAYS** keep the machine in proper running condition.
- **ALWAYS** ensure mixer is on level ground before mixing
- **ALWAYS** operate and load the mixer from the front only.
- Fix damage to machine and replace any broken parts immediately.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.

# SAFETY INFORMATION

## ELECTRIC MOTOR SAFETY

### NOTICE

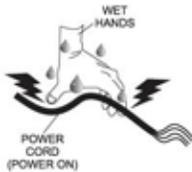
- Operate electric motor only at the specified voltage indicated on the nameplate.
- **DO NOT** spray water onto electric motor.
- **ALWAYS** disconnect AC power plug from power source before moving mixer, changing mixing tool, or performing maintenance..
- **ALWAYS** make sure the ON/OFF switch on the electric motor is in the OFF position when not in use and before inserting the mixer's power plug into an AC receptacle.



## Power Cord/Cable Safety

### DANGER

- **NEVER** let power cords or cables lay in water.
- **NEVER** use **damaged** or **worn** cables or cords when connecting equipment to generator. Inspect for cuts in the insulation.
- **NEVER** grab or touch a live power cord or cable with wet hands. The possibility exists of **electrical shock, electrocution or death.**
- Make sure power cables are securely connected. Incorrect connections may cause electrical shock and damage to the mixer.



### CAUTION

- Ensure that cables and cords will not be tripped over or trapped underneath the mixer.
- Never use the cable to pull out the plug from the power source.

### NOTICE

- **ALWAYS** make certain that proper power or extension cord has been selected for the job.
- Protect the cable from heat, oil, and sharp edges.

## TRANSPORTING SAFETY

### CAUTION

- **NEVER** allow any person or animal to stand underneath the equipment while lifting.

### NOTICE

- **ALWAYS** make sure forklift forks are inserted into pockets (if applicable) as far as possible when lifting the mixer.
- **ALWAYS** shutdown motor before transporting.
- **NEVER** lift the equipment while the motor is running.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- **DO NOT** lift machine to unnecessary heights.
- **ALWAYS** tie down equipment during transport by securing the equipment with rope.

Table 1. TMS2000 Specifications	
Drum size	26 gal.
Power Supply	110V / 15A
Motor	2.0 HP
Mixing Tool Speed	42 rpm
Capacity	20 gallons (3 cu. ft.)
Weight	228 lb (103 kg)
Dimensions	28 x 27 x 47 in (720 x 690 x 1190 mm)
Sound Level	64 dB(A)

# GENERAL INFORMATION

The MQ TMS2000 Compact Mixer offers professional solutions for the preparation of bagged ready-mixed materials. This compact and highly maneuverable mixer is ideal for masons, stucco workers, plasterers, and tile setters.

## FEATURES

The TMS2000 has the following features:

- Three offset mixing arms for improved mixing; easily removed for cleaning.
- Protective locking grille with bag opener.
- Roller wheels for vehicle loading.
- Operating switch with undervoltage protection.
- Powerful 110V/2HP electric motor.
- Easy slide discharge handle.
- Designed for bucket or wheelbarrow discharging.
- Oversized wheels for easy jobsite transportation.
- Fits through 30-inch wide doorways.
- Folding step.

## EXTENSION CABLES

When an extension cable is used, it should be a 3-wire configuration that includes a ground wire that conforms to UL code. Choose the correct size of an extension cord as shown in Table 2. Remember **distance** affects the wire size of the extension cable. Ensure that the extension cable is carefully laid out avoiding **wet areas**, **sharp edges** and locations where vehicles might run over it.

Table 2. Extension Cord Sizes

Ampere Rating Range	Volts	Length of Cord in Feet					
	115V	25 ft.	50 ft.	100 ft.	150 ft.	200 ft.	250 ft.
	230V	50 ft.	100 ft.	200 ft.	300 ft.	400 ft.	500 ft.
0-2		18	18	18	16	16	14
2-3		18	18	16	14	14	12
3-4		18	18	16	14	12	12
4-5		18	18	14	12	12	10
5-6		18	16	14	12	10	10
6-8		18	16	12	10	10	8
8-10		18	14	12	10	8	8
10-12		16	14	10	8	8	6
12-14		16	12	10	8	6	6
14-16		16	12	10	8	6	6
16-18		14	12	8	8	6	4
18-20		14	12	8	6	6	4



Figure 1. TMS2000 Components

## COMPONENTS

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Refer to Figure 1 for the location of the following mixer components.

1. **Safety Grid** — Used to cover the mixer for protection from direct access during mixing. Mixing only starts when cover is completely closed and locked in place.
2. **Bag Opener** — Used to easily tear open the bag of packed mixture prior to filling the tub.
3. **Mixing Arms (3)** — Used to mix material. Can be easily removed for cleaning.
4. **Mixing Tub** — Holds up to 20 gallons of mixing material.
5. **Discharge Handle** — Slides easily to empty contents of the mixing tub through an opening in the base.
6. **Bucket Ledge**— Accomodates placement of a bucket or can collapse to allow for a wheelbarrow or similar dumping vessel.
7. **Mixer Leg (2)** — Designed to ensure mixer stands securely in place during mixing.
8. **Wheels** — Oversized to easily transport mixer on job site.
9. **Step** — Allows the operator to access and fill up mixing tub more easily. Can be conveniently folded when not in use.
10. **Motor** — Provides 2 HP, 110V power to the mixer.
11. **ON/OFF Switch** — Turns the mixer ON or OFF.
12. **Roller Wheels** — Used to easily move mixer when loading into a vehicle.

## SETUP

1. Set up the machine on a solid, level base.
2. When setting up the machine, make sure the mixer can be emptied without obstruction.

## POWER CONNECTION

### CAUTION

Before plugging the power cable, check and make sure that the ON/OFF switch is off.

3. Connect the mixer power cable to a 110V, 60 Hz power source. Make sure you conform to the specifications on the nameplate of the mixer.
4. If necessary, use an extension cord (see Table 2) of adequate current carrying capacity. **NEVER** use a **worn** or **frayed** extension cord. Insert the electric motor's power plug into one end of the extension cord.

### DANGER



**NEVER** touch the power cord with **wet hands** or while **standing in water** when it is connected to a power source. The possibility exists of electrical shock (electrocution) even death. **NEVER** spray water directly on the electric motor.

### NOTICE

To prevent personnel from tripping over the extension cord, position the extension cord so that it lays flat and is not curled.

## OPERATING THE MIXER

### Mixed Production

1. Close safety grid and make sure it locks in place. See Figure 2. An electric safety shutdown prevents the mixer from operating while the safety grid is open.

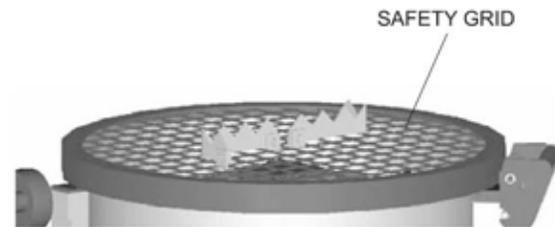


Figure 2. Safety Grid

2. Turn on the ON/OFF switch.

### NOTICE

In the event of a power failure, the mixer will switch off automatically. Turn on ON/OFF switch again to restart mixer. The mixer will also automatically switch off in the event of overload or overheating. Restart the mixer after letting it cool down.

3. Fill the mixing tub with water and aggregate (sand, etc.)
4. Add binding agent (cement, lime, etc.).
5. Repeat steps 4 and 5 until required mixture ratio has been achieved.
6. Blend mixture well.
7. When mixing is completed, turn off the ON/OFF switch.

### NOTICE

Consult a professional regarding the composition and quality of the material being mixed.

### Prepared (*commercially available*) Mixture Production

1. Close safety grid and make sure it locks in place. An electric safety shutdown prevents the mixer from operating while the safety grid is open.
2. Turn on the ON/OFF switch.
3. Fill mixing tub with the required volume of water.

## OPERATION

4. Open the sack of the packed mixture with the bag opener on the safety grid and empty mixture into the mixing tub See Figure 3.



**Figure 3. Filling Mixing Tub**

3. Slide the discharge handle back to the left when the mixing tub is empty. See Figure 5.



**Figure 5. Activating Discharge Handle**

5. Blend mixture well.
6. When mixing is completed, turn off the ON/OFF switch.

### EMPTYING THE MIXING TUB

1. Make sure a bucket or wheelbarrow is placed right under the base opening of the mixer.
2. Activate the discharge handle by sliding it all the way to the right to start flow of mixture into the bucket or wheelbarrow. See Figure 4.



**Figure 4. Emptying the Mixer**

### **CAUTION**

**ALWAYS** disconnect the mixer from the power supply before cleaning or performing any maintenance.

### **CAUTION**

To assure product safety and reliability, repairs, maintenance, and adjustments should be performed by an authorized service center or qualified technician to prevent any misplaced wires and components that could cause serious hazards.

1. Clean the mixer and mixing arms after every use. Remove the agitator head to clean. See Figure 6.



**Figure 6. Removing the Agitator Head**

### **NOTICE**

When cleaning the mixer, do not spray the motor and switch directly with a water jet. Do not hit the mixing arms with hard objects such as a hammer or a shovel.

2. Apply grease to all moving parts at regular intervals.

3. Replace all damaged or bent machine parts.
4. Replace mixing tub and mixing arms with genuine replacement parts to guarantee that the machine will work properly.

# TROUBLESHOOTING CHART

**Table 3. Mixer Troubleshooting**

Symptom	Possible Problem	Solution
Mixer does not start.	No main voltage?	Check fuse protection..
	Defective Cable or Plug?	Have cable or plug checked and replaced by an electrician.
	Motor Overloaded?	Allow motor to cool down.
	Defective switch or cable in switch is not connected?	Check switch and replace if necessary.
	Safety grid is not closed?	Close safety grid properly.
Motor hums but does not start.	Mixing Apparatus blocked?	Switch off mixer, pull out main power plug and clean mixing apparatus.
	Too much mixture in mixing tub?	Activate ON/OFF switch a few times. If still does not start, empty mixing tub of some mixture.
	Defective Condenser?	Call your dealer for repair information.
Motor does not turn off when safety grid is open.	Safety Shutdown not triggered?	Check safety shutdown and replace if necessary.
Mixer starts up but becomes blocked at low load and may switch off automatically.	Extension lead is too long or its cross-section is too small. Or, socket is too far from main connection and the connecting wire cross-section is too small?	Extension lead must be at least 1.5 to 2.5 mm <sup>2</sup> for a maximum length of 25 m. The cross-section of longer cables must be at least 2.5 mm <sup>2</sup> .

# HERE'S HOW TO GET HELP

Please have the model and serial number on-hand when calling

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This manual must accompany the equipment at all times. This manual is considered a permanent part of the equipment and should remain with the unit if resold.

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# OPERATION AND PARTS MANUAL

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