

OPERATION MANUAL



***WHITEMAN* SERIES**

MODEL WBH16

**(GX390K1QA2 GASOLINE ENGINE
RECOIL START)**

MODEL WBH16E

**(GX390K1QAE2 GASOLINE ENGINE
ELECTRIC START)**

POWER BUGGY

Revision #9 (12/03/10)

To find the latest revision of this
publication, visit our website at:
www.multiquip.com



THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.



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 particles.

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WBH16/WBH16E Power Buggy

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NOTICE

Specifications and part numbers are subject to change without notice.

SAFETY INFORMATION


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




SAFETY MESSAGES

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


SAFETY SYMBOLS

 **DANGER**

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

 **WARNING**

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






 **CAUTION**

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

NOTICE

Addresses practices not related to personal injury.

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

Symbol	Safety Hazard
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazards
	Rotating parts hazards
	Hydraulic fluid hazards

SAFETY INFORMATION

GENERAL SAFETY

CAUTION

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



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

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



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



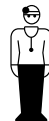
- **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

- No one other than the operator is to be in the working area when the equipment is in operation.

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

NOTICE

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



SAFETY INFORMATION

POWER BUGGY SAFETY

DANGER

- Engine fuel exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled.
- The engine of this equipment requires an adequate free flow of cooling air. **NEVER** operate this equipment in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause injury to people and property and serious damage to the equipment or engine.



- **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe **bodily harm or even death.**



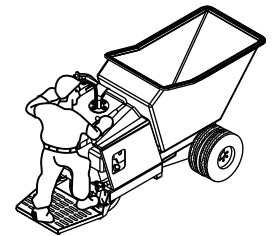
WARNING

- **NEVER** use your hand to find hydraulic leaks. Use a piece of wood or cardboard. Hydraulic fluid injected into the skin must be treated by a knowledgeable physician immediately or severe injury or death can occur.
- Accidental starting can cause severe injury or death. **ALWAYS** place the ON/OFF switch in the OFF position.
- **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.
- **NEVER** approach power lines with any part of the buggy unless all local, state/provincial and federal (OSHA) required safety precautions have been taken. Use extreme caution when approaching high voltage power lines.



CAUTION

- **ALWAYS** inspect the surface over which you will travel. Look for holes, drop-offs and obstacles. Look for rough and weak spots on docks, ramps or floor. Look for oil spills, wet spots and slippery surfaces. Look for soft soil, deep mud and standing water. Watch for anything that might make you lose control or cause the power buggy to tip over.
- **ALWAYS** clear away trash and debris. Pick up anything that might puncture the tires.
- **ALWAYS** make sure aisles, ramps, doorways and passages are clear.
- **ALWAYS** plan your work. Make sure you know where you will make your pickups, dumps and turns. Before you take a load, know where you will place it.
- **NEVER** operate the power buggy facing backwards. In a backwards position, the operator cannot properly activate the manual brake, emergency switch, grip the handles or steer the machine. **ALWAYS** face in the direction of the bucket.
- **DO NOT** operate the power buggy on unsafe haul roads, load areas, and dump areas.
- **DO NOT** operate power buggy on excessive slopes with a grade higher than 10% (6°), forward and backward or side to side.
- **DO NOT** operate power buggy on extremely uneven surfaces.
- **NEVER** allow riders other than the operator on the power buggy.
- **ALWAYS** secure the step plate (platform) in the upright position when using the power buggy over rough terrain.
- **DO NOT** stand on the power buggy step plate (platform) when walking in rough terrain. Walk behind the power buggy.
- **DO NOT** touch, lean on or reach through the dump mechanism or permit others to do so. **NEVER** climb on the power buggy or dump mechanism.





SAFETY INFORMATION

- **DO NOT** operate the power buggy at excessive speeds. Reckless operation may cause accidents and severe injury. Slow down when approaching people, wet areas, and going up and down grades. It is the responsibility of the operator to adjust speed, as necessary, depending on the conditions of the road or path.
 - **ALLOW** extra time to stop when operating the power buggy on wet surfaces or loosely graded materials.
 - **ONLY** remove the outer tires when it is necessary to reduce the width of the power buggy in order to access narrow work areas. If outer tires are removed, the power buggy must only be used on level, solid surfaces such as concrete, asphalt, or compacted stone to prevent the power buggy from tipping. The maximum load must also be reduced to 1000 lb.
 - **DO NOT** dump materials that are large and chunky. These types of material may shift causing the power buggy to tip and throw the operator off the machine. The power buggy is intended for dumping free-flowing and loose materials such as dry soil, slag, and wet concrete.
 - **DO NOT** dump materials from bucket while the power buggy is moving.
 - For walk behind operation, the operator platform must be stowed and locked in the up position. The speed should also be reduced to 3 mph or slower.
- NOTICE**
- **ALWAYS** ensure power buggy is **securely** placed on appropriate blocks or jackstands when performing maintenance requires elevation of the buggy.
 - **ALWAYS** make sure the power buggy's brakes are working properly. Check brake linkage and adjust as required. **NEVER** operate the power buggy with a defective braking system.
 - Ensure brakes are applied when leaving or when using on a slope.
 - When parking on a slope, position the power buggy at a right angle to a slope. Ensure that the parking brake is engaged and holds the power buggy safely in place when parking on a slope.
 - **ALWAYS** block the power buggy with appropriate blocks when leaving the power buggy parked on a slope.
 - To prevent unexpected loss of control, **DO NOT** start engine on a sloping surface.
 - Ensure that the speed control lever works freely and returns to the closed position. **DO NOT** start engine unless speed control linkage is working properly.
 - Make sure that the tires are inflated to the manufacturer's recommended tire pressure.
 - **NEVER** operate the power buggy with bad or worn tires. **ALWAYS** replace defective tires with new ones.
 - **ALWAYS** make sure the hydraulic dumping mechanism of the tub is working properly.
 - Avoid sudden stops and starts and changes in direction. Operate the controls smoothly. **DO NOT** jerk the steering or any other controls.
 - **NEVER** attempt to work the control except from the operator's position.
 - **NEVER** drive or tow the power buggy in traffic or on public roads.
 - **ALWAYS** keep the machine in proper running condition.
 - Fix damage to machine and replace any broken parts immediately.
 - The entire power buggy (tub, step plate, shroud, wheels, etc.) should be cleaned after every use. Make sure there is no buildup of concrete, grease, oil or debris on the machine.
 - **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.


SAFETY INFORMATION

ENGINE SAFETY


⚠ WARNING

- **DO NOT** place hands or fingers inside engine compartment when engine is running. 
- **NEVER** operate the engine with heat shields or guards removed.
- Keep fingers, hands hair and clothing away from all moving parts to prevent injury. 
- **ALWAYS** shut down the engine before performing service or maintenance.
- **DO NOT** remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the oil tank and severely scald any persons in the general area of the power buggy.

⚠ CAUTION

- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing equipment. 
- Make certain the operator knows how to and is capable of turning the engine OFF in case of an emergency.


NOTICE

- **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.
- **NEVER** tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result if operating in speed ranges above the maximum allowable. 

FUEL SAFETY


⚠ DANGER

- **DO NOT** start the engine near spilled fuel or combustible fluids. Fuel is extremely flammable and its vapors can cause an explosion if ignited.
- **ALWAYS** refuel in a well-ventilated area, away from sparks and open flames.


- **ALWAYS** use extreme caution when working with flammable liquids.
- **DO NOT** fill the fuel tank while the engine is running or hot.
- **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system.
- Store fuel in appropriate containers, in well-ventilated areas and away from sparks and flames.
- **NEVER** use fuel as a cleaning agent.
- **DO NOT** smoke around or near the equipment. Fire or explosion could result from fuel vapors or if fuel is spilled on a hot engine. 
- **DO NOT** leave the power buggy in the vicinity of ovens, furnaces or radiant heaters. Heat could raise the pressure of the fuel so that vented gas could ignite.

BATTERY SAFETY (ELECTRIC START ONLY)

⚠ DANGER

- **DO NOT** drop the battery. There is a possibility that the battery will explode.
- **DO NOT** expose the battery to open flames, sparks, cigarettes, etc. The battery contains combustible gases and liquids. If these gases and liquids come into contact with a flame or spark, an explosion could occur. 

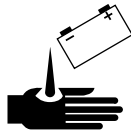
⚠ WARNING

- **ALWAYS** wear safety glasses when handling the battery to avoid eye irritation. The battery contains acids that can cause injury to the eyes and skin. 
- Use well-insulated gloves when picking up the battery.
- **ALWAYS** keep the battery charged. If the battery is not charged, combustible gas will build up.
- **DO NOT** charge battery if frozen. Battery can explode. When frozen, warm the battery to at least 61°F (16°C).

SAFETY INFORMATION

- **ALWAYS** recharge the battery in a well-ventilated environment to avoid the risk of a dangerous concentration of combustible gases.

- If the battery liquid (dilute sulfuric acid) comes into contact with **clothing or skin**, rinse skin or clothing immediately with plenty of water.



- If the battery liquid (dilute sulfuric acid) comes into contact with **eyes**, rinse eyes immediately with plenty of water and contact the nearest doctor or hospital to seek medical attention.

CAUTION

- **ALWAYS** disconnect the **NEGATIVE** battery terminal before performing service on the equipment.
- **ALWAYS** keep battery cables in good working condition. Repair or replace all worn cables.

LIFTING SAFETY

CAUTION

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

NOTICE

- When lifting of the power buggy is required, use a properly rated forklift. Forklift pockets are provided on the power buggy's frame. Make sure the forklift arms are insert into the power buggy's fork lift pockets a minimum of 24-inches. Before lifting, make sure that the lifting bale is not damaged.
- **NEVER** tip the engine to extreme angles during lifting as it may cause oil to gravitate into the cylinder head, making the engine start difficult.
- **DO NOT** lift machine to unnecessary heights.
- **NEVER** lift the equipment while the engine is running.
- **ALWAYS** use ramps capable of supporting the weight of the power buggy and the operator to load and unload the power buggy.

TRANSPORTING SAFETY

NOTICE

- **ALWAYS** shutdown engine before transporting.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- When transporting of the power buggy is required, place the power buggy on a flat bed truck or equivalent and tie down securely.
- **ALWAYS** make sure all tie-downs and block are in place and the bucket is completely lowered in the flat (horizontal) position and securely latched.
- Place **chock blocks** underneath wheel to prevent rolling.
- When transporting the power buggy on a truck or trailer, know the overall height to avoid contacting overhead obstructions such as bridges and power lines. Check the truck and ramp capacities.

ENVIRONMENTAL SAFETY

NOTICE

- 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.



Table 1. Specifications (Power Buggy)	
Models	WBH16/WBH16E
Wheelbase	44 in. (1,117.6 mm)
Overall Length	103 in. (2,616.2 mm)
Overall Width- Dual Wheels	43.25 in. (1,098.6 mm)
Maximum Weight Capacity (Dual Wheels)	30.25 in. (738.65 mm) 2,500 lbs. (1,136 kg)
Overall Width- Single Wheel	43.25 in. (1,098.6 mm)
Maximum Weight Capacity (Single Wheel)	1,100 lbs. (499 kg)
Overall Height	53 in. (1346.2 mm)
Operating Weight	1,200 lbs. (544.2 kg.)
Ship Weight Palletized	1,260 lbs. (585 kg.)
Bucket Capacity	16 cu. ft. Water Level (.59 cu. yd.)
Drive	Hydrostatic
Speed	Up to 7.25 mph. (11.67 km/h)
Steering	Handle Bars To Rear Wheels
Brakes (Drive Wheels)	Dynamic Hydrostatic
Parking Brake (Drive Wheels)	Mechanical
Dump Control	Hydraulic Dump and Return
Discharge Height	5.0 in. (127 mm)
Ground Clearance	6 in. (152.4 mm)
Turning Radius	73.5 in. (1867 mm)
Tires (Drive Wheels)	5.70 x 8.0 x 19.0 in. (145 x 203 x 483 mm)
Tires (Steering)	4.80 x 8.0 in. (122 x 203 mm)

SPECIFICATIONS

Table 2. Specifications (Engine)	
Model	GX390K1QA2 (Recoil Start) GX390K1QAE2 (Electric Start)
Bore X Stroke	3.46 x 2.51 in. (88 x 64 mm.)
Displacement	389 cc
Maximum Power	13.0 hp (3,600 rpm)
Continuous Output	9.0 hp (3,600 rpm)
Maximum Torque	19.5 ft-lbs. (2.7 kg-m) @ 2,500 rpm
Compression Ratio	8.0 : 1
Idle Speed	1,400 ± rpm
Maximum No Load RPM	3.850 ± rpm
Specific Fuel Consumption	1 gal./hr. (3.78 liters/hr.)
Fuel Tank Capacity	5.5 gal. (20.81 liters)
Crankcase Oil Capacity	1.16 qts. (1.1 liters)
Ignition Timing	BTDC25
Starting System	Recoil/Electric
Air Cleaner	Cyclone Type
Noise Level STD,OP	82.78 (S,S)
Dry Weight	68.3 lbs. (31.0 kg.)
Outside Dimensions L X W X H	15.9 x 17.7 x 17.4 (405 X 450 X 443 mm.)

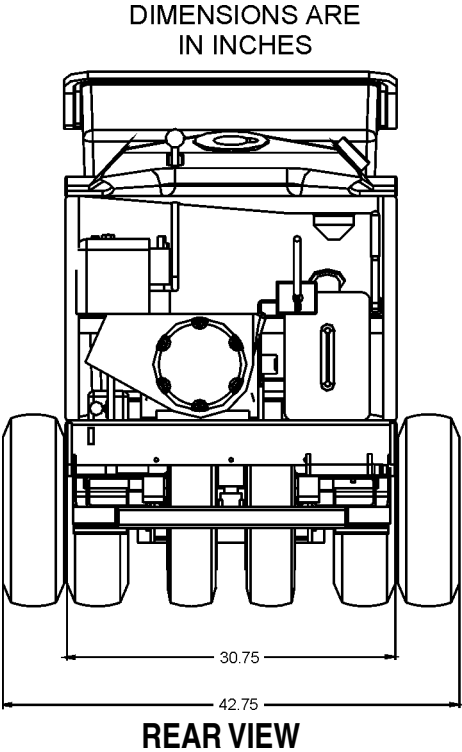
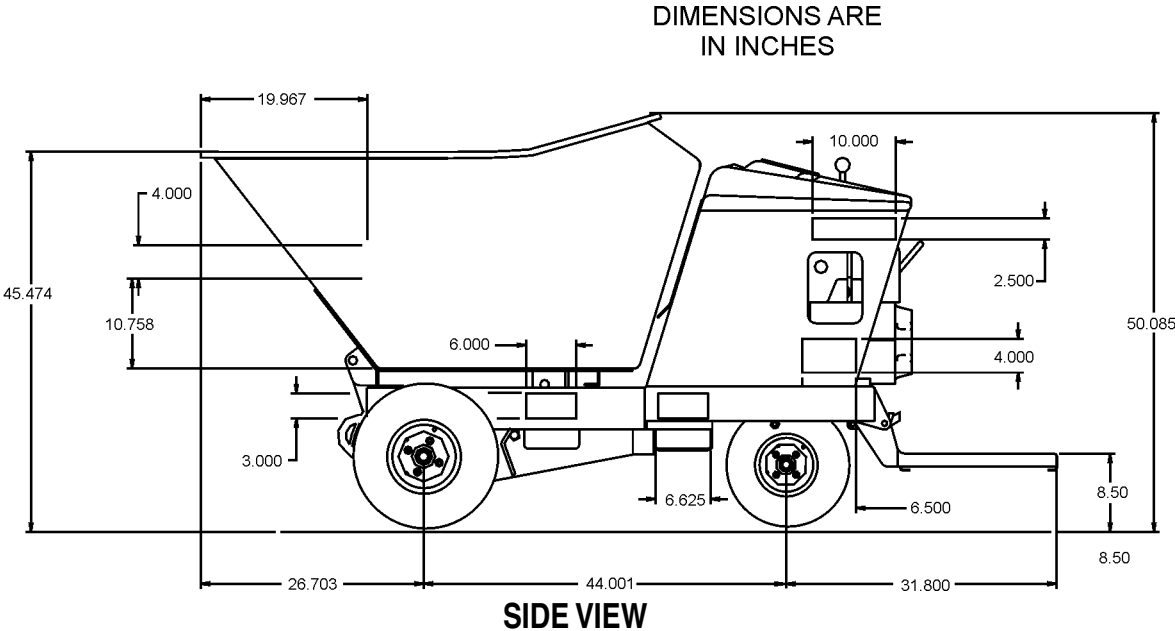


Figure 1. WBH16/WBH16E Dimensions

GENERAL INFORMATION

The MQ Whiteman Power Buggy, Models WBH16 (recoil start) and WBH16E (electric start) are intended for the transportation of concrete, concrete spreading and spot pouring. In addition, the WBH16/WBH16E is designed for landscaping applications, material sub-base distribution, job site cleanup and material transport.

The Power Buggy is equipped with a 6-inch dump height which provides clearance and enables the operator to maneuver over any form height. In addition, it has a unique polyethylene tub design that reduces concrete splatter.

A low center of gravity has been incorporated into the design which provides added safety when maneuvering the buggy in tight areas. A 5.5-gallon fuel tank allows for extended uninterrupted use. Maximum speed of the power buggy is rated at 7.25 MPH.

The maximum weight capacity of the Power Buggy is 2,500 lbs. (1,136 kg). The outer wheels can be removed to allow the buggy to pass through a 32 in. (81.28 cm.) door.

Hand and foot controls are provided for ease of dumping and stopping of the WBH16/WBH16E. Multiple lift points have been provided to allow for easy access of a forklift when lifting is required.

The WBH16/WBH16E is powered by a HONDA GX390K1 air cooled gasoline engine rated at 13 HP at 3600 RPM

The engine drives a variable displacement hydrostatic transmission which is activated by a cable controlled hand lever. The hydraulic fluid flows to a divider valve which directs the fluid to the forward reverse and dumping systems.

The operator controls the forward and reverse machine

travel by manually shifting the control valve which directs the hydraulic fluid flow to the two drive wheel motors. The flow to the dump cylinder is also controlled by a manually operated control valve.

This hydraulic system uses a parallel loop configuration, operating at a maximum of 1450 PSI. The system also features a neutral position which allows the power buggy to be moved in the event of an emergency.

The hydraulic oil is filtered by a screen type filter located in the hydraulic tank, then doubled filtered within the system by a 10 micron cartridge spin-on return filter.

WARNING

All operators must have training before operating the WBH16/WBH16E. For your safety, warnings are on the machine and in this manual. Failure to obey these warnings can cause severe injury or even death.

CAUTION



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

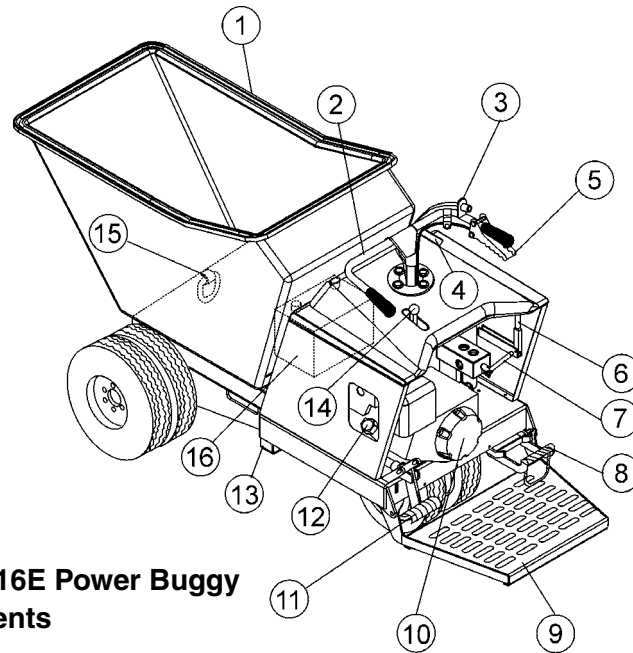


Figure 2. WBH16/WBH16E Power Buggy Components

1. **Tub or Bucket** — Used for the transportation of material. Tub holds approximately 16 cubic feet (0.59 cubic yards) of water.
2. **Handle Bar (Steering)** — This handle bar is used to steer the buggy. When driving the buggy, use both hands and hold onto both handle bar grips.
3. **Kill Switch** — In the event of an emergency, press this button to stop the engine.
4. **Fuel Tank/Cap** — Remove this cap to add fuel. Tank holds approximately 5.5 U.S. gallons. Do not over fill.
5. **Speed Control** — Sets the power buggy's travel speed. When fully depressed, the buggy will be at FULL speed. When released, the buggy will STOP.
6. **Parking Brake Lever** — When this lever is activated (pulled down), the parking brake will be set. To release the brake, pull the lever upwards.
7. **Travel Lever** — When the travel lever is pushed forward, the buggy will travel in the forward direction. Placing the travel lever in the backward position will cause the buggy to travel in the reverse direction. Center position is neutral.
8. **Brake Pedal**— Press this pedal with the right foot to stop the buggy.
9. **Operator Platform** — When the buggy is in use, the operator shall ALWAYS stand on this platform while holding onto the handle bar (steering).
10. **Engine** — The WBH16 uses a HONDA GX390K1QA2 (recoil start) engine. The WBH16E uses a HONDA GX390K1QAE2 (electric start) engine.
11. **Dump Pedal** — Use this pedal to place the tub in the dump position (vertical) press pedal a second time to return tub to the travel position (horizontal).
12. **Hydraulic Tank/Cap** — Remove this cap to add hydraulic oil. Tank holds approximately 6.0 U.S. gallons. DO NOT over fill.
13. **Forklift Pockets** — Use these fork lift pockets to lift the power buggy with a forklift. Remember to insert the forks of the fork lift a minimum of 24 inches into power buggy's fork lift pockets.
14. **Dump Control Lever** — Use this lever forward to place the tub in the dump position (vertical), move the lever backward to return the tub to travel position (horizontal).
15. **Towing Hook** — Use this hook to tow the buggy if it gets stuck. This hook is NOT intended for towing the buggy on public roads at high speeds.
16. **Battery** — Used in the electric-start power buggy (WBH16E) only. Always use gloves and eye protection when handling the battery.

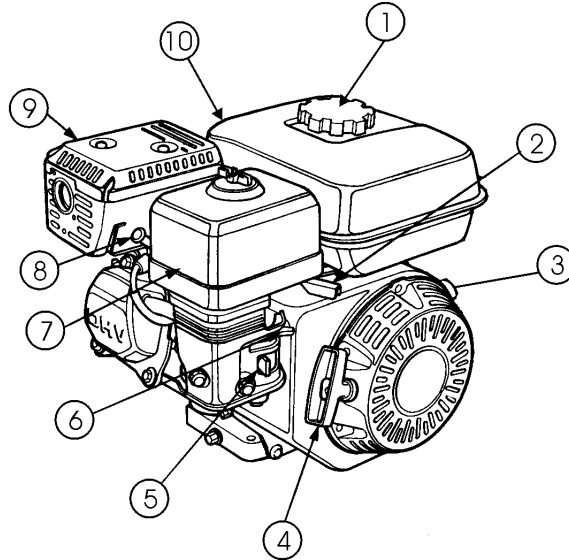


Figure 3. Honda GX390K1 Engine

- Fuel Filler Cap** — Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. DO NOT over fill.
- Throttle Lever** — Used to adjust engine RPM speed (lever advanced forward - SLOW, lever back toward operator - FAST).
- Engine ON/OFF Switch** — ON position permits engine starting, OFF position stops engine operation.
- Recoil Starter (pull rope)** — Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
- Fuel Valve Lever** — OPEN to let fuel flow, CLOSE to stop the flow of fuel.
- Choke Lever** — Used in the starting of a cold engine, or in cold weather conditions. The choke enriches the fuel mixture.
- Air Filter** — Prevents dirt and other debris from entering the fuel system. Release the latches on the sides of the air filter cover to gain access to filter element.
- Spark Plugs** — Provides spark to the ignition system. Set spark plug gap to 0.70- 0.76 mm (0.028 - 0.030 in.) Clean spark plug once a week.
- Muffler** — Used to reduce noise and emissions.
- Fuel Tank** — Holds unleaded gasoline. For additional information, refer to engine owner's manual.

CAUTION



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.

NOTICE

Operating the engine without an air filter or with a damaged or worn air filter will allow dirt to enter the engine causing rapid engine wear.

BEFORE STARTING

1. Read safety information at the beginning of manual.
2. Clean the machine, 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.
4. Check carburetor for external dirt and dust. Clean with dry compressed air.
5. Check fastening nuts and bolts for tightness.

ENGINE OIL CHECK

1. To check the engine oil level, place the buggy on secure level ground with the engine stopped.
2. Remove the filler cap/dipstick from the engine oil filler hole (Figure 4) and wipe it clean.

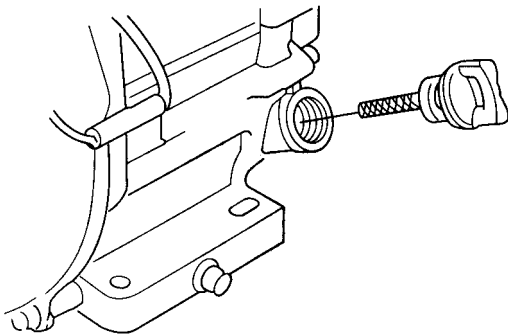


Figure 4. Engine Oil Dipstick Removal

3. 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 5), fill to the edge of the oil filler hole with the recommended oil type (Table 3). Maximum oil capacity is 400 cc.

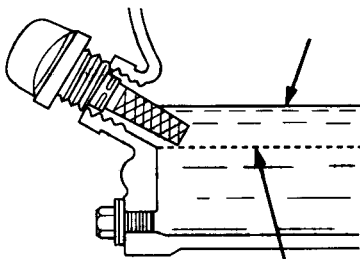


Figure 5. Oil Level

Table 3. Oil Type

Season	Temperature	Oil Type
Summer	25°C or Higher	SAE 10W-30
Spring/Fall	25°C~10°C	SAE 10W-30/20
Winter	0°C or Lower	SAE 10W-10

GASOLINE CHECK

DANGER



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

1. Remove the gasoline cap (Figure 6) located on top of fuel tank.

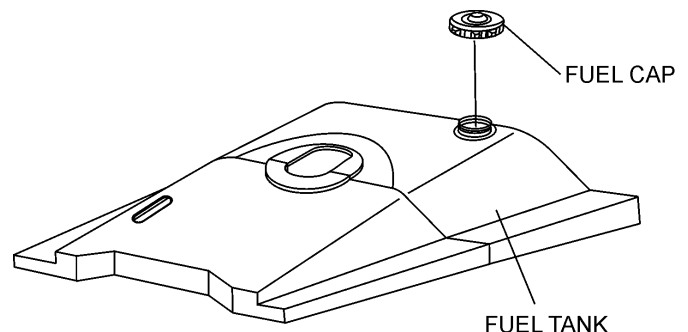


Figure 6. Fuel Tank

2. Visually inspect to see if fuel level is low. If fuel is low, replenish with unleaded fuel.
3. When refueling, be sure to use a strainer for filtration. Do not top-off fuel. Wipe up any spilled fuel.

TIRE PRESSURE CHECK

The wheels and tires of the WBH16/WBH16E are very important in its effective operation.

1. Check the tires regularly to make certain the lugs nuts are tight
2. Make sure tires are inflated to manufacturer's suggested tire pressure. Do not operate the buggy with bad or worn tires.

PARKING BRAKE CHECK

Check the brakes as outlined in the maintenance section of this manual.

LINKAGE CHECK

Check and make sure that all linkages within the buggy are functioning correctly.

STEERING CHECK

1. Check and make sure that the power buggy's steering turns freely and that there is no binding.
2. Make sure that the zerk fitting for the steering has been lubricated.

DUMP CYLINDER CHECK

1. Check the power buggy's dump cylinder as outlined in the operation section of this manual.
2. Make sure that both zerk fittings for the dump cylinder have been lubricated.

HYDRAULIC OIL CHECK

3. Visually read the hydraulic sight glass (Figure 7) to see if the hydraulic oil level is low.
4. If the hydraulic oil is low, add enough hydraulic oil to bring oil level to a normal safe operating level.

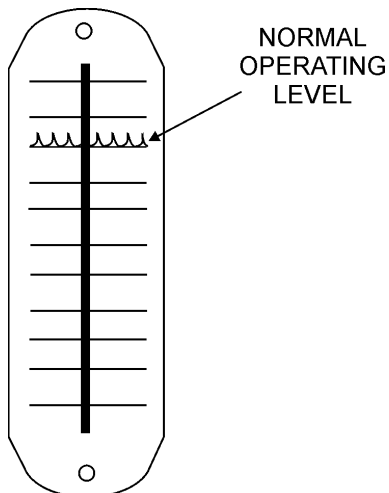


Figure 7. Hydraulic Sight Glass

CAUTION



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

ELECTRIC START (WBH16E ONLY)

1. Before attempting to start the power buggy, make sure that the safety kill switch (Figure 19) is not pushed in. The power buggy will not start with the kill switch engaged.
2. Place the engine fuel lever to the ON position. (Figure 8).

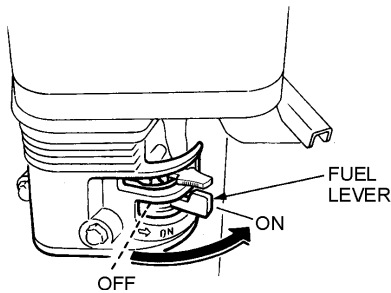


Figure 8. Engine Fuel Lever (ON Position)

3. Place the choke lever (Figure 9) in the CLOSED position if starting a cold engine.

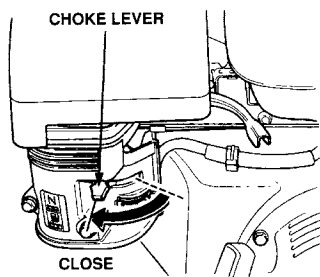


Figure 9. Engine Choke Lever (Closed)

NOTICE

The CLOSED position of the choke lever enriches the fuel mixture for starting a cold engine. The OPEN position provides the correct fuel mixture for normal operation after starting, and for restarting a warm engine.

4. Place the choke lever (Figure 10) in the OPEN position if starting a warm engine or the temperature is warm.

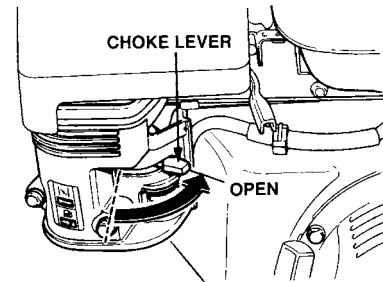


Figure 10. Engine Choke Lever (Open)

5. Move the throttle lever halfway between the FAST and SLOW position (Figure 11) for starting.

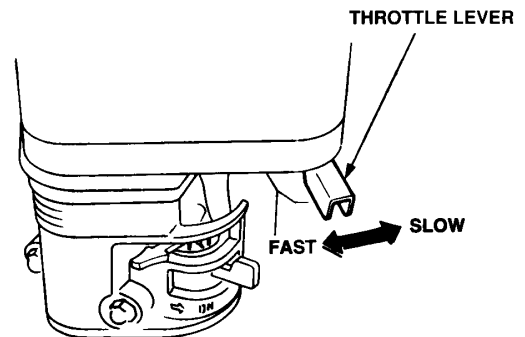


Figure 11. Throttle Lever

6. Place the engine ON/OFF switch (Figure 12) in the ON position.

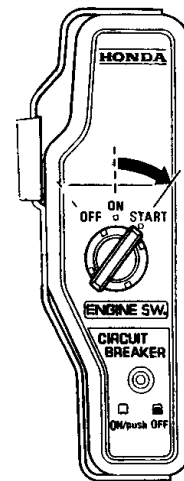


Figure 12. Engine ON/OFF Switch (Electric Start)

7. Make sure the choke lever is in the OPEN position (Figure 10) before operating the power buggy. Before the buggy is placed into operation, run the engine for several minutes. Check for fuel leaks, and noises that would associate with a loose guard or cover.

RECOIL START

1. Follow steps 1 through 4 of the Electric Start procedure.
2. Place the Engine ON/OFF switch (Figure 13) in the ON position.

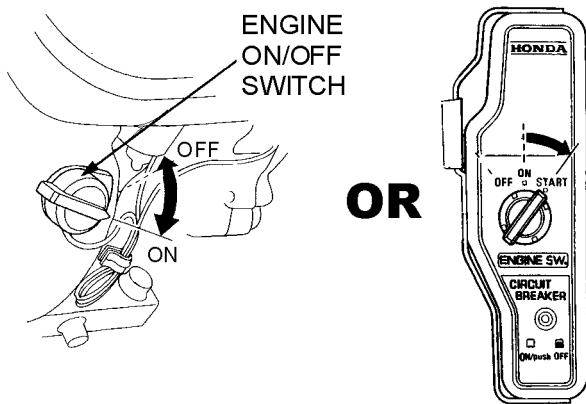


Figure 13. Engine ON/OFF Switch (Recoil Start)

3. Grasp the starter grip (Figure 14) 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.

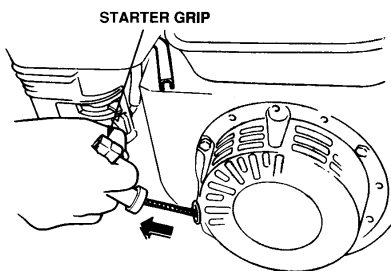


Figure 14. Starter Grip

NOTICE

DO NOT pull the starter rope all the way to the end.
DO NOT release the starter rope after pulling. Allow it to rewind as soon as possible.

4. If the engine has started, slowly push the choke lever inward to the RUN position. If the engine has not started, repeat steps 1 through 3.

PRE-CHECK

1. Engage the parking brake lever (Figure 15) and attempt to rock the buggy back and forth. If the wheels turn during the rocking motion, adjust the brakes as outlined in the maintenance section of this manual.

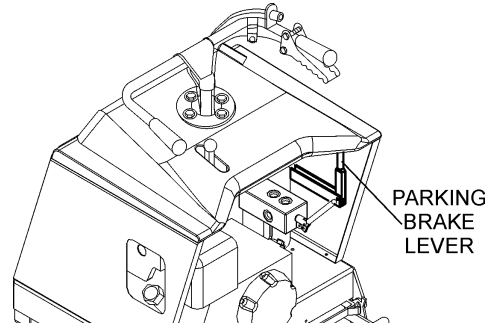


Figure 15. Parking Brake Lever

2. Place the engine's throttle lever (Figure 11) in the slow (idle) position.
3. Check the speed control lever (Figure 16) located on the right side of the handle bar. The speed control should work freely when squeezed by hand, and return to the closed position when released.

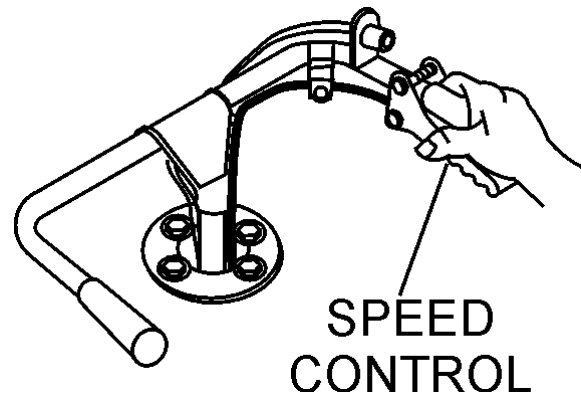


Figure 16. Speed Control Lever

PARKING BRAKE/DIRECTION LEVER

Before the power buggy can be put into operational use, it is best to perform a test run to make certain that all components are functioning properly.

1. Place the buggy on flat solid ground.
2. Engage the parking brake lever.
3. Place the engine's throttle control (Figure 11) in the SLOW (idle) position.
4. Place the power buggy's direction lever (Figure 17) in the forward direction.

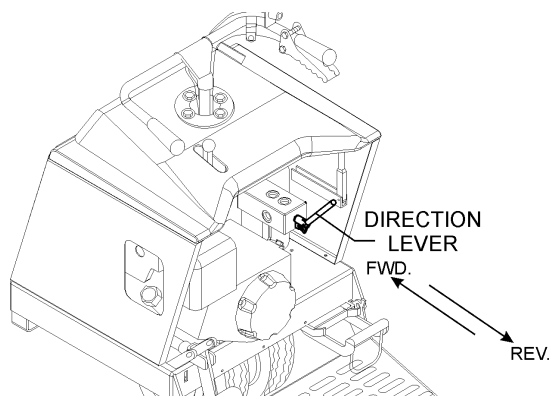


Figure 17. Direction Lever

5. Slowly squeeze the speed control lever slightly (Figure 16), for a short period of time to test the brake holding capacity. If the buggy moves forward, adjust the brakes as outlined in the maintenance section of this manual.
6. If the buggy does not move forward, release the speed control, and disengage the parking brake. If the buggy creeps forward or reverse while the parking brake is disengaged, the machine will require service adjustment of the pump control lever as outlined in the maintenance section of this manual.

TRAVELING

1. With the engine running and parking brake released, place the direction lever (Figure 17) in the forward direction.
2. Squeeze the speed control lever (Figure 16) slightly until the buggy begins to move in a forward direction. Initially, let the buggy travel at about 3 MPH.

3. When using the buggy for the first time, test the brake. With the right foot, step up and place it on the brake pedal (Figure 18). Gradually apply pressure to the brake pedal until the buggy comes to rest.

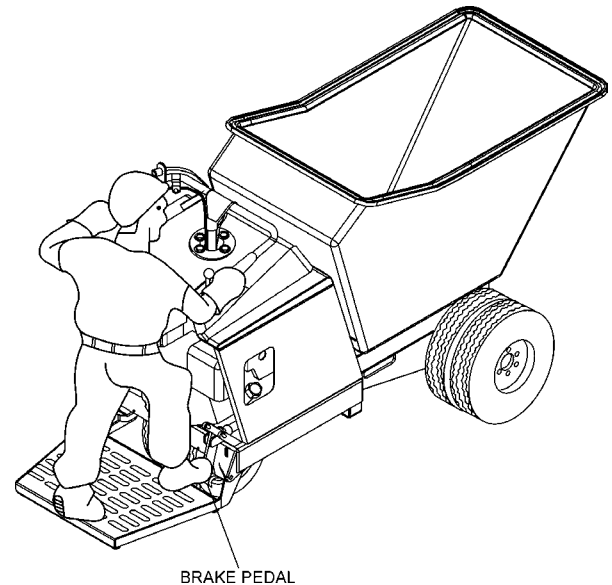


Figure 18. Brake Pedal

4. Test the brake at different speeds until you are comfortable with stopping the buggy. If the brakes do not seem to stop the buggy adequately, refer to the maintenance section of this manual for brake adjustment instructions.
5. When starting and stopping is confirmed to be functioning properly, the buggy is ready for operation.

SHUTDOWN (NORMAL)

Correct shutdown is important to safe operation. Follow these general steps:

1. Come to a full stop.
2. Engage the parking brake (Figure 15).
3. Place the throttle lever (Figure 11) in the slow position. Idle engine 3-5 minutes for gradual cooling.
4. Turn the engine on/off switch (Figure 12 or Figure 13) to the OFF position to shut down the engine.
5. Cycle hydraulic controls to eliminate residual pressure.
6. Remove ignition key on electric start models.
7. Block wheels if on a slope or incline.

EMERGENCY SHUTDOWN

The WBH16/WBH16E is equipped with a safety kill switch. This switch is located on the right side of the handle bar.

1. Press the power buggy's kill switch (Figure 19) and listen for the engine to stop.

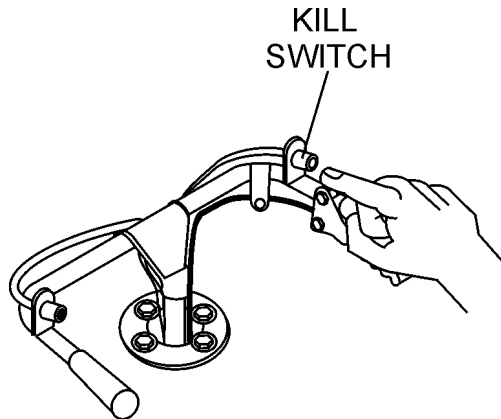


Figure 19. Safety Kill Switch

2. Engage the parking brake (Figure 15).
3. Turn the ignition switch (Figure 12) to the OFF position.

STEERING

To steer the buggy, use the handle bar in front of the operator platform.

1. To turn left when traveling in the forward direction, turn the handle bar clockwise (Figure 20).

BUGGY IS STEERED LEFT WHEN HANDLE BAR IS TURNED CLOCKWISE

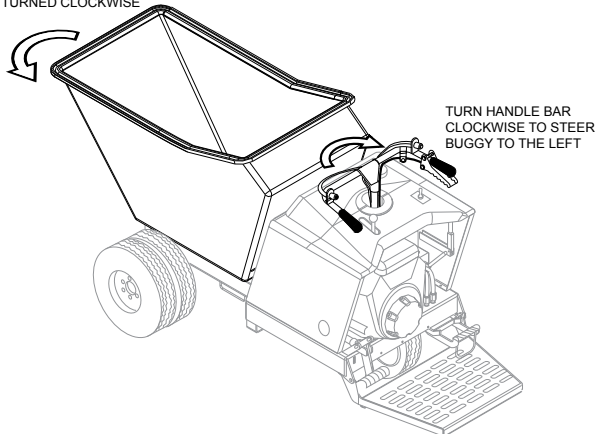


Figure 20. Steering the Buggy

2. To turn right when traveling in the forward direction, turn the handle bar in the counterclockwise direction.

CAUTION

DO NOT steer the buggy left or right when traveling up or down on a grade. Travel in a straight path.

CAUTION

Avoid sudden and quick turns. When steering, turn the handle bar slowly. Always face the controls when traveling.

TRAVELING ON A SLOPE

1. When traveling on a slope, it is necessary to determine the grade of the path. The WBH16/WBH16E can travel up, down or side to side on a maximum grade of 10% (6°). Do not travel on steeper slopes.

To determine the % grade of your path of travel, use the formula and graph in Figure 21.

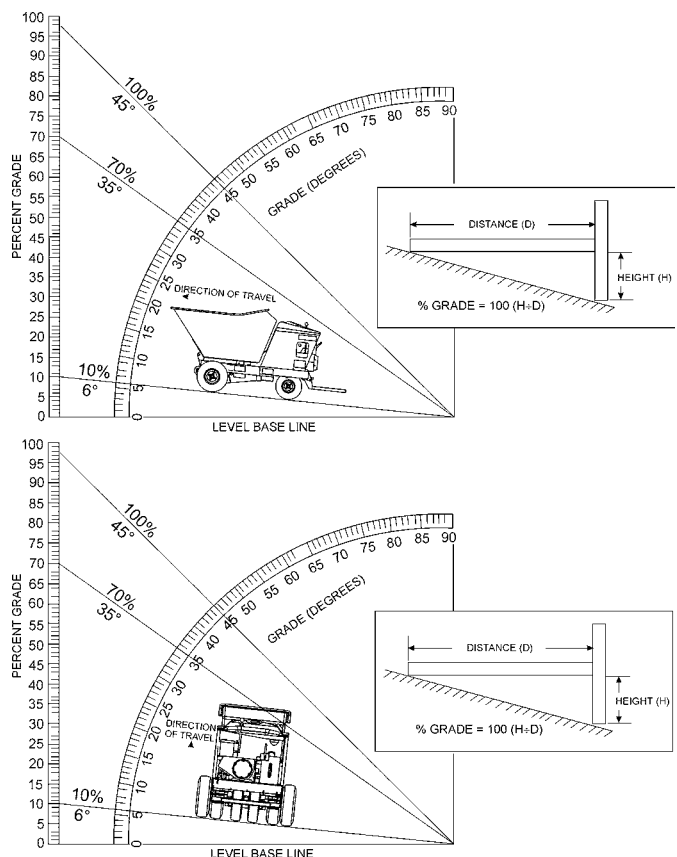


Figure 21. Determining Grade of Slope

2. When going up or down a slope, always travel in the forward direction (Figure 22).

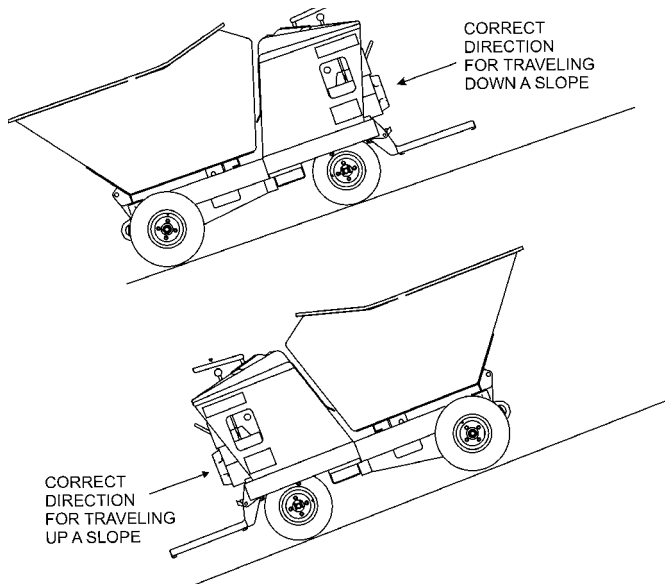


Figure 22. Slope Travel Direction

TUB (BUCKET) DUMPING

The hydraulic dump can be controlled by hand (dump control lever) or foot (dump pedal).

1. To activate the hydraulic dump, press down on the dump pedal (Figure 23) or move the dump control lever forward. The tub will move to the vertical position as long as pressure is continuously applied to the dump pedal or the dump control lever is held in the forward position.

NOTICE

Releasing either one (dump control lever or pedal) before dump is completed, will cause the tub to return to the horizontal position.

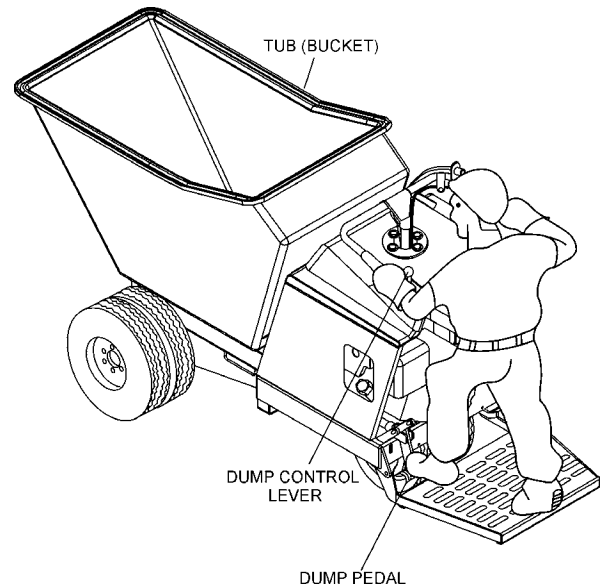


Figure 23. Dump Pedal

2. To return the tub to its horizontal position, simply release the dump control lever or remove your foot from the dump pedal.

ENGINE

Refer to the Honda engine owner's manual for specific information.

1. Check engine oil after every 10 hours of operation and maintain proper levels.
2. Drain oil after every 50 hours of operation and refill with grade of oil recommended below:

Above 40 °F. (13 °C.) - S.A.E. 30

Below 40 °F. (13 °C.) - S.A.E. 20

ADDING HYDRAULIC OIL

1. Check the hydraulic oil level in the hydraulic oil tank, by reading the hydraulic oil sight glass mounted on the hydraulic oil tank.
2. If the hydraulic oil level is low, fill to the proper level with MOBIL 300, GM DEXTRON B, FORD M2C-33F, FORD M2C41A hydraulic oil or equivalent.
3. To gain access to the hydraulic oil filler hole (Figure 24), the tub (bucket) must be put in the dump position (vertical). Start the engine as outlined in the starting procedure, then place the tub in the dumping position.

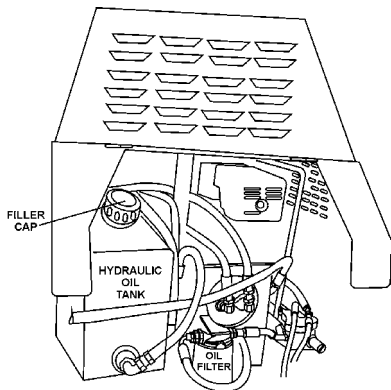


Figure 24. Hydraulic Oil Tank Filler Cap

4. Use the tub support rod to support the tub, then turn the engine OFF. Remove the hydraulic oil filler cap, and add hydraulic oil as required. Fill to the normal operating mark as indicated on the hydraulic oil sight gauge.

NOTICE

In climates where temperatures are below 35°F, hard starting may occur. In these cases, the hydraulic oil should be switched to a thinner 15 weight hydraulic fluid.

5. Replace hydraulic oil after every 200 hours of operation. The hydraulic oil filter should be changed each time the hydraulic oil is changed.

HYDRAULIC DRIVE MOTORS

The hydraulic drive motors are extremely reliable and will not need maintenance or repair under normal conditions. Should any problems develop with the hydraulic drive motors, contact Multiquip's service department.

BRAKE ADJUSTMENT

Brake adjustment can be made on the brake linkage rod located on the right-side of the buggy.

1. Place the parking brake lever in the engaged position. The parking brake should be adjusted so that the buggy will not move.
2. Adjustment is provided by a knob at the end of the parking brake lever. To tighten, turn the knob counterclockwise.
3. Adjust the knob sufficiently tight so that when the parking brake lever is actuated, considerable pressure is required to place it in the over center or ON position.
4. With the parking brake engaged, the buggy should not move when the engine is started and the travel lever pushed forward.

CHASSIS LUBRICATION

The WBH16/WBH16E is equipped with zerk fittings. Lubricate these zerk fittings each day before operating the buggy.

1. Lubricate with high grade chassis lubricant at all lubricating points listed below:
 - Dump Cylinder Pivots - two zerk fittings
 - Tub Bearing Pivot Blocks (underside of tub)- four zerk fittings.
 - Steering Bearing Flange (Front side of handle bar) - One zerk fitting.
2. Remove rear wheel hubs and repack bearings after every 400 hours of operation.

PUMP CONTROL LEVER ADJUSTMENT

If the power buggy tends to creep in the forward or reverse direction after you release the speed control lever, the pump control lever requires adjustment.

- Place the machines drive wheels on jacks or blocks free from ground contact.
- Locate the pump control lever adjusting bolt.
- Loosen the jam nut.
- Start the engine and place the buggy's directional control lever in the forward then reverse directions while observing for wheel movement.
- The pump lever has a very sensitive neutral position of about 1/32" to 1/16". If the wheels are creeping, turn the adjusting bolt in very slight increments. If wheels are creeping in reverse, turn the adjusting bolt counterclockwise. If wheels are creeping forward, turn the adjusting bolt clockwise.

TIRES/WHEELS/LUG NUTS

Tires and wheels are very important and critical components of the buggy. When specifying or replacing the wheels, it is important that the wheels, tires, and axle are properly matched.







CAUTION

DO NOT attempt to repair or modify a wheel. **DO NOT** install an inner tube to correct a leak through the rim. If the rim is cracked, the air pressure in the inner tube may cause pieces of the rim to explode (break-off) with great force and can cause serious eye or bodily injury.

TIRES WEAR/INFLATION

Tire inflation pressure is the most important factor in tire life.

- Check tire pressure when the tires are cold before operation.
- Do not bleed air from tires when they are hot.
- Check inflation pressure weekly during use to ensure the maximum tire life and tread wear.
- Refer to Table 4 (Tire Wear Troubleshooting) to pinpoint the causes and solutions of tire wear problems.

WEAR PATTERN	CAUSE	SOLUTION
 Center Wear	Over Inflation	Adjust pressure to particular load per tire manufacturer.
 Edge Wear	Under Inflation	Adjust pressure to particular load per tire manufacturer.
 Side Wear	Loss of chamber or overloading.	Make sure load does not exceed axle rating. Align wheels.
 Toe Wear	Incorrect toe-in	Align wheels.
 Cupping	Out-of balance	Check bearing adjustment and balance tires.
 Flat Spots	Wheel lockup & tire skidding.	Avoid sudden stops when possible and adjust brakes.

LUG NUT TORQUE REQUIREMENTS

It is extremely important to apply and maintain proper wheel mounting torque on the trailer. Be sure to use only the fasteners matched to the cone angle of the wheel. Proper procedure for attachment of the wheels is as follows:

- Start all wheel lug nuts by hand.
- Torque all lug nuts in sequence. See Figure 25. DO NOT torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 5.

Wheel Size	First Pass FT-LBS	Second Pass FT-LBS	Third Pass FT-LBS
480 x 8 in.	20-25	35-40	50-65

- After first road use, retorque all lug nuts in sequence (Figure 25). Check all wheel lug nuts periodically.

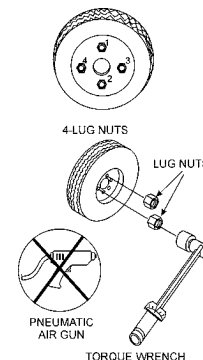


Figure 25. Lug Nut Torque Sequence

TROUBLESHOOTING

Troubleshooting (Power Buggy)		
Symptom	Possible Problem	Solution
Loss of Power.	Speed control cable out of adjustment?	Adjust speed control cable. Replace cable if necessary
	Hydraulic oil level low.?	Check hydraulic oil level. Add oil if necessary.
	Contaminated hydraulic oil filter?	Replace hydraulic oil filter.
	Low engine RPM?	Check engine speed.
Loss of Travel.	Forward/Reverse lever in neutral position?	Place lever in either forward or reverse position. Check hydraulic motors.
	Parking brake partially engaged?	Release parking brake.
System Operating Hot.	Hydraulic oil level low?	Check hydraulic oil level add hydraulic oil if necessary.
	Defective cooling fan?	Inspect cooling fan, replace if necessary.
Slow Dumping.	Low engine speed?	Check engine speed. Adjust engine speed if necessary.
	Dump cylinder is internally bypassing oil?	Replace dump cylinder.
System jerky when started.	Speed cable out of adjustment?	Adjust speed control cable.
	Defective drive motors?	Check drive motors, replace if necessary.
Difficult to steer.	Un-lubricated steering column?	Lubricate steering column.
Parking brake will not hold.	Brake linkage out of adjustment?	Use smaller diameter hose or replace hose.
Difficulty in stopping.	Brakes out of adjustment?	Brake lining worn. Replace brake lining.
Engine will not start.	Low on fuel or fuel tank empty?	Add fuel.
	Defective kill switch?	Check kill switch. Replace if necessary
	Engine ON/OFF switch in OFF position?	Set engine ON/OFF switch to ON position.
	Fuel Shut-off valve CLOSED?	Open Fuel shut-off valve.

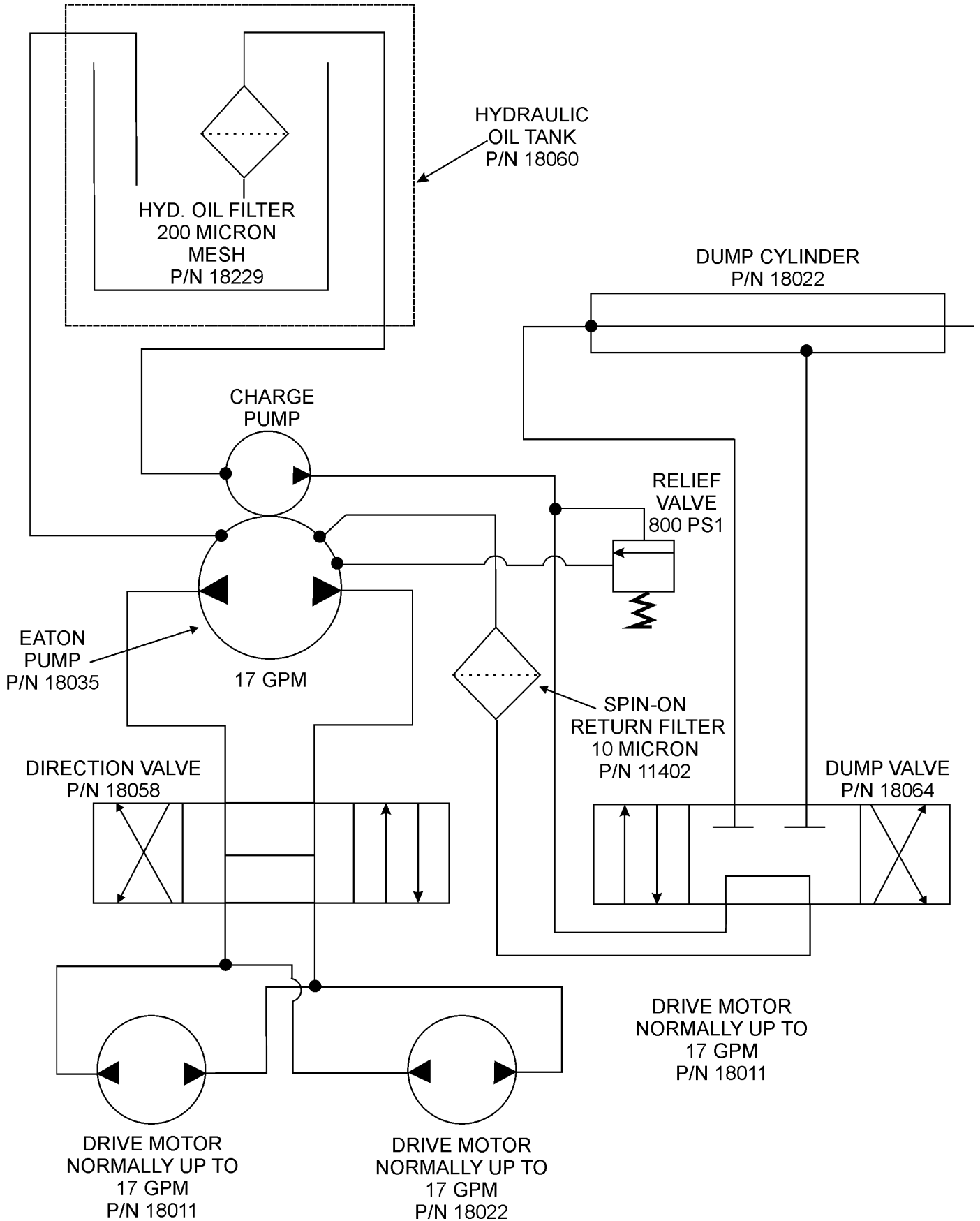
TROUBLESHOOTING

Troubleshooting (Engine)		
Symptom	Possible Problem	Solution
Difficult to start, fuel is available, but no spark at spark plug.	Spark plug bridging?	Check gap, insulation or replace spark plug.
	Carbon deposit on spark plug?	Clean or replace spark plug.
	Short circuit due to deficient spark plug insulation?	Check spark plug insulation, replace if worn.
	Improper spark plug gap?	Set to proper gap.
	Fuel reaching carburetor?	Check fuel line.
	Water in fuel tank?	Flush or replace fuel tank.
	Fuel filter clogged?	Replace fuel filter.
	Stuck carburetor?	Check float mechanism.
	Spark plug is red?	Check transistor ignition unit.
	Spark plug is bluish white?	If insufficient compression, repair or replace engine. If injected air leaking, correct leak. If carburetor jets clogged, clean carburetor.
	No spark present at tip of spark plug?	Check transistor ignition unit is broken, and replace defective unit. Check if voltage cord cracked or broken and replace. Check if spark plug if fouled and replace.
	No oil?	Add oil as required.
	Oil pressure alarm lamp blinks upon starting? (if applicable)	Check automatic shutdown circuit, "oil sensor". (if applicable)
Difficult to start, fuel is available, and spark is present at the spark plug.	ON/OFF switch is shorted?	Check switch wiring, replace switch.
	Ignition coil defective?	Replace ignition coil.
	Improper spark gap, points dirty?	Set correct spark gap and clean points.
	Condenser insulation worn or short circuiting?	Replace condenser.
	Spark plug wire broken or short circuiting?	Replace defective spark plug wiring.
Difficult to start, fuel is available, spark is present and compression is normal.	Wrong fuel type?	Flush fuel system, and replace with correct type of fuel.
	Water or dust in fuel system?	Flush fuel system.
	Air cleaner dirty?	Clean or replace air cleaner.
	Choke open?	Close choke.
Difficult to start, fuel is available, spark is present and compression is low.	Suction/exhaust valve stuck or protruded?	Reseat valves.
	Piston ring and/or cylinder worn?	Replace piston rings and/or piston.
	Cylinder head and/or spark plug not tightened properly?	Torque cylinder head bolts and spark plug.
	Head gasket and/or spark plug gasket damaged?	Replace head and spark plug gaskets.
No fuel present at carburetor.	No fuel in fuel tank?	Fill with correct type of fuel.
	Fuel cock does not open properly?	Apply lubricant to loosen fuel cock lever, replace if necessary.
	Fuel filter/lines clogged?	Replace fuel filter.
	Fuel tank cap breather hole clogged?	Clean or replace fuel tank cap.
	Air in fuel line?	Bleed fuel line.

TROUBLESHOOTING

Troubleshooting (Engine) - continued		
Symptom	Possible Problem	Solution
Weak in power, compression is proper and does not misfire.	Air cleaner dirty?	Clean or replace air cleaner.
	Improper level in carburetor?	Check float adjustment, rebuild carburetor.
	Defective spark plug?	Clean or replace spark plug.
	Improper spark plug?	Set to proper gap.
Weak in power, compression is proper but misfires.	Water in fuel system?	Flush fuel system and replace with correct type of fuel.
	Dirty spark plug?	Clean or replace spark plug.
	Ignition coil defective?	Replace ignition coil.
Engine overheats.	Spark plug heat value incorrect?	Replace with correct type of spark plug.
	Wrong type of fuel?	Replace with correct type of fuel.
	Cooling fins dirty?	Clean cooling fins.
	Intake air restricted?	Clear intake of dirt and debris. Replace air cleaner elements as necessary.
	Oil level too low or too high?	Adjust oil to proper level.
Rotational speed fluctuates.	Governor adjusted incorrectly?	Adjust governor.
	Governor spring defective?	Replace governor spring.
	Fuel flow restricted?	Check entire fuel system for leaks or clogs.
Recoil starter malfunctions. (if applicable)	Recoil mechanism clogged with dust and dirt?	Clean recoil assembly with soap and water.
	Spiral spring loose?	Replace spiral spring.
Starter malfunctions.	Loose, damaged wiring?	Ensure tight, clean connections on battery and starter.
	Battery insufficiently charged?	Recharge or replace battery.
	Starter damaged or internally shorted?	Replace starter.
Burns too much fuel.	Over-accumulation of exhaust products?	Check and clean valves. Check muffler and replace if necessary.
	Wrong spark plug?	Replace spark plug with manufacturer's suggested type.
Exhaust color is continuously "white".	Lubricating oil is wrong viscosity?	Replace lubricating oil with correct viscosity.
	Worn rings?	Replace rings.
Exhaust color is continuously "black".	Air cleaner clogged?	Clean or replace air cleaner.
	Choke valve set to incorrect position?	Adjust choke valve to correct position.
	Carburetor defective, seal on carburetor broken?	Replace carburetor or seal.
	Poor carburetor adjustment, engine runs too rich?	Adjust carburetor.
Will not start, no power with key "ON". (if applicable)	ON/OFF device not activated ON?	Turn on ON/OFF device.
	Battery disconnected or discharged?	Check cable connections. Charge or replace battery
	Ignition switch/wiring defective?	Replace ignition switch. Check wiring.

HYDRAULIC SYSTEM DIAGRAM



OPERATION MANUAL

HERE'S HOW TO GET HELP

PLEASE HAVE THE MODEL AND SERIAL
NUMBER ON-HAND WHEN CALLING

UNITED STATES

Multiquip Corporate Office

18910 Wilmington Ave.
Carson, CA 90746
Contact: mq@multiquip.com

Tel: (800) 421-1244
Fax (800) 537-3927

Service Department

800-421-1244
310-537-3700

Fax: 310-537-4259

Technical Assistance

800-478-1244

Fax: 310-943-2238

MQ Parts Department

800-427-1244
310-537-3700

Fax: 800-672-7877
Fax: 310-637-3284

Warranty Department

800-421-1244
310-537-3700

Fax: 310-537-1173

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Momoxpan, Cholula, Puebla 72760 Mexico
Contact: pmastretta@cipsa.com.mx

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