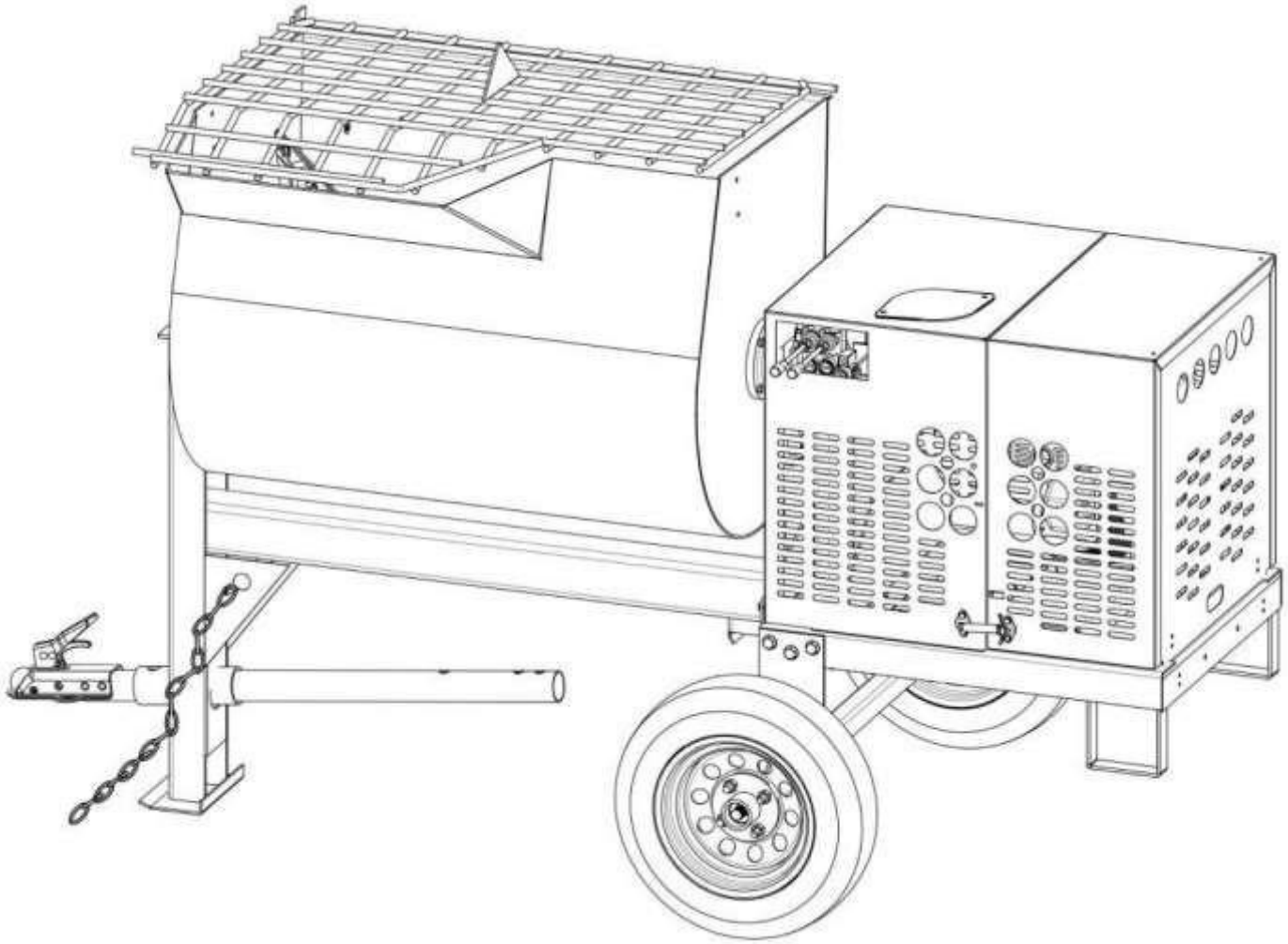
# Operator's Safety and Service

# Hydraulic Mortar & Plaster Mixer Manual



EQUIPMENT
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01012019

## HM12 / HM16

It is the OWNER´S RESPONSABILITY to communicate information on the SAFE USE and OPERATION of this machine to the operators.

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# 1. SERIAL NUMBER LOCATION

The model/serial number decal is located on the shroud assembly (cowl).

**(Write model number)**

**(Write serial number)**

The unit year of manufacturing can be determined by its serial number. So, keep this information handy at all times, use your unit serial number when ordering parts.

This Unit warranty is stated in this Operational and Safety manual on page 16. Failure to return warranty registration card renders the warranty null and void.

An engine owner's manual is also attached to every unit. Engine parts must be order from any authorized HONDA dealer, or other if different than HONDA. Refer to the engine owner´s manual lo learn about specifications and part identification.

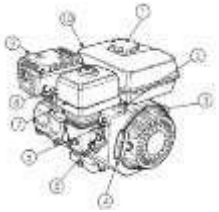
# 2. PARTS ORDERING PROCEDURE:

Parts must be ordered through your local distributor or online using our partner internet parts dealers online. If you can't locate a local distributor in your area visit us online at www.tkequip.com for information so we can locate the nearest dealer and contact numbers for assistance.

Order Parts All Dealers are welcome to send us an email to:
sevice@btmequipment.com or parts@btmequipment.com

All Dealers are welcome to order parts via fax by dialing **(956) 462-2500**

All Dealers are welcome to order parts by dialing our Number **(956) 796-9411**



All HONDA warranties and parts ordering must be through your Honda dealers. Please visit **https://engines.honda.com/dealer-locator** for more information.

**REMEMBER – You own the best Mixer. If repairs are needed use only OEM purchased parts from authorized distributors.**

## ALWAYS HAVE READY:

1. Dealer Account number
2. Dealer Name and Address
3. Shipping address and method of shipping if different than billing address.
4. Applicable model and serial number of machine(s).
5. Item part number(s), description, and quantity.

# 3. OPERATING INSTRUCTIONS

This Operation manual contains only standard parts. Variations of these parts as well as other special accessories are not included. Contact your local distributor for assistance in identifying parts not included in this manual.

## ASSEMBLY INSTRUCTIONS (IF MIXER STANDING ON END)

1. Remove the mixer and all components from its shipping crate. You will see:
    - (2) Rim and tire assemblies.
    - (1) Axle assembly with hubs on each side, (1) idler spring, and (8) lug nuts.
    - (1) Selected hitch with (1) ¾ screw w bolt & (1) safety bolt & (1) hair pins.

**Note: All installation hardware must be inserted into its respective location on the mixer, reference parts breakdown for more details if needed.**

2. After removing all mixers' safety packing, while standing on an end, locate the axle's place on the mixer. You need to locate the bolts attached to the mixer shroud, bolted to the pallet and make sure this bolts are removed.
3. Lift the axle up to the mixer frame and position it with the bracket spring lined up to the idler clutch hole on the mixer's frame.
4. Insert (2) 1/2-inch bolts with a washer through the frame and the vertical mounting bracket on the axle. Secure each bolt with a washer and locknut. **Tight to 57 ft.-lbs.**
5. Remove the lug nuts from the axle and mount the speed wheel, after wheel is mounted proceed to place the lug nuts (make sure the conical (tapered) end is facing the inside of the wheel. **Torque to 105 ft.-lbs.**
6. Proceed with the second wheel using the steps of point #5.

7. Hook one end of the spring to the idler arm bracket. Hook the other end of the spring to the spring plate on the axle. The spring should be hooked to the hole closer to the axle bracket edge, second hole is used when spring present wearing on the field.
8. Using appropriated Equipment, put the mixer down to the ground.
   **Warning: failure to use proper lifting equipment could cause mixer to fall and cause serious injury.**
9. Adjust the safety chain through the key slots in the front leg. Adjust the chain's ends to equal length.
10. Remove the safety bolt and pin from the tow bar.
11. Install the selected tow bar through the frontal leg.
12. Insert the pin through the front leg and the front hole in the tow bar. Secure the pin with a hairpin cotter.
13. Insert the 3/4" bolt through the rear hole and secure with a lock washer and nut. Tighten securely.

## 4. SAFETY PRECAUTIONS

**WARNING**

CALIFORNIA – Proposition 65 Warning

Engine exhaust and some of its constituents and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

Some examples of these chemicals are:

Lead from lead-based paints
Crystalline silica from bricks
Cement and other masonry products
Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals:
ALWAYS work in a well ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic participles.

**READ AND STUDY THE FOLLOWING SAFETY INFORMATION BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT. IN ADDITION, ENSURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.**

**IT IS THE OPERATOR'S RESPONSIBILITY TO OPERATE OUR MACHINES ONLY WHEN WEARING THE PROPER PROTECTION RECOMMENDED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. HARM OR DEATH BY INHALING PARTICLES OR OTHER PHYSICAL INJURY MAY OCCUR IF THIS MACHINE IS OPERATED WITHOUT USING THE PROPER SAFETY GEAR, OR FOLLOWING THE APPROPRIATE PROCEDURES IN THIS MANUAL.**


**WARNING - LETHAL EXHAUST GAS!**

An internal combustion engine discharges carbon monoxide, which is a poisonous and odorless invisible gas. Death or serious illness may result if inhaled. Operate only in an area with good ventilation. **NEVER IN A CONFINED AREA!**

**WARNING - DANGEROUS FUELS!**

Use extreme caution when storing, handling and using fuels - they are highly volatile and explosive in the vapor state. Do not add fuel while engine is running. Stop and cool the engine before adding fuel.

**DO NOT SMOKE WHEN REFUELING!**

**SAFETY GUARDS**

It is the owner's responsibility to ensure **ALL GUARDS AND SHIELDS** are in place and in working order.

**IGNITION SYSTEMS**

Breakerless magneto and batteries ignition systems **CAN CAUSE SEVERE ELECTRICAL SHOCKS,** avoid contact with these components or their wiring.

**SAFE DRESS**

**DO NOT WEAR** loose clothing, rings, wristwatches, etc., near machinery.

**NOISE PROTECTION**

Wear O.S.H.A. specified hearing protection devices.


**FOOT PROTECTION**

Wear O.S.H.A. specified steel tip safety shoes.

**HEAD PROTECTION**

Wear O.S.H.A. specified safety helmets.

**EYE PROTECTION**

Wear O.S.H.A. specified eyes shields, safety glasses, and sweat bands.

**DUST PROTECTION**

Wear O.S.H.A. specified dust mask or respirator.

**OPERATOR**

Keep children and bystanders off and away from the equipment.

For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (O.S.H.A.) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of such country. The publication of these safety precautions is done for your information does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near equipment. If you are operating this unit it is your responsibility to ensure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

# 5. SAFETY NOTICE & DECALS

## IMPORTANT NOTICE

The **"SAFETY ALERT SYMBOL"** is used to call attention to items or operations that may be dangerous to those operating or working with this equipment. These symbols can be found throughout the manual and on the unit itself. Please read these warnings and cautions carefully.

## READ SAFETY DECALS CAREFULLY

Carefully read and follow all safety decals. Keep them in good conditions. If they become aged, replace as required. If repainting, **REPLACE ALL** decals. Decals are available from your authorized Distributors. Decals are not shown to scale.

**CAUTION**

**WHEN TOWING, ENSURE DRAWBAR IS IN THE MIDDLE POSITION.**

201012

**WARNING**

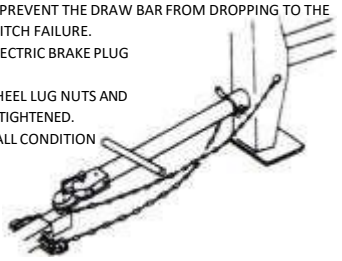
**ROTATING PART HAZARD**

ALWAYS STAND CLEAR OF THE DUMP HANDLE WHEN MIXER IS IN OPERATION. ANY BINDING OF MATERIAL BETWEEN MIXER BLADES AND THE DRUM MAY CAUSE DRUM HANDLE TO QUICKLY MOVE TO THE CHARGE POSITION.

201157

**NOTICE**

- ENSURE THE VEHICLE HAS TOWING CAPACITY FOR THE WEIGHT OF THIS MACHINE.
- DO NOT TOW MACHINE UNLESS THE DRAW BAR IS BOLTED IN PLACE AND THE SAFETY PIN IS SECURELY FASTENED.
- CLOSE ENGINE FUEL CUTOFF BEFORE TOWING MIXER TO PREVENT LEAKING OIL INTO ENGINE CRANKCASE.
- 2-PERSON LIFT PER UNIT TO POSITION MIXER ON VEHICLE.
- SECURELY ATTACH HITCH TO TOWING VEHICLE. ENSURE USE OF SAFETY PIN THROUGH LATCH OR HANDWHEEL FOR BALL TYPE HITCH.
- SAFETY CHAIN ATTACHMENT (SEE PICTURE) MUST CROSS UNDER THE DRAW BAR AND BE POSITIONED TO PREVENT THE DRAW BAR FROM DROPPING TO THE GROUND IN THE EVENT OF HITCH FAILURE.
- CONNECT LIGHTING PLUG/ELECTRIC BRAKE PLUG (WHEN APPLICABLE)
- MAKE CERTAIN THAT THE WHEEL LUG NUTS AND AXLE MOUNT HARDWARE IS TIGHTENED.
- CHECK PRESSURE AND OVERALL CONDITION OF TIRES.
- TEST BREAKS (IF APPLICABLE)



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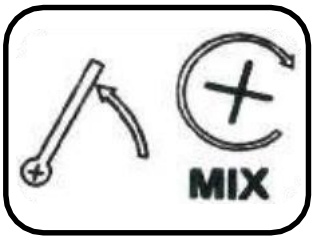
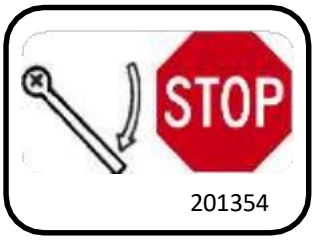
**CAUTION**

**2-PERSON LIFT REQUIRED TO POSITION MIXER HITCH ON/OFF VEHICLE**

201155




201354


**USE GASOLINE FUEL ONLY**

201152


**GX160 6:1 RED ENGINE OIL FILLER**

201153

**REMEMBER! It is the owner´s responsibility to communicate information on the safe use and proper operation of this unit to the operators.**

## DANGER

ELECTROCUTION HAZARD

**1.** TURN MACHINE OFF, SHUT DOWN AND LOCK OUT POWER SOURCE, UNPLUG POWER CORD AND WAIT FOR MOVING PARTS TO SPOT BEFORE SERVICING OR REPAIRING MACHINE OR ELECTRICAL COMPONENTS.
**2.** KEEP ELECTRICAL COMPONENTS IN GOOD CONDITIONS.

201004

## WARNING

201005

**EMERGENCY STOP**
PUSH TO STOP

## WARNING


EXCESSIVE TOWING SPEED CAN CAUSE SERIOUS INJURIES OR DEATH.
**DO NOT EXCEED** 45 MI/HR. (73 KM/HR.)

- BE CERTAIN THAT THE WHEEL LUG NUTS AND AXLE MOUNTING HARDWARE ARE TIGHTENED.
- CHECK PRESSURE AND OVERALL CONDITIONS OF

201151

## WARNING

**1.** READ AND UNDERSTAND OPERATOR'S MANUAL AND SAFETY SIGNS BEFORE STARTING.
**2.** STOP ENGINE, DISCONNECT SPARK PLUG WIRE AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE SERVICING, MAINATAINING, ADJUSTING OR CLEANING.
**3.** KEEP HANDS, FEET, HAIR OR CLOTHING AWAY FROM MOVING PARTS.
**4.** INSTALL, CLOSE AND SECURE ALL GUARDS, SHIELDS AND HOODS BEFORE OPERATING.
**5.** DO NOT PLACE HANDS IN THE DRUM UNLESS ENGINE IS OFF AND SPARK PLUG IS DISCONNECTED OR MOTOR IS OFF AND POWER CORD IS UNPLUGGED.
**6.** STAY AWAY FROM HOT ENGINE COMPONENTS DURING OPERATION
**7.** HAVE A LICENCED ELECTRICIAN WIRE UP ELECTRIC MOTORS.
**8.** DO NOT SMOKE WHEN REFUELING.
**9.** USE POWER CORD WITH REQUIRED CAPACITY TO CARRY POWER TO ELECTRIC MOTOR.
**10.** FOLLOW GOOD SAFETY PROCEDURES WHEN HANDLING FUEL.
**11.** ROUTE THE POWER CORD OUT OF THE WAY & PROTECT IT FROM DAMAGE.
**12.** DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE OR A POORLY VENTILATED AREA WITHOUT ADEQUATE VENTILATION.
**13.** KEEP WORKING AREAS DRY AND CLEAN TO PREVENT SLIPPING AND TRIPPING.
**14.** ALWAYS ATTACH SAFETY CHAIN WHEN TOWING.
**15.** COMPLY WITH APPLICABLE TRANSPORTING REGULATIONS WHEN TOWING.
**16.** DO NOT ALLOW RIDERS DURING TRANSPORTING.
**17.** DO NOT EXCEED A SAFETY TRAVEL SPEED WHEN TRANSPORTATING. SLOW DOWN FOR CORNERS AND WHEN GOING OVER ROUGH TERRAIN.

201001

## CHECK LIST

- CHECK AND TIGHTEN WHEN NECESSARY ALL NUTS AND BOLTS.
- CHECK MIXER PADDLE AND WIPERS ADJUSTMENTS AND TIGHTEN PADDLE BOLTS.
- GREASE ALL FITTINGS – GREASE DRUM SEALS TO AVOID DOWN TIME ON REPAIRS.
- CHECK BELT ADJUSTMENT AND TIGHTEN BELT IF NECESSARY.
- CHECK TIRE PRESSURE. INFLATE 12" AND 13" TO 30 PSI. 8" TIRES TO 45 PSI.
- ENSURE THE DRUM LOCK AND HOOD FASTENER ARE IN LOCKED POSITION BEFORE TRANSPORTATION.

290791

## WARNING

**ROTATING PART HAZARD**
**KEEP AWAY**

TO PREVENT SERIOUS INJURY OR DEATH ROTATING PARTS:

1. INSTALL, CLOSE AND SECURE ALL GUARDS, SHIELDS AND HOODS BEFORE OPERATING.
2. DO NOT PLACE HANDS IN DRUM UNLESS THE MOTOR OR ENGINE IS OFF AND THE POWER CORD UNPLUGGED OR THE KILL SWITCH ACTIVATED.
3. KEEP HANDS, FEET, HAIR AND LOOSE CLOTHES AWAY FROM MOVING PARTS.

201003

## WARNING

IMPROPER OPERATION OF THIS EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH.
READ OPERATOR'S MANUAL SUPPLIED WITH THIS MACHINE BEFORE OPERATION OR SERVICING.
MODIFICATION OR ALTERATION OF THIS MACHINE WILL VOID MANUFACTURER'S WARRANTY.
DO NOT ALTER OR MODIFY THIS MACHINE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER.

201154

## WARNING

MISSING GUARD HAZARD
INSTALL, CLOSE AND SECURE ALL GUARDS, SHIELDS AND HOODS BEFORE OPERATING.

201004

## DANGER

**FIRE HAZARD**
**NO SMOKING**

TO PREVENT SERIOUS INJURY OR DEATH FROM FIRE:
**1.** DO NOT SMOKE WHEN REFUELING
**2.** KEEP SPARKS, FLAMES, AND HOT MATERIAL AWAY FROM FLAMMABLE SUBSTANCES.

201005

**REMEMBER! It is the owner´s responsibility to communicate information on the safe use and proper operation of this unit to the operators.**

# 6. SAFETY DECAL LOCATION



## CHECK LIST

- CHECK AND TIGHTEN WHEN NECESSARY ALL NUTS AND BOLTS.
- CHECK MIXER PADDLE AND WIPERS ADJUSTMENTS AND TIGHTEN PADDLE BOLTS.
- GREASE ALL FITTINGS – GREASE DRUM SEALS TO AVOID DOWN TIME ON REPAIRS.
- CHECK BELT ADJUSTMENT AND TIGHTEN BELT IF NECESSARY.
- CHECK TIRE PRESSURE. INFLATE 12" AND 13" TO 30 PSI. 8" TIRES TO 45 PSI.
- ENSURE THE DRUM LOCK AND HOOD FASTENER ARE IN LOCKED POSITION BEFORE TRANSPORTATION.

290791

## WARNING

IMPROPER OPERATION OF THIS EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH.
READ OPERATOR'S MANUAL SUPPLIED WITH THIS MACHINE BEFORE OPERATION OR SERVICING.
MODIFICATION OR ALTERATION OF THIS MACHINE WILL VOID MANUFACTURER'S WARRANTY.
DO NOT ALTER OR MODIFY THIS MACHINE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER.

201154

## WARNING

1. READ AND UNDERSTAND OPERATOR'S MANUAL AND SAFETY SIGNS BEFORE STARTING.
2. STOP ENGINE, DISCONNECT SPARK PLUG WIRE AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE SERVICING, MAINATAINING, ADJUSTING OR CLEANING.
3. KEEP HANDS, FEET, HAIR OR CLOTHING AWAY FROM MOVING PARTS.
4. INSTALL, CLOSE AND SECURE ALL GUARDS, SHIELDS AND HOODS BEFORE OPERATING.
5. DO NOT PLACE HANDS IN THE DRUM UNLESS ENGINE IS OFF AND SPARK PLUG IS DISCONNECTED OR MOTOR IS OFF AND POWER CORD IS UNPLUGGED.
6. STAY AWAY FROM HOT ENGINE COMPONENTS DURING OPERATION
7. HAVE A LICENCED ELECTRICIAN WIRE UP ELECTRIC MOTORS.
8. DO NOT SMOKE WHEN REFUELING.
9. USE POWER CORD WITH REQUIRED CAPACITY TO CARRY POWER TO ELECTRIC MOTOR.
10. FOLLOW GOOD SAFETY PROCEDURES WHEN HANDLING FUEL.
11. ROUTE THE POWER CORD OUT OF THE WAY & PROTECT IT FROM DAMAGE.
12. DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE OR A POORLY VENTILATED AREA WITHOUT ADEQUATE VENTILATION.
13. KEEP WORKING AREAS DRY AND CLEAN TO PREVENT SLIPPING AND TRIPPING.
14. ALWAYS ATTACH SAFETY CHAIN WHEN TOWING.
15. COMPLY WITH APPLICABLE TRANSPORTING REGULATIONS WHEN TOWING.
16. DO NOT ALLOW RIDERS DURING TRANSPORTING.
17. DO NOT EXCEED A SAFETY TRAVEL SPEED WHEN TRANSPORTATING. SLOW DOWN FOR CORNERS AND WHEN GOING OVER ROUGH TERRAIN.

201001

**USE GASOLINE FUEL ONLY**

201152

## DANGER

**FIRE HAZARD**
**NO SMOKING**

TO PREVENT SERIOUS INJURY OR DEATH FROM FIRE:
1. DO NOT SMOKE WHEN REFUELING
2. KEEP SPARKS, FLAMES, AND HOT MATERIAL AWAY FROM FLAMMABLE SUBSTANCES.

201005

When is electric

## DANGER

ELECTROCUTION HAZARD
1. TURN MACHINE OFF, SHUT DOWN AND LOCK OUT POWER SOURCE, UNPLUG POWER CORD AND WAIT FOR MOVING PARTS TO SPOT BEFORE SERVICING OR

## WARNING

45 mi/hr.

EXCESSIVE TOWING SPEED CAN CAUSE SERIOUS INJURIES OR DEATH.
**DO NOT EXCEED** 45 MI/HR. (73 KM/HR.)

- BE CERTAIN THAT THE WHEEL LUG NUTS AND AXLE MOUNTING HARDWARE ARE TIGHTENED.
- CHECK PRESSURE AND OVERALL CONDITIONS OF TIRES.

## WARNING

**ROTATING PART HAZARD**
**KEEP AWAY**
TO PREVENT SERIOUS INJURY OR DEATH ROTATING PARTS:

1. INSTALL, CLOSE AND SECURE ALL GUARDS, SHIELDS AND HOODS BEFORE OPERATING.
2. DO NOT PLACE HANDS IN DRUM UNLESS THE MOTOR OR ENGINE IS OFF AND THE POWER CORD UNPLUGGED OR THE KILL SWITCH ACTIVATED.
3. KEEP HANDS, FEET, HAIR AND LOOSE CLOTHES AWAY FROM MOVING PARTS.

201003

MIX STOP

## WARNING

## ROTATING PART HAZARD

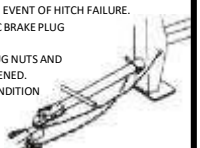
ALWAYS STAND CLEAR OF THE DUMP HANDLE WHEN MIXER IS IN OPERATION. ANY BINDING OF MATERIAL BETWEEN MIXER BLADES AND THE DRUM MAY CAUSE DRUM HANDLE TO QUICKLY MOVE TO THE CHARGE POSITION.

201157

## NOTICE

- ENSURE THE VEHICLE HAS TOWING CAPACITY FOR THE WEIGHT OF THIS MACHINE.
- DO NOT TOW MACHINE UNLESS THE DRAW BAR IS BOLTED IN PLACE AND THE SAFETY PIN IS SECURELY FASTENED.
- CLOSE ENGINE FUEL CUTOFF BEFORE TOWING MIXER TO PREVENT LEAKING OIL INTO ENGINE CRANKCASE.
- 2-PERSON LIFT PER UNIT TO POSITION MIXER ON VEHICLE.
- SECURELY ATTACH HITCH TO TOWING VEHICLE. ENSURE USE OF SAFETY PIN THROUGH LATCH OR HANDWHEEL FOR BALL TYPE HITCH.
- SAFETY CHAIN ATTACHMENT (SEE PICTURE) MUST CROSS UNDER THE DRAW BAR AND BE POSITIONED TO PREVENT THE DRAW BAR FROM DROPPING TO THE GROUND IN THE EVENT OF HITCH FAILURE.
- CONNECT LIGHTING PLUG/ELECTRIC BRAKE PLUG (WHEN APPLICABLE)
- MAKE CERTAIN THAT THE WHEEL LUG NUTS AND AXLE MOUNT HARDWARE IS TIGHTENED.
- CHECK PRESSURE AND OVERALL CONDITION OF TIRES.
  TEST BREAKS (IF APPLICABLE)

201150



## CAUTION

**2-PERSON LIFT REQUIRED TO POSITION MIXER HITCH ON/OFF VEHICLE** 201155

## CAUTION

**WHEN TOWING, ENSURE DRAWBAR IS IN THE MIDDLE POSITION.** 201012

# 7. BEFORE OPERATING

- **REMEMBER!** It is the owner´s responsibility to communicate information on the safe use and proper operation of this unit to the operators.
- Before operating, review SAFETY PRECAUTIONS listed on page 5 of this manual.
- Familiarize yourself with the operation of the unit and confirm that all controls function properly BEFORE starting engine.
- Locate the killing switch and assure you know how to STOP the unit.
- Make sure hands, feet, and clothing are at a safe distance from any moveable parts prior to starting.
- Shrouds and grids are provided to protect the operator or structures in close proximity to rotating hot engine parts. It is the **RESPONSABILITY OF THE OPERATOR** to see that they are properly in place.
- OIL LEVEL - Check the oil level in the engine. For more information see "Lubrication" under the engine "Owner's Manual" the "Maintenance" section of this manual.

All mixers come without oil on **ENGINE AND RESERVOIR.** Running an engine without lubrication may damage the machine.

- AIR CLEANER - Check to ensure elements are in good condition and properly installed.
- Review every decal with the OPERATOR.
- FUEL SUPPLY – Mixer engines require an automotive grade of clean, fresh, unleaded or regular gasoline. **All mixers come WITHOUT gasoline, oil or any other fluid.**
- FUEL FILTER - Check to ensure element is in good condition... Replace if it is clogged or damaged.
- LUBRICATION POINTS - Make sure all pillow blocks and drum's trunnions have been properly greased.
- PADDLES AND BLADES - Check the paddles wipers and make sure they are adjusted to about 3/16" interference with the drum. This is mandatory after installing rubber blades on the paddles. Wipers can be adjusted at a desired position.

# 8. OPERATION INSTRUCTIONS

Prior to starting engine, make sure both hydraulic levers are in NEUTRAL POSITION.

**Check Gas engine**

IMPORTANT
Engine warranty is void if the engine is run without oil.

1. Open the fuel valve.
2. Pull the stop switch on the engine shroud to its "Out" position.
3. Move the engine throttle control to the "FAST" position.

4. Choke the engine X3 times for warming, if necessary.
5. Pull the starter string.
6. After the engine starts, move the choke lever to the open position, move the throttle level to the "IDLE" position and let the engine warm-up for one or two minutes.

**Check Electric motor**

1. Plug the motor into a suitable power source, according to the motor specs.
2. Move the switch on the motor to the "on" position.

**OPERATING**

1. Make sure the MIX levers are on "NEUTRAL" position.
2. Make sure the dump lever is in neutral to avoid drum from flipping.
3. Pull the stop switch on the engine shroud to its "Out" position.
4. Pull the engine starter string.
5. Close the engine shroud

**DO NOT OPERATE THE MIXER WITH THE SHROUD OPEN!**

6. Move the engagement lever into the "MIX" position and load the mixer.
   **Do not pour material** before paddles are spinning, this can result on mixer damage and will void the unit warranty.
7. After loading a batch of mortar, it is recommended to add water before adding a second bag.
8. After discharging the final batch of mortar, add water to the drum while the mixer is running. Discharge the water after to clean excess material.
9. Additional cleaning may be needed.

# 9. ADDING FLUIDS AND TOWING

**GAS ENGINE**

1. Move the engagement lever to the "IDLER" position and lock drum.
2. Pull off the engine stop switch on the engine shroud.
3. Close the fuel valve.
4. Add oil to continue operation / Drain oil if need oil change.
5. Add gasoline if needed.


**STOP THE ENGINE OR ELECTRIC MOTOR BEFORE:**

1. Adding fuel/Oil.
2. Leaving equipment unattended for any amount of time.
3. Making any repairs or adjustments to the unit.
4. Transportation.

**BEFORE TOWING:**

1. Make sure the axle and tow bar hardware is tightened.
2. Check the condition of the pin on the tow bar and make sure it is secured.
3. Remove any loose debris from the mixer.
4. Use safety chains when towing.

**TOWING:**

1. Stop the engine or electric motor.
2. Close and hook the engine should.

3. Rotate the drum into the tow position and secured it with the locking pin.
4. Secure the mixer hitch and safety chains to the vehicle.

## MAXIMUM TOW SPEED: 45 mph (72 Km/h)

# 10. SERVICE INSTRUCTIONS

- Never service or lubricate the unit engine while running.
- After servicing the unit, restore and fasten all guards, shields, and covers to their original positions.
- Never drain oil into the ground, into open streams, or down sewage drains.

**ENGINE**

**See engine owner´s manual maintenance schedule.**
If lost please visit https://engines.honda.com/parts-and-support/owners-manuals for more information.

**DRUM**

1. Wash the drum after every day's usage.
2. Pull the locking pin and tip the drum forward to drain water excess.
3. Leave mixer drum facing down to avoid rain water, snow, dust or any other weather particles to get inside the mixer drum when not in use.
4. Secure with locking pin before moving mixer for towing or storing.

**REMEMBER! It is the owner´s responsibility to communicate information on the safe use and proper operation of this unit to the operators.**

**LUBRICATION**

1. Grease all fittings daily. All mixers have 6 grease fittings, 4 pillow blocks and 2 drum trunnions. Two of the fittings are located at each end of the mixer drum on the top of pillow blocks and trunnions.
   The two remaining grease fittings are located under the engine shroud on the top of the intermediate shaft pillow blocks (see picture below).
2. Electric mixers only: oil the drive chain once a week.

# 11. MAINTENANCE SCHEDULE

| | *Maintenance* | *Each use* | *Every 20 hours* | *Every 50 hours* | *Every 100 hours* | *Yearly* |
|---|---|---|---|---|---|---|
| Engine | Refer to engine operator/owner manual | X | | | | X |
| Bearings | Grease | X | | | | X |
| V-Belts | Check for excessive wear | | X | | | X |
| Hardware | Check and tighten 1,2 | | X | X | | X |
| Tires | Check air pressure | X | | | | |

1. Check all hardware after the first 5 hours of use, the follow the maintenance schedule.
2. Re-torque the front leg and axle hardware after the first 50 miles traveled, and then follow the maintenance schedule.

**REMEMBER! It is the owner´s responsibility to communicate information on the safe use and proper operation of this unit to the operators.**

# 12. HYDRAULIC CIRCUIT

## Hydraulic Circuit for "Automatic Dump" Mixer with Two-Spool Control Valves for Alternate Operation Design

The main beam of the mixer was designed as a hydraulic reservoir. The tank was sized to adequately cool the oil sufficiently, and provide tie to deaerate the oil, all without requiring the use of other heat exchangers or cooling fans.

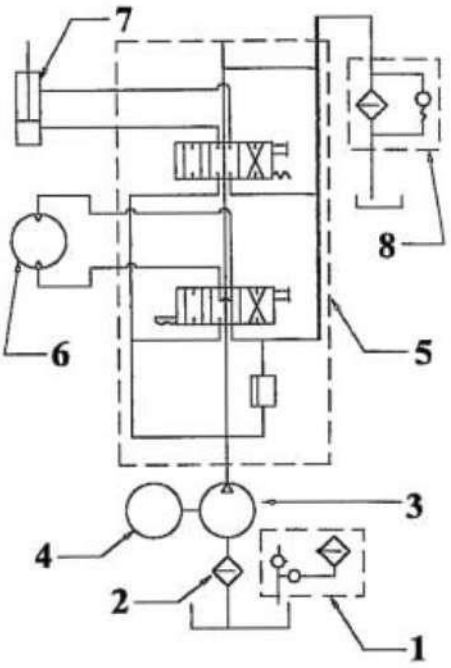
**CAUTION**: Breather cap is under pressure. Remove breather cap only when cool enough to touch with bare hands. Slowly loosen cap to relieve pressure before removing completely.

The reservoir is equipped with a pressurized breather filter 91) that reduces the out inflow of air due to thermal expansion and contraction of the hydraulic oil. This substantially reduces the amount of contaminants that can enter the reservoir.

To remove the breather cap-use a wrench on the hexagonal portion of the cap assembly which is located underneath the main body of the cap.

The pump (3) that is directly coupled to the engine (4) directs the hydraulic fluid to a double-spool directional control valve assembly (5). This valve assembly, with an internal pressure relief, set at 2100 psi (14.47 MPA) controls both the paddle shaft motor (6) and the mix dumping cylinder (7). The mix dumping control valve is a 4-way, 3-position valve that is self-centering, springs return the spool to center neutral position. The paddle shaft motor control valve is also a 4-way, 3-position valve that is locked in the mixing mode, and self-centering in the reserve mode. This allows the paddle shaft to rotate in a counter-clockwise direction (mixing direction) without having to maintain a hand on the control lever. The hydraulic fluid returns to the reservoir via a conveniently located (for service) oil filter (8) with a 25 psi (0.17 MPA) bypass.

1. Pressurized Breather Filter
2. Oil Strainer
3. Gear Pump
4. Engine
5. Directional Control Valve assembly with 2100 psi (14.47 MPA) pressure relief
6. Paddle Shaft Motor
7. Mix Dumping Cylinder
8. Spin-on Filter with 5 psi (0.17 MPA) bypass




# 13. HYDRAULIC MIXER SPECIFICATIONS

**THE POWER UNIT**

This hydraulic system, powered by a 13 Honda gas engine, operating at 3400-3500 RPM, has been designed to develop more than 5100-inch pounds of torque and turn the paddle shaft at 33-34 RPM. The dump cycle is set for maximum speed of 5.5 seconds.

**THE PUMP**

**The hydraulic system should be adjusted to operate at 2100 psi**. This high-strength extruded aluminum pump with bushing block pressure plates offers more performance and strength than the more economical "Die cast aluminum pumps. To achieve the longest possible life for both the engine and pump, the pump is mounted directly to the engine which assures the correct alignment whit the paddle shaft…this is critical.

**SPECIAL NOTE: All settings on the hydraulic system are factory preset…field adjustments may void the warranty.**

**THE VALVES**

The directional valves are high-performance. These newly designed valves offer low internal leakage which means more oil goes to the system for work and less heat is generated. An integral relief valve protects the hydraulic system from high pressure shock loading and excessive system pressure…relieving the oil to the tank.

**THE HYDRAULIC MOTOR**

The hydraulic motor is a disc valve design as opposed to a motor shaft/spool design. This motor offers the highest performance with the least internal fluid loss. This disc valve design motor offers a higher bearing load capability than most competitive units… this means longer life for the hydraulic motor.

The correct operating fluid level is when the "LUBE-sight" plug is ¾ full.

**THE TANK FRAME**

Allowing for heated-fluid expansion, this tank holds 14.6 gallons of hydraulic oil. A "LUBE-sight" plug has been mounted on the tank so that fluid levels can be monitored.

**THE PRESSURIZED BREATHER/FILLER CAP:**

Maintains a 5 psi positive head pressure on oil in the tank - keeping the air exchange and ingestion of concrete dust in to the hydraulic system at a minimum.

The blanket pressure of 5 pas also assists in priming the hydraulic pump forcing fluid from tank to pump inlet.

1. All hydraulic fluid is filtered as it is returned to the tank.
2. Heavy – duty “chain style” sprocket increases the torque transfer.
3. Pressure connections are sealed O-ring boss style fittings.
4. Hose connections are JIC style flare with swivels.
5. Low pressure connections are NPT with sur-lock pipe sealant.
6. Heavy Duty safety duty grade with built in bag cutter.
7. Durable paddle shaft of 1-3/4" square hardened steel. Double sealed bearings with eight spring loaded greased shaft seals.
8. Heavy-duty schedule 80 steel removable tow/hitch
9. Solid 1 5/8" axle with large 878x13" tires for smooth towing. Suspension springs standard less bounce, less sway.
10. Rugged 14-gauge steel engine cover with punches pressed ventilation openings for increased cooling and added strength.

Dual controls-mixing blades and optional hydraulic pump.

# 14. HYDRAULIC OIL TYPE

| Hydraulic Oil Type | HM12GH13 | HM16GH13 |
|---|---|---|
| **ENGINE** | SAE 15W40 | SAE 15W40 |
| **HYDRAULIC SYSTEM** | HIDRO-68 | HIDRO-68 |

# 15. REPLACEMENT

| **Parts** | **Tolerance or Replacement Cycle** |
|---|---|
| *Engine Components* | ✓ Refer to your engine manufacturer´s Owner´s Manual |
| *Hyd Valve* | ✓ Replace if stretched to the point that the Valve is not working properly. |
| *Hoses/Fittings* | ✓ Replace hydraulic hoses and/or fittings if they present cracks or damage. |
| *Hardware* | ✓ Re-torque all bolts after the first eight hours of operation and check hardware every 25 hours. Replace any worn or damaged hardware as needed. Replacement hardware should be grade 5 and zinc plated. |
| *Safety Decals* | ✓ Replace if they become aged, damaged or cannot be easily read. |

# 16. TORQUE CHART

## APROXIMATE TIGHTENING TORQUE

| SIZE | GRADE 2 | GRADE 5 | GRADE 8 |
|---|---|---|---|
| # 10-24 | 21 in-lbs | 32 in-lbs | 45 in-lbs |
| # 10-32 | 23 in-lbs | 36 in-lbs | 51 in-lbs |
| 1/4-20 | 49 in-lbs | 76 in-lbs | 9 in-lbs |
| 1/4-28 | 56 in-lbs | 87 in-lbs | 10 in-lbs |
| 5/16-18 | 8 in-lbs | 13 in-lbs | 18 in-lbs |
| 5/16-24 | 9 in-lbs | 14 in-lbs | 20 in-lbs |
| 3/8-16 | 15 in-lbs | 23 in-lbs | 33 in-lbs |
| 3/8-24 | 17 in-lbs | 26 in-lbs | 37 in-lbs |
| 7/16-14 | 24 in-lbs | 37 in-lbs | 52 in-lbs |
| 7/16-20 | 27 in-lbs | 41 in-lbs | 58 in-lbs |
| 1/2-13 | 37 in-lbs | 57 in-lbs | 80 in-lbs |
| 1/2-20 | 41 in-lbs | 64 in-lbs | 90 in-lbs |
| 9/16-12 | 53 in-lbs | 82 in-lbs | 115 in-lbs |
| 9/16-18 | 59 in-lbs | 82 in-lbs | 129 in-lbs |
| 5/8-11 | 73 in-lbs | 112 in-lbs | 159 in-lbs |
| 5/8-18 | 83 in-lbs | 112 in-lbs | 180 in-lbs |
| 3/4-10 | 129 in-lbs | 223 in-lbs | 282 in-lbs |
| 3/4-16 | 144 in-lbs | 200 in-lbs | 315 in-lbs |
| 7/8-9 | 125 in-lbs | 322 in-lbs | 454 in-lbs |
| 7/8-14 | 138 in-lbs | 355 in-lbs | 501 in-lbs |

## APROXIMATE TIGHTENING TORQUE

| SIZE | GRADE 2 | GRADE 5 | GRADE 8 |
|---|---|---|---|
| 1-8 | 188 ft-lbs | 483 ft-lbs | 682 ft-lbs |
| 1-12 | 205 ft-lbs | 529 ft-lbs | 746 ft-lbs |
| 1-14 | 210 ft-lbs | 541 ft-lbs | 764 ft-lbs |
| 1-1/8-7 | 266 ft-lbs | 596 ft-lbs | 966 ft-lbs |
| 1-1/8-12 | 297 ft-lbs | 668 ft-lbs | 1083 ft-lbs |
| 1-1/4-7 | 375 ft-lbs | 840 ft-lbs | 1363 ft-lbs |
| 1-1/4-12 | 415 ft-lbs | 930 ft-lbs | 1509 ft-lbs |
| 1-3/8-6 | 491 ft-lbs | 1102 ft-lbs | 1787 ft-lbs |
| 1-3/8-12 | 559 ft-lbs | 1254ft-lbs | 2034 ft-lbs |
| 1-1/2-6 | 652 ft-lbs | 1462ft-lbs | 2371 ft-lbs |
| 1-1/2-12 | 734 ft-lbs | 1645ft-lbs | 2668 ft-lbs |
| M 6 | 3 ft-lbs | 4 ft-lbs | 7 ft-lbs |
| M 8 | 6 ft-lbs | 10 ft-lbs | 18 ft-lbs |
| M 10 | 10 ft-lbs | 20 ft-lbs | 30 ft-lbs |

### CONVERSIONS

in - lbs x 0.083 = ft-lbs
ft - lbs x 12 = in-lbs
ft - lbs x 0.1383 = kg-m
ft - lbs x 1.3558 = N-m

# 17. WARRANTY

## THIS IS YOUR WARRANTY – PLEAE READ AND SAVE

1. **TK Equip** warrants each new machine against any manufacturing defect in material and workmanship under normal use and service for a period of (1) one year. Warranty period begins on first day of use by end user. This first day of use is established by the date of a completed warranty card or a bill of sale to the end user.

2. **TK Equip** mixers offer a Life time warranty on Bearings & Seals. The obligation under this warranty is limited to the replacement of parts at your **TK Equip** factory branch or on an authorized **TK Equip** distributor.

3. Machines altered or modified without a **TK Equip** written consent may void this warranty policy immediately. Misuse, negligence, accidents or the operation of the machines in any other way that the recommended by **TK Equip** operation procedures, will void this warranty policy. This warranty shall not apply to machines repaired by other than authorized **TK Equip** branches or distributors.

4. The cost of transportation and other expenses related are not covered by this warranty.

5. Written authorization for the return of merchandise under warranty must be obtain from **TK Equip** customer service contact. All equipment & parts returned may be sent with a signed RGA (Return Goods Authorization) for its follow up.

6. **TK Equip** reserves the right to inspect and render the final decision on each warranty case.

7. **TK Equip** reserves the right to improve or make product changes without incurring any obligation to update, refit or install on machines previously sold.

8. **TK Equip** is not responsible for any liability, damage or injury directly or indirectly from the design, material or operation of its product.

9. The warranty letter must be returned to **TK Equip** within 10 days after purchase/adquire, for a first use failure warranty claim.

10. Warranty request must be submitted in written within 30 days after machine failure to **TK Equip** customer service.

11. THE FOREIGN WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR USE AND OF ALL OTHER OBLIGATION OR LIABILITIES ON OUR PART, AND WE NEITHER ASSUME NOR AUTHORIZE AINES, MOTOR AND THEIR COMPONENTS.NY OTHE RPERSON TO ASSUME FOR US ANY OF OUR PRODUCTS. LIKEWISE, THIS WARRANTY

**Control #:**_____(Dealer's internal #)

## TK Equipment, Inc.

## Lifetime Limited Warranty Application

This warranty application must be filled in by the dealer/distributor at the time of the sale. Please Print

TK Equipment Product Purchased at:_____Phone (_____)_____
Street Address:_____
City:_____State:_____Zip:_____
Model No.:_____Customer Invoice:_____Date:___/___/___
16 DIGIT Serial No.:_____
Customer Name:_____Phone: (_____)_____
Street Address:_____
City:_____State:_____Zip:_____

Representative Signature:_____Date:____/____/____
Equipment's Owner Signature_____Date:____/____/____

Additional Notes: _____
_____
_____
_____

**NOTE:** To Register our unit, please send a copy by email to service@btmequipment.com or by fax to (956) 462-2500

**Control #:**_____

**TK Equipment, Inc.**

Customer Life Time
Warranty Application

*Dettach and keep on file
(Check warranty policy for details)

Customer Signature

_____

# 18. WAREHOUSE LOCATIONS

## *We are at your service*

We have established a network of reputable distributors with trained mechanics and full facilities for maintenance and rebuilt, and to carry an adequate stock parts in all areas of the country. Their sales engineers are available for professional consultation. If you cannot locate your nearest distributor contact our sales branch listed below so we can point you in the right direction.

www.tkequip.com
salesmanager@tkequip.com
sales@tkequip.com
Office: 956-796-9411
Tel: 956-740-3740
Fax: 956-462-2500

# 19. ADDITIONAL NOTES: