PARTS AND OPERATION MANUAL



PORTO MIX MINI CONCRETE MIXER PLASTIC DRUM MODELS SMC3PE AND SMC3PB

Revision #0 (08/08/03)



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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:

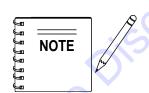
- Lead from lead-based paints.
- Crystalline silica from bricks.
- Cement and other masonry products.
- Arsenic and chromium from chemically treated lumber.

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

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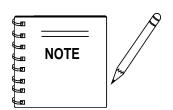


Specification and part number are subject to change without notice.

STOW PORTO MIXER—SAFETY MESSAGE ALERT SYMBOLS

FOR YOUR SAFETY AND THE SAFETY OF OTHERS!

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.



This Owner's Manual has been developed to provide complete instructions for the safe and efficient operation of the STOW Models SMC3PE and SMC3PB Portable Concrete Mixers.

Before using these mixers, ensure that the operating individual has read and understands all instructions in this manual.

HAZARD SYMBOLS



Rotating Parts



NEVER operate equipment with covers, or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.



Accidental Starting



ALWAYS place the circuit breaker or power ON/OFF switch in the **OFF** position when the pump is not in use.

SAFETY MESSAGE ALERT SYMBOLS

The three (3) 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 three words: **DANGER**, **WARNING**, or **CAUTION**.



DANGER: You **WILL** be **KILLED** or SERIOUSLY injured if you do not follow directions.



WARNING: You CAN be KILLED or SERIOUSLY injured if you do not follow directions.



CAUTION: You **CAN** be injured if you do not follow directions.

Potential hazards associated with the **STOW PORTO MIXER** operation will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.



Sight and Hearing hazard



ALWAYS wear approved eye and hearing protection.



Respiratory Hazard

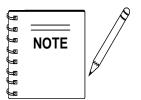


ALWAYS wear approved respiratory protection.



Equipment Damage Messages

Other important messages are provided throughout this manual to help prevent damage to your pump, other property, or the surrounding environment.



This mixer, other property, or the surrounding environment could be damaged if you do not follow instructions.

STOW PORTO MIXER— SAFETY MESSAGE ALERT SYMBOLS



Accidental Starting



ALWAYS place the engine ON/OFF switch in the **OFF** position, and remove the ignition key when the machine is not in use.



Respiratory Hazard

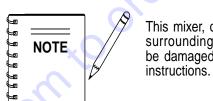


ALWAYS wear approved respiratory protection.



Equipment Damage Messages

Other important messages are provided throughout this manual to help prevent damage to your mixer, other property, or the surrounding environment.



This mixer, other property, or the surrounding environment could be damaged if you do not follow





ALWAYS wear approved eye and hearing protection.

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RULES FOR SAFE OPERATION

DANGER:



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 the *Porto Mixer*:

GENERAL SAFETY

■ DO NOT operate or service this equipment before reading this 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 or drugs or alcohol.



- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- ALWAYS check the machine for loosened threads or bolts before starting.
- ALWAYS wear proper respiratory (mask) hearing and eye protection equipment when operating the mixer.





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



- High Temperatures Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with hot components can cause serious burns.
- The engine of this mixer requires an adequate free flow of cooling air. NEVER! operate the mixer in any enclosed or narrow area where free flow of the air is restricted. If the air



flow is restricted it will cause serious damage to the mixer or engine and may cause injury to people and property. Remember the mixer's engine (gasoline models only) gives off **DEADLY** gases.

- ALWAYS refuel in a well-ventilated area, away from sparks and open flames.
- ALWAYS use extreme caution when working with flammable liquids. When refueling, stop the engine and allow it to cool. DO NOT smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.
- NEVER operate the mixer in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe bodily harm or even death.
 - us as it tonds to spill fuel
- Topping-off to filler port is dangerous, as it tends to spill fuel.
- Refer to the *Engine Owner's Manual* for engine technical questions or information.
- **NEVER** use accessories or attachments, which are not recommended by **STOW** for this equipment. Damage to the equipment and/or injury to user may result.
- Manufacturer does not assume responsibility for any accident due to equipment modifications.

RULES FOR SAFE OPERATION

- **NEVER** Run engine without air cleaner. Severe engine damage may occur.
- ALWAYS read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- ALWAYS be sure the operator is familiar with proper safety precautions and operations techniques before using roller.
- 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.
- **NEVER** leave the mixer unattended, turn off engine or electric motor when unattended.
- CAUTION must always be observed while servicing this mixer. Rotating parts can cause injury if contacted.
- Unauthorized equipment modifications will void all warranties.
- Ensure that any trailing cable is protected against damage and not liable to be tripped over or trapped underneath the mixer.
- Ensure any extention cables must be no longer than 30 meters (100 feet) in length and that the wire section is 2.5 mm².
- DO NOT allow extension cord to come into contact with water or fluids.
- **DO NOT** spray water onto electric motor.
- **DO NOT** expose power tools to *rain* or *wet* conditions.
- This mixer is intended for the production of concrete, mortar and plaster. Mixer must be used only for its intended purpose.
- This mixer is not suitable for the mixing of *flammable* or *explosive* substances.
- **NEVER** operate the mixer in an *explosive* atmosphere.
- Before starting the mixer, check that all *guards* are in position and correctly fitted.
- **DO NOT** tip mixer onto drum mouth when the motor is running.
- Keep area around the mixer *clear of obstructions* which could cause persons to fall onto *moving parts*.
- ALWAYS ensure mixer is on level ground before mixing.
- Become familiar with the controls of the machine before operating.
- **ALWAYS** replace any worn or damaged warning decals.
- Ensure the drum is *rotating* while filling and emptying the drum.
- ALWAYS disconnect AC power plug from power source before moving mixer (electric model only).

- High Temperatures Always stop engine and allow the engine to cool before adding fuel, oil or performing service and maintenance functions. Contact with hot components can cause serious burns.
- NEVER disconnect any "emergency or safety devices".

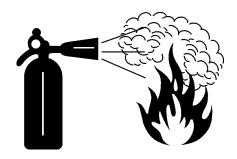
 These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death! Disconnection of any of these devices will void all warranties.
- If mixer is equipped with an electric motor, operate <u>only</u> at 120 VAC, 60 Hz.
- Make sure the OFF/ON power switch is always in the OFF position before inserting the mixer's power plug into an AC receptacle (electric model only).

Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- ALWAYS allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace
 broken parts, or missing decals.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel and fuel filters.
- **DO NOT** use food or plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil or fuel directly onto the ground, down a drain or into any water source.

Emergencies

■ ALWAYS know the location of the nearest *fire extinguisher*.

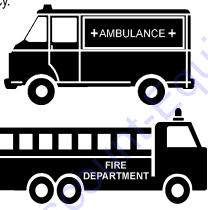


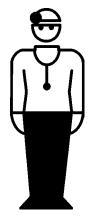
■ ALWAYS know the location of the nearest *first aid kit*.



■ In emergencies 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.







OPERATION AND SAFETY DECALS

Machine Safety Decals

The **STOW PORTO MIXER** is equipped with a number of safety decals. These decals are provided for operator safety and maintenance information. The illustration below and on the next page shows these decals as they appear on the machine. Should any of these decals become unreadable, replacements can be obtained from your dealer.

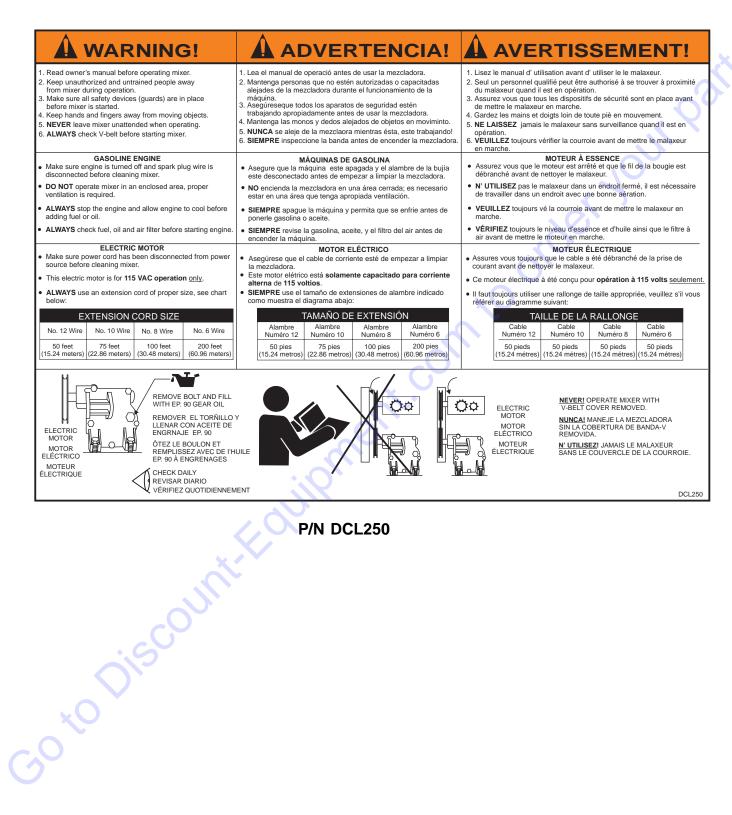


P/N: DCL300



(Decal is Molded Into Tub)

OPERATION AND SAFETY DECALS



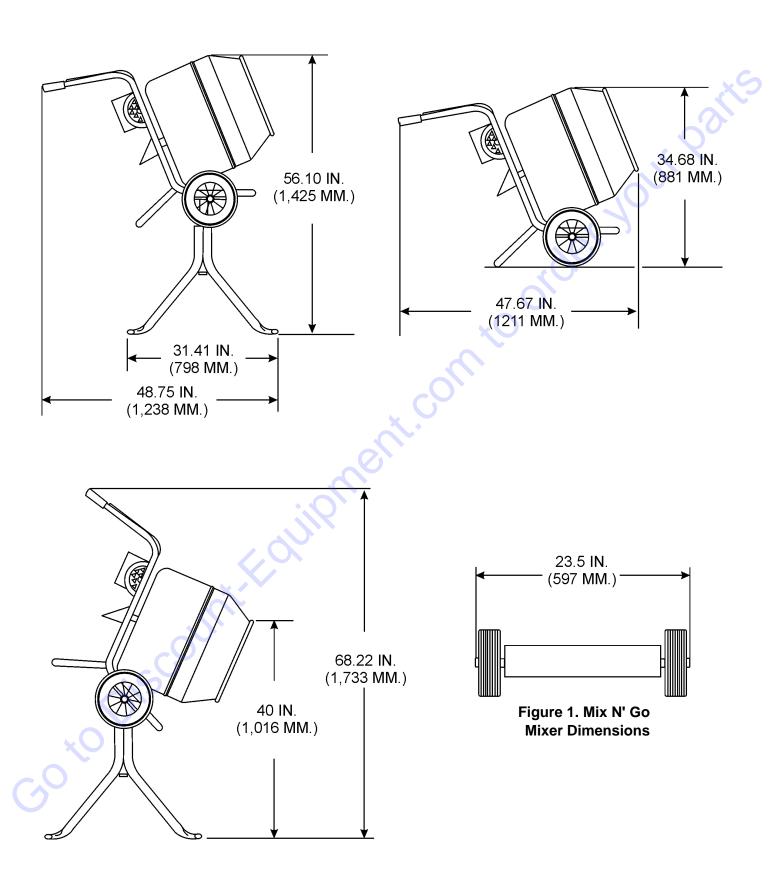
P/N DCL250

STOW PORTO MIXER—SPECIFICATIONS

Table 1. Specifications (Engine & Electric Motor)					
	Model	BRIGGS & STRATTON 91200	BALDOR 17LYE304		
	Туре	4-stroke, Vertical valve, Single Cylinder	3/4 HP, 120 VAC, Single Phase Electric Motor		
	Bore X Stroke	2.56 in. x 1.75 in. (65.1 mm x 44.4 mm)	N/A		
	Displacement	9.0 cu. in. (148 cc)	N/A		
	Max Output	3.5 HP at 3,600 R.P.M.	3/4 H.P./3,450 RPM		
Engine/Electric Motor	Standard Idle Speed	1,800 ± 100 R.P.M.	N/A		
	Fuel Tank Capacity	Approx. 0.5 U.S. Gallons (1.89 Liters)	N/A		
	Fuel	Unleaded Gasoline	N/A		
	Lube Oil Capacity	2 U.S. Quarts (1.89 Liters)	N/A		
	Speed Control Method	Centrifugal Fly-weight Type	N/A		
	Starting Method	Recoil Start	N/A		
Dimensions (L x W x H)		12.5 x 11.47 x 12.18 in. (317.5 x 291.4 x 309.4 mm)	11.75 x 6.0 X 8.0 in. (298 X 152 X 203 mm)		
Dry Net Weight		20.3 lbs (9.2 kg)	Approx. 12 lbs. (5.4 Kg.)		

Table 2. Porto Mixer Specifications				
Height	34 in. (863.6 mm)			
Width	23-5/8 in. (584.2 mm)			
Length	48-1/2 in. (1,219.2 mm)			
Stand Weight	35 lbs. (15.9 Kg)			
Maximum Drum Capacity	4.5 cu. ft. (0.13 m³)			
Maximum Mixing Capacity (1/2 bag)	3.0 cu. ft. (0.08 m³)			
Unladen Weight - Electric Motor	129 lbs. (58.5 Kg)			
Unladen Weight - Gasoline Engine	138 lbs. (62.6 Kg)			

STOW PORTO MIXER— DIMENSIONS (MIXER)



STOW PORTO MIXER—DIMENSIONS (ELECTRIC MOTOR)

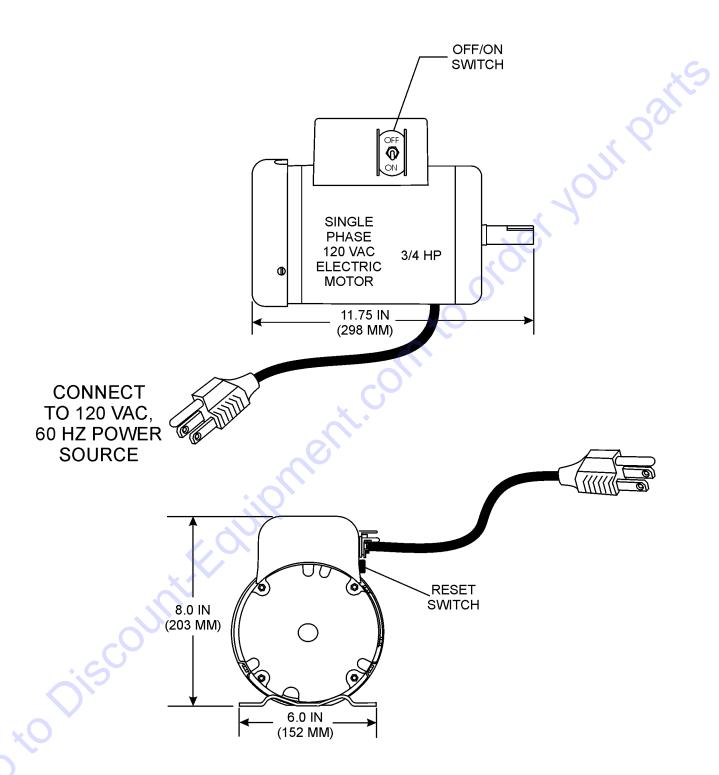


Figure 2. Electric Motor

STOW PORTO MIXER—GENERAL INFORMATION

APPLICATION

This mixer is <u>only</u> intended for the production of **concrete** and **mortar**. The mixer must be used for its intended purposes and is not suitable for the mixing of **flammable** or **explosive** substances. The mixer must not be used in an explosive atmosphere.

POWER PLANTS

This portable mixer is powered by either a Briggs and Stratton 4-stroke, verticle valve, single cylinder, gasoline engine rated at 3.5 hp @3,600 rpm. or a 0.75 hp electric motor.

DRUM ASSEMBLY

The drum is instantly removable by unscrewing counterclockwise. When inserting drum onto gearbox shaft, make sure that drum is fully screwed onto shoulder or threads may be damaged. Use extreme care when screwing on the drum, spinning drum onto the gearbox shaft too fast may damage gearbox.

ELECTRICAL

If mixer is equipped with an *electric motor*, make sure that the power being supplied to the motor corresponds to the voltage rating label on the motor. Supplying the wrong voltage to the electric motor will cause severe electrical damage to the motor.

Always make sure that *OFF/ON* switch on the electric motor is in the *OFF* position before applying power.

It is **strongly recommended** that when plugging in the mixer's power cord into a receptacle, that a G.F.C.I. (**Ground Fault Current Interrupter**) receptacle be used.

EXTENSION CABLES

The extension cable should be a 3-wire configuration that includes a ground wire that conforms to UL code. The wire cross section must be a minimum of 2.5 mm². Choose an extension cord of adequate current carrying as Reference in Table 5. 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. Avoid allowing the extension cable to be trapped underneath the mixer.

Unroll the extension cable fully or it will overheat and could catch fire. Make sure that all extension cable connections are dry and safe. Replace any defective or badly worn extension cable immediately.

PORTABLE GENERATORS

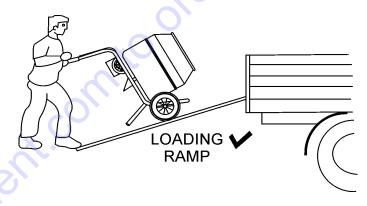
When using a *portable generator* it must have a minimum output of 2.5 kw and be continuous rated.

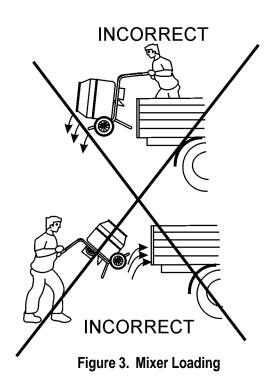
GEARBOX

The gearbox oil level has been preset at the *factory* prior to shipping. Before inspecting the gearbox oil level (Figures 30 and 31), make sure the gearbox is cold before removing the filler plug. Fill up with **EP90**. or similar gear oil.

TRANSPORTING THE MIXER

Use a ramp (Figure 3) to load and unload the mixer from the transport vehicle. Never drop the mixer onto the ground; damage to the mixer could result.





STOW PORTO MIXER—MIXER COMPONENTS

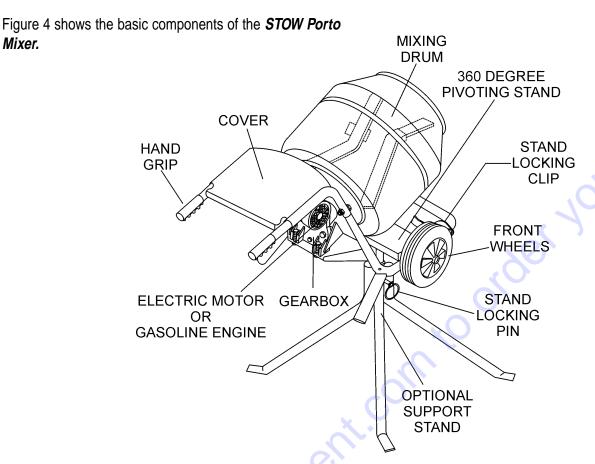
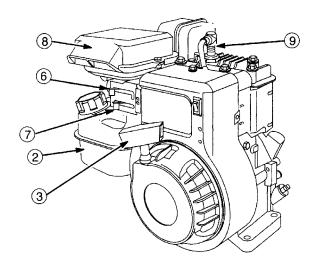


Figure 4. Mixer Components

	Table 3. MIXING HINTS							
	BATCH QUANTITIES					APPROX. BATCH		
APPLICATIONS	MIX RATIOS	CEMENT 112 lbs.	SAN	D	STO	NE	OUT	_
· cC	Jumos	(50 Kgs.) Bag	CU. FT.	LTR	CU. FT.	LTR	CU. FT.	LTR
Most Ordinary	1:2:4	1/2 BAG	1-1/4	35	2-1/2	71	3	85
Foundations	1:3:6	1/3 BAG	1-1/4	35	2-1/2	71	2-3/4	78
Rough Mass Concrete	1:4:8	1/4 BAG	1-1/4	35	2-1/2	71	2-3/4	78
Watertight Floors, Tanks, Pits, Etc.	1:1-1/2:3	2/3 BAG	1-1/4	35	3	71	3	85

STOW PORTO MIXER—BASIC ENGINE



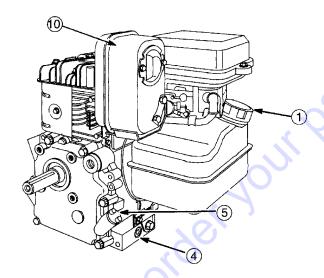


Figure 5. Engine Controls and Components

INITIAL SERVICING

The engine (Figure 5) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the manufacturers engine manual for instructions and details of operation and servicing. The engine shown above is a **Briggs and Stratton** engine, operation for other types of engines may vary somewhat.

 Fuel Filler Cap – Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. DO NOT over fill.



DANGER

Adding fuel to the tank should be done only when the engine is stopped and has had an opportunity to cool down. In the event of a fuel spill, **DO NOT**

attempt to start the engine until the fuel residue has been completely wiped up, and the area surrounding the engine is dry.

- 2. **Fuel Tank** Holds unleaded gasoline. For additional information refer to engine owner's manual.
- 3. Recoil Starter (pull rope) Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
- 4. **Oil Drain Plug** Remove this plug to remove oil from the engine's crankcase.
- Dipstick/Oil Filler Cap Remove this cap to determine if the engine oil is low. Add oil through this filler port as recommended in Table 4.

- Throttle Lever Used to adjust engine RPM speed (lever advanced forward SLOW, lever back toward operator FAST).
- Choke Lever Used in the starting of a cold engine, or in cold weather conditions. The choke enriches the fuel mixture.



Operating the engine without an air filter, with a damaged air filter, or a filter in need of replacement will allow dirt to enter the engine, causing rapid engine wear.

- Air Cleaner Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter cannister to gain access to filter element.
- 9. **Spark Plug** Provides spark to the ignition system. Set spark plug gap to 0.6 0.7 mm (0.024 0.028 inch) Clean spark plug once a week.
- 10. Muffler Used to reduce noise and emissions.



WARNING



Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

STOW PORTO MIXER— ASSEMBLY INSTRUCTIONS

Assembly

 Remove the mixer drum and associated components from the packing container (Figure 6). Match the components against the parts list to make sure that they are all accounted for.

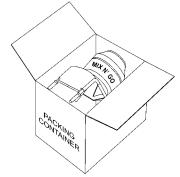


Figure 6. Packing Container

2. Place the mixer frame on a secure level surface, and attach the top cover as shown in Figure 7.

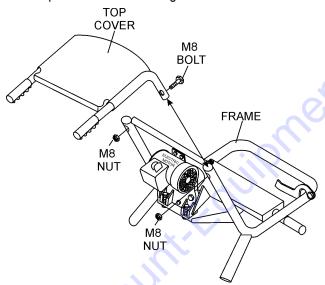


Figure 7. Top Cover Placement

3. Fit the mixing drum onto gearbox shaft as shown in Figure 8. Rotate drum in a clockwise direction, make sure the drum fits right up to the shoulder on the gearbox shaft.

CAUTION



DO NOT *spin* the drum on *fast*, as this may damage the gearbox.

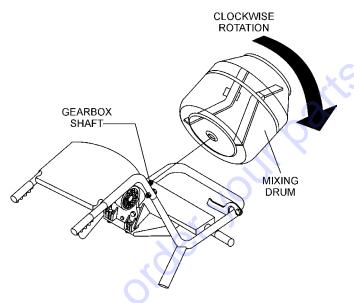


Figure 8. Mixing Drum Placement

- 4. Place the two halves of the optional support stand together (Figure 9). The left support stand fits into the center boss on the right support stand.
- 5. Insert the adapter pin through bosses as shown in Figure 9. Once the adapter pin has been inserted and aligned, insert the locking pin. Place the round part of the locking pin over the bottom section of the adapter pin.

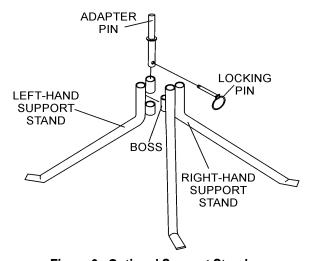


Figure 9. Optional Support Stand

STOW PORTO MIXER—ASSEMBLY INSTRUCTIONS

6. Tip mixer onto mouth as shown in Figure 10, and insert support stand into frame swivel point.

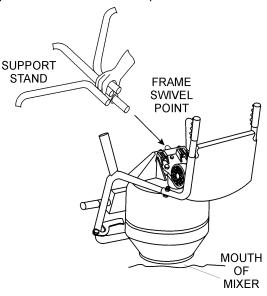


Figure 10. Attaching Support Stand

- 7. Remove both wheels and wheel retainers from the packing container.
- 8. Place one wheel on each side of the mixer's axle as shown in Figure 11. Position washer over axle to secure wheel in place. Insert cotter pin to lock wheel in place.

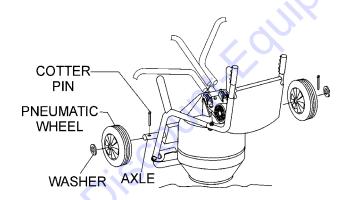


Figure 11. Wheels and Wheel Retainers

Before attempting to lift mixer, locate the frame locking clip.
 Attach the locking clip as shown in Figure 12. This will prevent
 the mixing drum from moving when the mixer is positioned
 in an upright position.

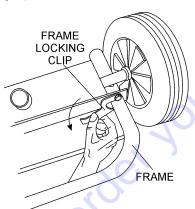


Figure 12. Frame Locking Clip

10. **DO NOT** tilt the mixer on a wet, smooth or slippery surface.



Figure 13. Slippery or Wet Surfaces

 Once the stand has been assembled, and the locking clip has been secured, begin tilting the mixer to an upright position. Remember *always* tilt from the front of the mixer as shown in Figure 14.

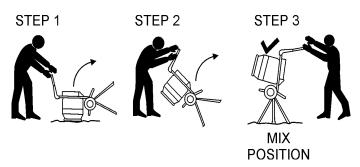


Figure 14. Tilting Mixer to Upright Position

STOW PORTO MIXER—PRE-INSPECTION (GASOLINE ENGINE)

CAUTION



NEVER operate the mixer in a confined area or enclosed area structure that does not provide ample *free flow of air*.



ALWAYS wear approved eye and hearing protection before operating the mixer.



NEVER place hands inside drum while the engine is running. **ALWAYS** shut the engine down before performing any kind of maintenance service on the mixer.



Before Starting

- 1. Read safety instructions at the beginning of manual.
- Clean the mixer, removing dirt and dust, particularly the engine cooling air inlet, carburetor and air cleaner.
- 3. Check the air filter for dirt and dust. If air filter is dirty, replace air filter with a new one as required.
- 4. Check carburetor for external dirt and dust. Clean with dry compressed air.
- Check fastening nuts and bolts for tightness.

Engine Oil Check

- 1. To check the engine oil level, place the mixer on secure level ground with the engine stopped.
- Remove the filler dipstick from the engine oil filler hole (Figure 15) and wipe clean.

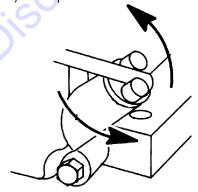


Figure 15. Engine Oil Dipstick (Removal)

- Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
- 4. If the oil level is low (Figure 16), fill to the edge of the oil filler hole with the recommended oil type (Table 4). Maximum oil capacity is 0.48 quarts (.45 liters)

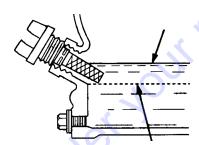


Figure 16. Engine Oil Dipstick (Oil Level)

Table 4. Oil Type				
Seas	on	Temperature	Oil Type	
Sumn	ner	25°C or Higher	SAE 10W-30	
Spring	/Fall	25°C~10°C	SAE 10W-30/20	
Winte	er	0°C or Lower	SAE 10W-10	





Fuel Check

Motor fuels are highly flammable and can be dangerous if mishandled. **DO NOT** smoke while refueling. **DO NOT** attempt to refuel the mixer if the engine is *hot!* or *running*.

- 1. Remove the gasoline cap located on top of fuel tank.
- 2. Visually inspect to see if fuel level is low. If fuel is low, replenish with unleaded fuel.
- When refueling, be sure to use a strainer for filtration. DO NOT top-off fuel. Wipe up any spilled fuel.

V-Belt Check

A worn or damaged V-belt can adversely affect the performance of the mixer. If a V-belt is defective or worn simply replace the V-belt as outlined in the maintenance section of this manual.

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We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto, Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S. Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar

STOW PORTO MIXER—INITIAL START-UP (ELECTRIC MOTOR)

Initial Start-up Instructions (Electric Motor)

Starting

CAUTION:



DO NOT attempt to operate the mixer until the Safety, General Information and Inspection sections have been read and understood.

- 1. Before starting, make sure mixer is positioned on a secure flat surface to prevent tipping.
- 2. Use an extension cord (see Table 5) of adequate current carrying capacity, insert the electric motor's power plug into one end of the extension cord.
- 3. **NEVER!** use a **worn** or **frayed** extension cord.
- 4. **NEVER!** operate mixer with V-belt cover removed.

Table 5. Extension Cord Size				
No. 12 Wire	No. 10 Wire	No. 8 Wire	No. 6 Wire	
50 (feet) (15.24 meters)	75 (feet) (22.86 meters	100 (feet) (30.48 meters	200 (feet) (60.96 meters	

 Plug the other end of the extension cord into a 120 VAC G.F.C.I.protected receptacle. Remember the power requirements for this electric motor is 120 VAC, 60 Hz. The use of any other input voltage will severely damage the motor.

WARNING:



ALWAYS read the label on the electric motor before applying power. The label will indicate the proper power requirements for the motor. Remember the use of any other input voltage will severely damage the motor.

WARNING:



To prevent tripping (Figure 18) of both the mixer and personnel, position the extension cord so that it lays flat and is not curled underneath the mixer.



Figure 18. Mixer (Tripping)

5. The drum should be rotating allowing the mixing process to begin. Use a shovel (Figure 19) to place the cement mix inside the drum, add water as required. Be careful to only place the *tip* of the shovel inside the drum. Placing the shovel all the way inside the drum will cause the shovel to strike the blades. This condition will make the shovel rotate, and could cause injury to personnel.

DANGER



NEVER! touch the power cord (Figure 17) with **wet hands** or while **standing in water** when it is connected to a power source. The possibly exists of electrical shock (electrocution) even death. **NEVER!** spray

water directly on the electric motor.

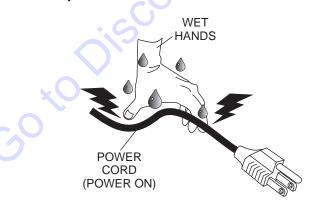


Figure 17. Extension Cord (Wet Hands)

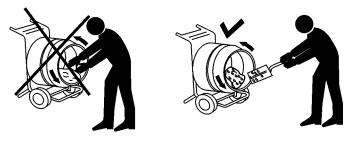


Figure 19. Mixing Drum (Placing Cement Mix)

See Table 3 for mixing hints. NEVER! place hands inside the drum while the drum is rotating.

STOW PORTO MIXER—INITIAL START-UP (GASOLINE ENGINE)



DO NOT attempt to operate the mixer until the Safety, General Information and Inspection sections of this manual have been read and thoroughly understood.

This section is intended to assist the operator with the initial start-up of the walk-behind trowel. It is extremely important that this section be read carefully before attempting to use the trowel in the field.

Starting the Engine (BRIGGS & STRATTON)

Place the *choke lever* (Figure 21) in the *CHOKE* (CLOSED) position if starting a *cold* engine.

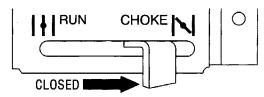


Figure 20. Engine Choke Lever (Closed)

Place the choke lever (Figure 20) in the RUN (OPEN)
position if starting a warm engine engine or if the
temperature is warm.

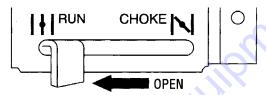


Figure 21. Engine Choke Lever (Open)

3. Place the *throttle lever* (Figure 22) in the "*TURTLE*" (IDLE) position.

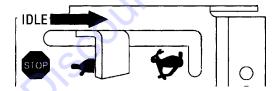


Figure 22. Throttle Lever (Idle Position)

 Grasp the starter grip (Figure 23) and slowly pull it out. The resistance becomes the hardest at a certain position, corresponding to the compression point. PULL the starter grip briskly and smoothly for starting.

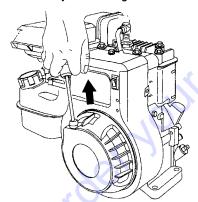


Figure 23. Starter Grip

7. If the engine has started, slowly return the choke lever to the *RUN* (OPEN) position if needed (Figure 24). If the engine has not started repeat steps 1 through 4.

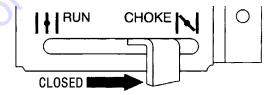


Figure 24. Engine Choke Lever (Closed)

- Before the mixer is placed into operation, run the engine for several minutes. Check for fuel leaks, and noises that would associate with a lose V-belt cover or component.
- 9. To begin mixing, place the throttle lever (Figure 25) in the "*RABBIT"* (FAST) position

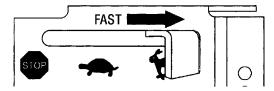


Figure 25. Throttle Lever (Fast Position)

STOW PORTO MIXER—INITIAL START-UP (GASOLINE ENGINE)

H.COMIT Parties

Stopping The Engine

Normal Shutdown

1. Move the throttle lever to the "TURTLE" (IDLE) position (Figure 26) and run the engine for three minutes at low speed.

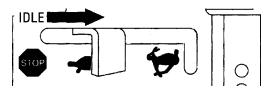


Figure 26. Throttle Lever (Idle Position)

2. After the engine *cools*, move the throttle lever to the *STOP* position (Figure 27).

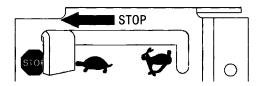


Figure 27. Throttle Lever (Stop Position)

Emergency Showdown

Move the throttle lever quickly to the *OFF* position (Figure 28).

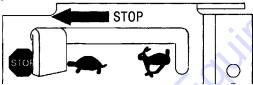


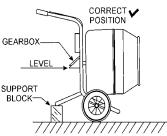
Figure 28. Throttle Lever (Stop Position)

STOW PORTO MIXER— MAINTENANCE

Maintenance Gearbox Oil Check 5

- $k \bigcirc$
- Position the mixer on a level surface and place a support block under the front of the mixer frame as shown in Figure 29. This will level the mixer.

 NEVER! check the gearbox oil level with the mixer tilted up or down. ALWAYS check the gearbox oil level with the mixer in a level position.



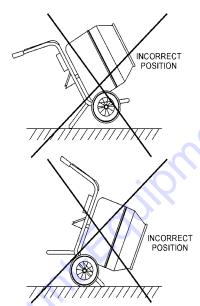


Figure 29. Mixer Positioning (Gearbox Oil Level)

CAUTION:



Check the gearbox oil level *monthly* before operating mixer. Low oil level or no oil will severely damage gearbox.

- 3. Before inspecting the gearbox oil level, make sure the gearbox is cold before removing the filler plug. Hot! oil can burn skin and cause injury. Let oil *cool* before checking.
- 4. Remove gearbox oil filler plug (Figure 30) and fill with EP90 or similar gear oil to the level of the filler plug. Replace gearbox oil every 3,000 hours. Gerabox oil capacity is **8-10 ounces**.

Insert oil filler plug and tighten.

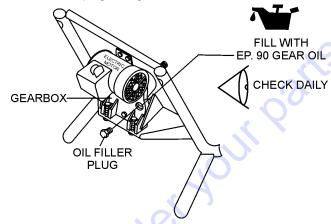


Figure 30. Gearbox Oil Level Check

V-Belt Check

- To adjust V-belts, remove V-belt cover and loosen the main motor mount bolts (Figure 31), raise electric motor and retighten bolts. Belt tension should be adjusted so that the maximum deflection is approximately 3/8 inch (10 mm).
- 2. Replace V-belt cover.

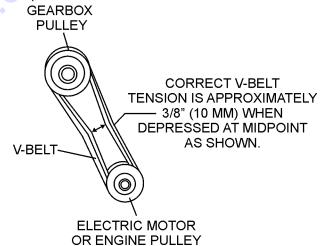


Figure 31. V-belt Adjustment

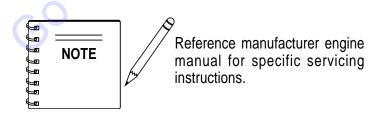
Gerarbox Removal

- Remove drum by turning counter-clockwise to release from gearbox shaft.
- 2. Remove pulley, remember the nut securing the pulley is left-hand threaded. Remove circlip, and draw out shaft.
- 3. Remove the 5 bolts securing rear plate.
- Reassemble in reverse order, taking care to ensure gear teeth are meshed correctly.

STOW PORTO MIXER—MAINTENANCE (GASOLINE ENGINE)

	Table 6. Engine Maintenance Schedule						
DESCRIPTION (3)	OPERATION	BEFORE	FIRST MONTH OR 10 HRS.	EVERY 3 MONTHS OR 25 HRS.	EVERY 6 MONTHS OR 50 HRS.	EVERY YEAR OR 100 HRS.	EVERY 2 YEARS OR 200 HRS.
Engine Oil	CHECK	Х					
Lingine Oil	CHANGE		Х				7
Air Cleaner	CHECK	Х					,
All Cleaner	CHANGE			X (1)		400	
All Nuts & Bolts	Re-tighten If Necessary	Х				0,	
Charle Dlug	CHECK-CLEAN				Х		
Spark Plug	REPLACE						Х
Cooling Fins	CHECK			C	Х		
Spark Arrester	CLEAN			X. ·		Х	
Fuel Tank	CLEAN		0			Х	
Fuel Filter	CHECK					Х	
Idle Speed	CHECK-ADJUST		9,			X (2)	
Valve Clearance	CHECK-ADJUST	7					X (2)
Fuel lines	CHECK		E	Every 2 years	(replace if nece	ssary) (2)	

- (1) Service more frequently when used in **DUSTY** areas.
- (2) These items should be serviced by your service dealer, unless you have the proper tools and are mechanically proficient. Refer to the BRIGGS AND STRATTON Shop Manual for service procedures
- (3) For commercial use, log hours of operation to determine proper maintenance intervals.



STOW PORTO MIXER—MAINTENANCE (GASOLINE ENGINE)

Maintenance

Perform the scheduled maintenance procedures as definded by Table 6 and below:

DAILY

■ Thoroughly remove dirt and oil from the engine and control area. Clean or replace the air cleaner elements as necessary. Check and retighten all fasteners as necessary. Check the gearbox for oil leaks. Repair or replace as needed.

WEEKLY

- Remove the fuel filter cap and clean the inside of the fuel tank.
- Remove or clean the filter at the bottom of the tank.
- Remove and clean the spark plug (Figure 32), then adjust the spark gap to 0.024 ~0.028 inch (0.6~0.7 mm). This unit has electronic ignition, which requires no adjustments.

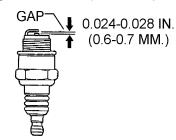


Figure 32. Spark Plug Gap

ENGINE OIL

- 1. Drain the engine oil when the oil is *warm* as shown in Figure 33.
- 2. Remove the oil drain bolt and sealing washer and allow the oil to drain into a suitable container.
- Replace engine oil with recommended type oil as listed in Table 4. Engine oil capacity is .48 quarts (0.45 liters).
 DO NOT overfill.
- 4. Install drain bolt with sealing washer and tighten securly.

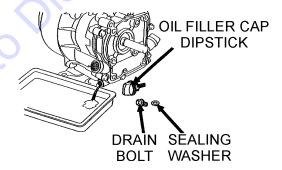


Figure 33. Engine Oil (Draining)

DANGER:



DO NOT use gasoline as a cleaning solvent, because that would create a risk of fire or explosion.

ENGINE AIR CLEANER

- 1. Remove the air cleaner cover and foam filter element as shown in Figure 34.
- Clean foam element in warm, soapy water or nonflammable solvent. Rinse and dry thoroughly. Dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

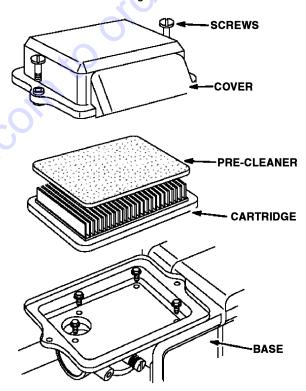


Figure 34. Engine Air Cleaner

STOW PORTO MIXER— PREPARATION FOR LONG-TERM STORAGE

Mixer Storage

- Go to Discount. Equipment. com to Order your parts

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STOW PORTO MIXER — PARTS & OPERATION MANUAL — REV. #0 (08/08/03) — PAGE 29

STOW PORTO MIXER— TROUBLESHOOTING (ENGINE)

	TABLE 7. ENGINE T	ROUBLESHOOTING
SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Difficult to start		
	Ignition plug being bridge?	Check ignition system.
Fuel is available but spark plug	Carbon deposit at ignition?	Clean or replace ignition.
will not ignite. (Power available at high tension cable).	Short circuit due to defective insulators?	Replace insulators.
	Improper spark gap?	Set spark plug gap to the correct gap.
Fuel is available but spark plug	Short circuit at stop switch?	Check stop switch circuit. Replace stop switch if defective.
will not ignite. (Power NOT available at high tension cable).	Ignition coil defective?	Replace ignition coil.
	Muffler clogged with carbon deposits?	Clean or replace muffler.
Fuel is available and spark plug ignites (compression normal).	Fuel in use inadequate (water, dust)?	Flush fuel sytem and replace with fresh fuel.
	Air Cleaner clogged?	Clean or replace air cleaner.
	Defective cylinder head gasket?	Tighten cylinder head bolts or replace head gasket.
Fuel is available and spark plug ignites (compression low).	Cylinder worn?	Replace cylinder.
	Spark plug loose?	Tighen spark plug.
Operation not satisfactory	110	
	Air cleaner clogged?	
Not enough power available	Air in fuel line?	Bleed (remove air) from fuel line.
(compression normal, no miss-firing).	Fuel level in carbureator float chamber improper?	Adjust carbureator float
-01	Carbon deposits in cylinder?	Clean or replace cylinder
. 60	Ignition coil defective?	Flush fuel sytem and replace with fresh fuel.
Not enough power available (compression normal, miss-	Ignition plug often shorts?	Replace ignition wires, clean ignition.
firing).	Fuel in use inadequate (water, dust)?	Flush fuel sytem and replace with fresh fuel.
,0	Excessive carbon depostion in combustion chamber?	Clean or replace crankcase.
Engine overheats.	Exhaust or muffler clogged with carbon.	Clean or replace muffler.
	Spark plug heat value incorrect?	Replace spark plug with correct type spark plug.

STOW PORTO MIXER— TROUBLESHOOTING (ENGINE/MIXER)

	TABLE 7. ENGINE TROUBLESHOOTING (Continued)				
SYMPTOM	POSSIBLE PROBLEM	SOLUTION			
Operation not satisfactory		2			
Rotational speed fluctuates.	Governor adjustment improper?	Adjust governor to correct lever.			
	Governor spring defective?	Clean or replace ignition.			
	Fuel flow erratic?	Check fuel line.			
	Air taken in through suction line?	Check suction line.			
Recoil starter not working properly.	Dust in rotating part?	Clean recoil starter assembly.			
	Spring spring failure?	Replace sprial spring.			

	TABLE 8. MIXER TROUBLESHOOTING				
SYMPTOM	POSSIBLE PROBLEM	SOLUTION			
	Defective gearbox?	Check that the gears and bearings are not worn . Replace as necessary.			
Drum rotates rough.	Worn V-belt?	Replace V-belt.			
	Loose pulley?	Tighten or replace pulley.			
Drum does not rotate at all.	Incorrect or no voltage being supplied to electric motor?	Check that the electric motor has the correct supply voltage.			
	Power to electric motor?	Inspect power source and extension cord. Push reset button on electric motor.			
	Fuel?	Check level of fuel in fuel tank. Add fuel if necessary. Make sure fuel is being supplied to the engine. Check to ensure that the fuel filter is not clogged.			
	Broken V-belt?	Replace V-belt.			
	Defective gearbox?	Check that the gears and bearings are not broken. Replace as necessary.			
	Defective motor?	Replace motor.			

STOW PORTO MIXER— EXPLANATION OF CODE IN REMARKS COLUMN

How to read the marks and remarks used in this parts book.

Items Found In the "Remarks" Column

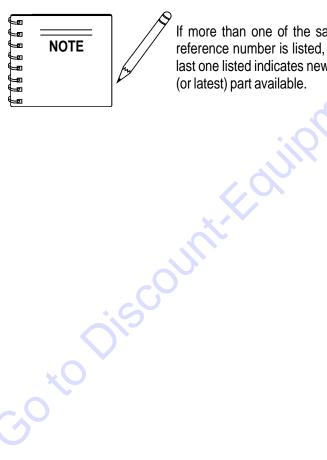
Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

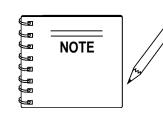
Items Found In the "Items Number" Column

All parts with same symbol in the number column, *, #, +, %, or ■, belong to the same assembly or kit.

Note: If more than one of the same reference number is listed. the last one listed indicates newest (or latest) part available.



If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.



The contents of this parts catalog are subject to change without notice.

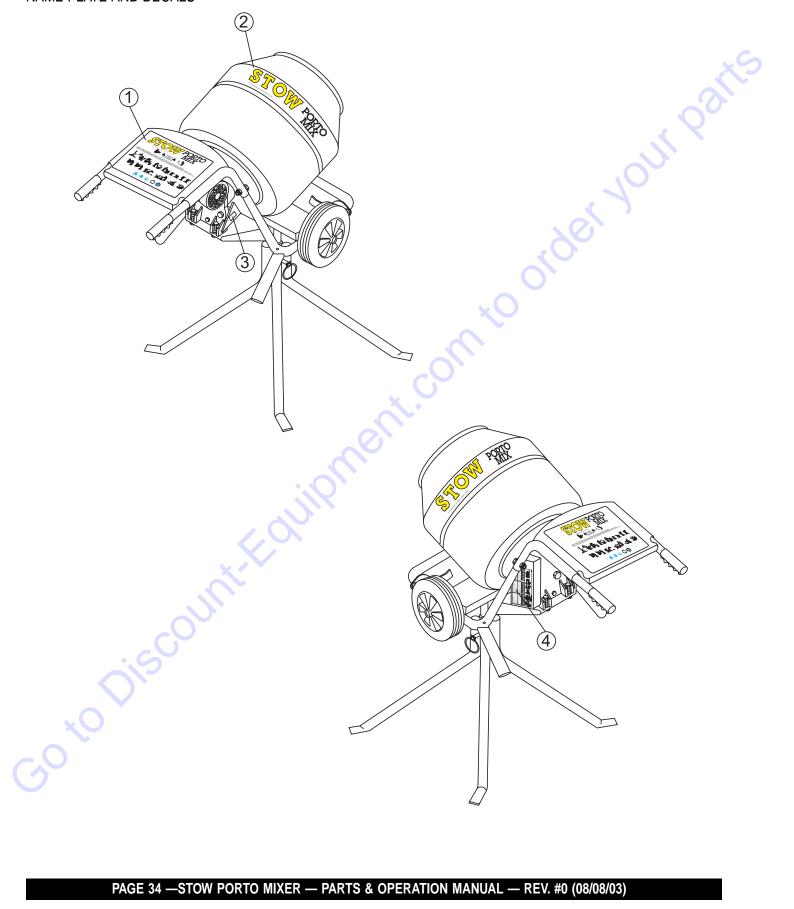
STOW PORTO MIXER — SUGGESTED SPARE PARTS

STOW PORTO MIXER 1 TO 3 UNITS

1 to 3 (Qty. P/N	Description			
2 DM1840 2 MS-01	V-BELT, A23 (ELECTRIC MOT V-BELT, A24 (GASOLINE)	OR)		×
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STOW PORTO MIXER — NAME PLATE AND DECALS

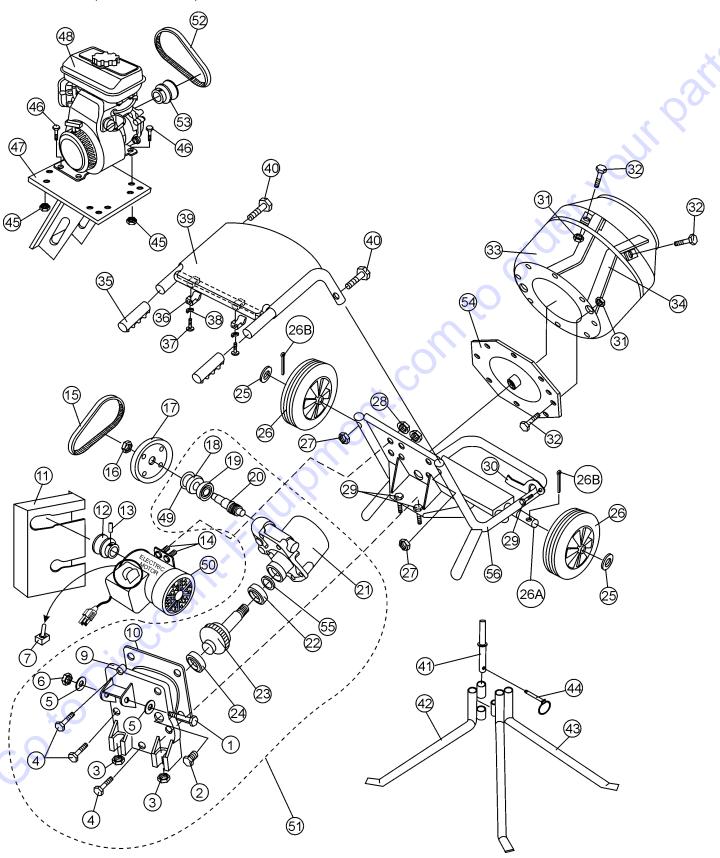




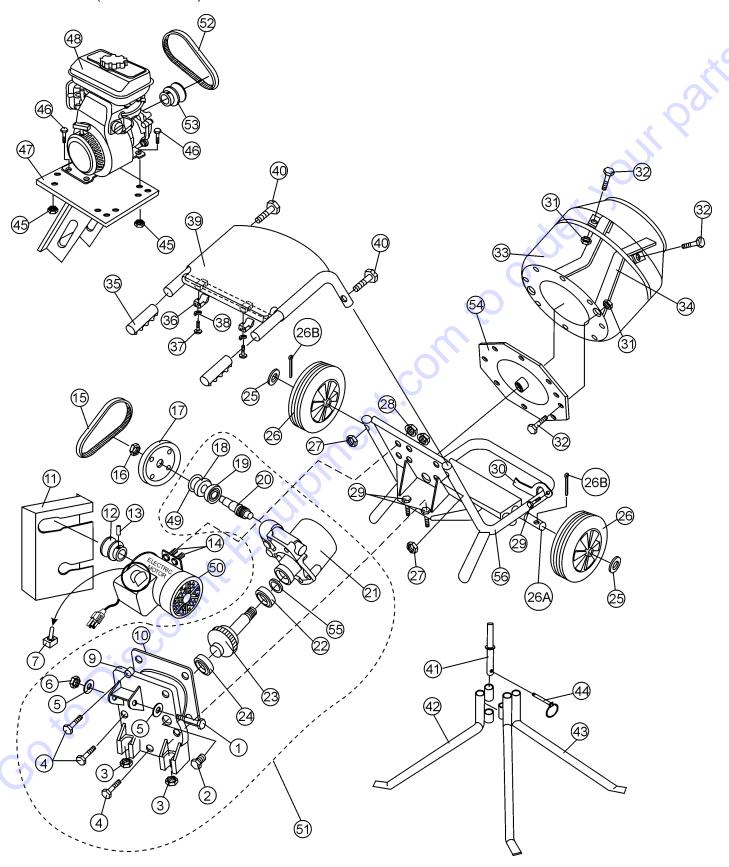
STOW PORTO MIXER — NAME PLATE AND DECALS

NAME PLATE AND DECALS

<u>NO</u>	LATE AND DECA PART NO	PART NAME	QTY.	<u>REMARKS</u>
1 2	DCL300	DECAL: WARNING STOW DECAL: STOW PORTO MIX	1 1	
3 4	DCL250	_	1	
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	Ois ^C	OUNTERCHINA		
	Ois ^C	OUNTERCOLINATION		
	Disc	OUNTERCHINA		



NO.	PART NO.	PART NAME	QTY.	<u>REMARKS</u>
1#	DM3150	HEX HEAD BOLT M12 x 70	1	
2#	DM1356	OIL FILLER PLUG M14 x 2 x 15L	1	
3#	DM1912	HEX NUT M10	2	
4#	DM355	HEX HEAD BOLT M8 x P1.25 x 24L	3	
5#	DM3151	FLAT WASHER M12	2	
6#	DM3152	HEX NUT M12	1	4
7	SP9012	TOGGLE SWITCH	1	
9#	DM1320	GEAR BOX BACK COVER	1	
10#	DM1357	GEAR BOX SEAL		
11	DM1380	BELT GUARD	1	4
12	DM1821	DRIVE PULLEY	1	ELECTRIC MOTOR ONLY
13	DM1822	SET SCREW M6 x 12L	1	
14	DM2020	BOLT M6 x 18	2	
15	DM1840	V-BELT, A23	1	ELECTRIC MOTOR ONLY
16	DM1332	NUT M12	1	
17	DM1810	GEARBOX PULLEY	1 📉	
18#	DM1353	OIL SEAL 20 x 42.5 x 10	4	
19#	DM1352	BEARING RACE 6004	1	
20#	DM1331	WORM GEAR	1	
21#	DM1310	GEARBOX CASE	1	
22#	DM1351	BEARING RACE 6006	1	
23#	DM1333	GEAR & SHAFT	1	
24	DM1351	BEARING RACE 6006	1	
25	DM1741	WASHER	2	
26	DM1730	WHEEL, PNEUMATIC	2	
26A	DM1740	AXLE	1	
26B	DM1742	COTTER PIN	2	
27	DM1641	HEX NUT M8	2	
28	DM2021	NUT	2	
29	DM1911	HEX HEAD BOLT M10 x P1.5 x 40L	3	
30	DM1141	DRUMLOCK	1	



NO. 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49# 50 51 52	PART NO. DM1527 DM1524 DM1510 DM1531 DM1633 DM1630 DM1631 DM1632 DM1620 DM1620 DM1640 DM1221 DM1213 DM1213 DM1231 DM3050 DM3051 DM3000 912321040E1 DM1358 34579 DM1300 MS01	PART NAME HEX NUT M10 BOLT PLASTIC BARREL BLADE, BARREL HANDLE GRIP, RUBBER TOP COVER CLAMP SCREW 5.5 x 25 LOCK WASHER TOP COVER, PLASTIC BOLT M8 SPECIAL DOME HEAD STAND, ADAPTER STAND, BOTTOM LH (2 BOSS) STAND, BOTTOM RH (1 BOSS) CLIP LINCH PIN NUT M8BOLT M8 x 35 BOLT M8 x 35 ENGINE MOUNT (GASOLINE) ENGINE, 3.5 HP BRIGGS & STRATTO RETAINER RING MOTOR, ELECTRIC 3/4 H.P. GEARBOX ASSEMBLY	1 1	INCLUDES ITEMS/#
53 54 55 56	MS01 EM901006 DM1521 DM1354 DM1105	V-BELT, A24 DRIVE PULLEY MOUNTING PLATE SEAL, OIL MAIN FRAME	1 1 1 1	GASOLINE ENGINE ONLY GASOLINE ENGINE ONLY

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