



MORTAR AND PLASTER MIXER

MM6SH160	MM8SH240	MM9SH240
MM6PH160	MM8PH240	MM9SE200
MM6SE150	MM8SE200	
MM6PE150	MM8PE200	

OWNER'S MANUAL



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Bartell Morrison Inc.
170 Traders Blvd E
Mississauga, Ontario, Canada
L4Z 1W7
Tel: (647) 953-4100
Fax: (647) 953-4101

Bartell Morrison USA LLC
200 Commerce Drive, Unit A
Freehold, NJ, USA
07728
Tel: (848) 225-8100
Fax: (848) 225-8101

SPE International Ltd
Honeyholes Lane
Dunholme, Lincoln, England
LN2 3SU
Tel: 01673 860709
Fax: 01673 861119

Innovatech
832 80th Street SW
Everett, Washington, USA
98203
Tel: (425) 405-9100
Fax: (425) 405-9101

ORIGINAL LANGUAGE

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Address inquiries or reference permissions care of:
Bartell Morrison Inc., 170 Traders Blvd E., Mississauga, Ontario, Canada, L4Z 1W7

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SAFETY PRECAUTIONS	
	<p>DANGER EXPLOSION HAZARD</p> <p>Never operate the machine in an explosive atmosphere, near combustible materials, or where ventilation does not clear exhaust fumes.</p>
	<p>WARNING BURN HAZARD</p> <p>Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.</p>
	<p>CAUTION ROTATING HAZARD</p> <p>Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.</p>
	<p>CAUTION MOVING PARTS</p> <p>Before starting the machine, ensure that all guards and safety devices are in place and functioning properly.</p>
	<p>ATTENTION READ OWNER'S MANUAL</p> <p>Read and understand owner's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.</p>

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WARRANTY INFORMATION – MORTAR AND PLASTER MIXER

All products sold by Bartell Morrison Inc. and Bartell Morrison (USA) LLC (the “Company”) are warranted against defects in materials and/or workmanship; excluding the normal wear on wearing components covered by a separate original manufacturer’s warranty, for a period of 12 months to the original end user purchaser provided that certain conditions have been met. Conditions:

1. The equipment serial number has been registered with the Company or its approved dealers, distributors, and representatives or agents.
2. The equipment has been operated in an appropriate manner by qualified individuals.
3. The equipment has been properly maintained as per the instructions included in the Owner’s Manual.
4. All claims for warranty must be filed on proper forms and include the serial number of the equipment along with proof of purchase.

Any evidence of failure to meet these conditions may result in a denial of the warranty claim.

Consideration of warranty claims will be at the sole discretion of the Company, or its authorized dealers, distributors, representatives or agents.

The Company may, at its discretion, request that the equipment to be considered for warranty be returned at the owner’s expense to an authorized repair facility for inspection.

Under this warranty we may, at our discretion, replace the defective portion of the equipment and a reasonable (as determined by the Company) amount of labour to conduct the repair or replacement.

Under no circumstances shall the Company be liable for any additional or exceptional costs beyond the cost to repair or replace the defective portion of the equipment. The Company shall not be held accountable for; costs associated with travel to inspect or repair defective equipment, cost for transporting equipment at any facility other than one authorized by the Company or ancillary damage caused by or as a result of defective equipment.

Under no circumstances shall equipment be returned to the Company or its authorized dealers, distributors, representatives, or agents without the approval of the Company as evidence by a Returned Goods Number. To obtain a Returned Goods Number contact the factory or your authorized dealer, distributor, representative or agent.

This warranty is for the sole benefit of the original end user purchaser and is not transferrable to any other company or person.

Warranty is void if the engine is run void of oil

SAFETY INFORMATION – MORTAR AND PLASTER MIXER

SAFETY PRECAUTIONS

Before using this equipment, study the entire owner's manual to become familiar with its operation. Do not allow untrained or unauthorized personnel, especially children, to operate this equipment. Use only factory authorized parts for service.

This manual contains DANGER, WARNING, CAUTION callouts which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.

Obey all safety messages that follow to avoid possible injury or death. 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.

OPERATING SAFETY

Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only. This equipment is for industrial use only. The following safety guidelines should always be used when operating this mixer:

Do not operate or service this equipment before reading the entire manual. This equipment should not be operated by persons under 18 years of age.

Never operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.

Never operate this equipment when not feeling well due to fatigue, illness or taking medicine.

Never operate this equipment under the influence of drugs or alcohol.

Never use accessories or attachments, which are not recommended by Bartell Morrison for this equipment. Damage to the equipment and/or injury to user may result. The manufacturer does not assume responsibility for any accident due to equipment modifications.

Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

Always check the machine for loosened threads or bolts before starting.

Never touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or mixer.

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.

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 server electrical shock, avoid contact with these components or their wiring.

DRESS

Do not wear loose clothing, rings, wristwatches, etc., near machinery.

PROTECTION

Wear O.S.H.A. specified hearing protection devices, steel tip safety shoes, safety helmets, eye shields, safety glasses, sweat bands and a dust mask or respirator.

OPERATOR

Keep children and bystanders off and away from the equipment.

SAFETY DECALS

Ensure operator has read and understood all safety decals mounted on the equipment.

SAFETY JURISDICTION

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 a unit it is your responsibility to insure 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.

BEFORE OPERATING

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 in 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 responsibility of the operator to see that they are properly in place.

Oil Levels - 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 running an engine without lubrication may damage the engine.

Air Cleaner - Check to ensure elements are in good condition and properly installed. Review every decal with the Operator.

Fuel Supply- Engines on Mixer equipment require an automotive grade of clean, fresh, unleaded or regular gasoline. All mixers come without gasoline and oil.

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 and make sure they are adjusted to about 1/16" interference. This is mandatory after installing rubber blades on the paddles.

SERIAL NUMBER LOCATION

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

(Write model number) _____

(Write serial number) _____

The unit's year of manufacture can be determined by the serial number. Contact your nearest sales branch Bartell Inc., for more information.

This Unit warranty is stated in this Operational and Safety manual on page 4 (above). 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 may order from any authorized dealer. Refer to the engine owner's manual to learn about specifications and part identification.

PARTS ORDERING PROCEDURE

Parts are available worldwide and must be ordered through your local distributor. If you can't locate the distributor in your area refer to the Bartell contact information page of this manual to locate the nearest branch and contact numbers for assistance.

ALWAYS HAVE READY:

1. Model and serial number of machine when ordering parts.
2. Model and serial number of engine when ordering engine parts.
3. Item part number(S), description, and quantity.
4. Company name, address, zip code, and purchase order number.
5. Preferred method of shipping.

OPERATING INSTRUCTIONS

INTRODUCTION

Mixers are intended for use in several applications. They are powered by four cycle gas engines or electric motors and are available in different sizes and manufacturers. This Operation manual contains only standard parts. Variations of these parts as well as other special parts are not included. Contact your local distributor for assistance in identifying parts not included in this manual.

All installation hardware must be inserted into its respective location on the mixer, see parts explosion (Parts Book) for more details.

ASSEMBLY INSTRUCTIONS

1. Remove the mixer and all components from its shipping crate. You will see:
 - Two rim and tire assemblies.
 - Axle assembly with hubs on each side, idler spring, and 8 lug nuts.
 - Selected hitch with lock pin and bolt and safety bolt with hair pin.
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 two 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 the bolts at 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 #3.
7. Hook one end of the spring to the idler arm. Hook the other end of the spring to the spring plate on the axle. The spring should be hooked through the second hole from the top toward the middle of the mixer.
8. Using appropriated Equipment, put the mixer down to the ground.
9. Position 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 tow bar through the front 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.

Failure to use proper lifting equipment could cause mixer to fall and cause serious injury.

OPERATION INSTRUCTIONS

Prior to starting engine, make sure mixer engagement lever(s) are in the "IDLE" POSITION.

Gas engine

1. Open the fuel valve.
2. Pull the stop switch on the engine shroud to the "out" position
3. Turn the on/off switch on the engine to its "On" position.
4. Move the engine throttle control to 1/3 position. (high idle)
5. Choke the engine if necessary. (You may not need to choke a warm engine)
6. Pull the starter string.
7. 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.

Electric motor

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

Operating

1. If using a gas engine, allow the engine to warm up then move the throttle to the fast position.
2. Close the engine shroud.
3. Move the engagement lever into the "MIX" position and load the mixer.
4. After loading a batch of mortar, it is recommended to add water for the next batch.
5. After discharging the final batch of mortar, add water to the drum while the mixer is running. Discharge the water after the inside of the mixer is clean.

Do not operate the mixer with the shroud door open.

STOPPING ENGINE

GAS ENGINE

1. Move the engagement lever to the "IDLER" position.
2. Whenever possible it is recommended to let the engine idle before stopping.
3. Push in the engine stop switch on the engine shroud.
4. Close the fuel valve.

ELECTRIC MOTOR

1. Move the switch on the motor to the "off" position.

STOP THE ENGINE OR ELECTRIC MOTOR BEFORE:

- Adding fuel.
- Leaving equipment unattended for any amount of time.
- Making any repairs or adjustments to the unit.
- Transportation.

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.

BEFORE TOWING:

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

DO NOT TOW ON PUBLIC ROADS

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.

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. Return drum to towing position and secure with locking pin before moving mixer.

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.
2. Electric mixers only: oil the drive chain once a week.

MAINTENANCE SCHEDULE

	Maintenance	Each Use	Every 20 hours	Every 50 hours	Every 100 hours	Yearly
Engine	Refer to Operator/owner manual	○				○
Bearings	Grease	○				○
V-Belts	Check for Excessive Wear		○			○
Roller chain	Check for Excessive Wear		○			○
Hardware	Check and tighten 1,2		○	○		○
Tires	Check air pressure	○				
HYD Fluid (If equipped)	Check level					○

1. Check all hardware after the first 5 hours of use, then 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.

Recommended Oil

	Oil Type
Engine	SAE 10W/30
Hydraulic System	H68

REPLACEMENT

Parts Tolerance or Replacement Cycle

Engine Components - Refer to your engine manufacturer's Owner's Manual

V-Belts - Replace if stretched to the point that the idler does not work properly. Replace the V belts if they are cracked or torn.

Roller Chain - Replace if there is excessive play between the links or the links are damaged.

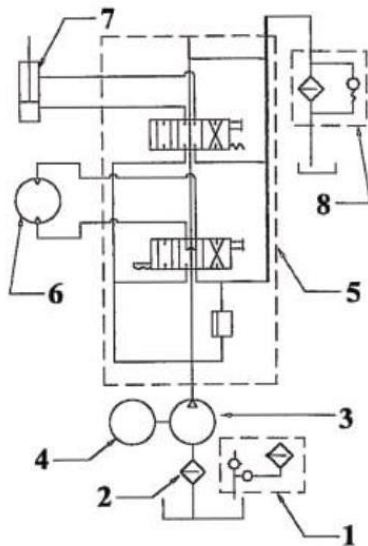
Gears - Replace if the teeth are cracked or have become sharp.

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.

HYDRAULIC CIRCUIT

*For units equipped with hydraulic option

Hydraulic Circuit for “Automatic Dump” Mixer with Two-Spool Control Valves for Alternate Operation Design



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

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.

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.

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 number 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.

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.



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Bartell Morrison Inc.
170 Traders Blvd E
Mississauga, Ontario, Canada
L4Z 1W7
Tel: 1-647-953-4100
Fax: 1-647-953-4101



Bartell Morrison (USA) LLC
200 Commerce Drive, Unit A
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07728
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Innovatech
4701 Allmond Ave
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Fax: (425) 405-9101



SPE International
Honeyholes Lane
Dunholme, Lincoln, UK
LN2 3SU
Tel: +44 (0)1673 860709
Fax: +44 (0)1673 861119



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