



OPERATOR'S MANUAL

Safety, Operation & Service Information

EPIC[®] 200 Series One-Man Hole Digger

Model: 242H

Form: GOM08042001EU, Version 1.1, Original Instructions

- Do not discard this manual.
- Keep manual readily available for reference during operation or when servicing product.
- Before operation, read and comprehend operator manual content.
- **Customer Service:** 001 507 451 5510
- **Customer Service Telefax:** 001 507 451 5511
Note: There is no charge for Customer Service.
- **Internet Address:** <http://www.generalequip.com>
- **Email:** general@generalequip.com
- **Mailing Address:**
General Equipment Company, 620 Alexander Dr. S.W., P.O. Box 334, Owatonna, MN 55060, USA

EUROPEAN CE REPRESENTATIVE

- **Customer Service:** (+31) 5 23 63 82 86
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Product covered by this manual complies with mandatory requirements of 2006/42/EC.

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	Wear Eye Protection		Warning, Toxic Material
	Wear Protective Gloves		Warning, Electricity
	Wear Safety Shoes		Warning, Body Entrapment
	No Open Flame		Warning, Rotating Parts
	No Smoking		Warning, Hot Surface
	No Active Mobile Phone		Warning, Floor Level Obstacle
	No Food Or Drink		Warning, Drop Off
	No Trash Containers		Warning, Slippery Surface

OPERATIONAL DISCLAIMER

The manufacturer of this Hole Digger makes no warranty or guarantee it is merchantable and/or suitable for a specific job application and that it will have the power required to dig a specific diameter hole down to a specific depth in a specific soil classification.

1 INTRODUCTION

Congratulations on your decision to purchase a General Equipment light construction product. From our humble beginnings in 1955, it has been a continuing objective of General Equipment Company to manufacture equipment that delivers uncompromising value, service life and investment return. Because of this continuous commitment for excellence, many products bearing the General name actually set the standard by which competitive products are judged.

When you purchased this product, you also gained access to a team of dedicated, knowledgeable, support personnel that stand willing and ready to provide field support assistance. Our team of sales representatives and in-house factory personnel are available to ensure each General product delivers the intended performance and product safety you expect. Our personnel can readily answer your questions or concerns regarding proper applications, service requirements and warranty related problems.

The Hole Digger is intended for use in digging holes outdoors in a variety of soil conditions from soft loams to hard-packed caliche. The machine is operated by two adults of proper operator experience/skill/ common sense, height, weight, strength and physical condition.

If you have any questions or concerns about this product, please feel free to contact our European Representative or Customer Service Department during normal business hours using the contact information located on the front cover of this manual.

Sincerely,
The General Equipment Team

2 SAFETY SYMBOLS

The following safety alert symbols identify important safety messages in this manual. When you see these symbols, be alert to the possibility of personal injury and carefully read the message that follows. Always utilize correct augers, blades and bits when using the Hole Digger.

SAFETY SYMBOLS & MEANINGS

Symbol	Meaning	Symbol	Meaning
	Action Required		General Warning
	Read Manual		Warning, Flammable Material
	Wear Ear Protection		Warning, Explosive Material

3 SAFETY INSTRUCTIONS



- These safety instructions provide guidelines to promote safety and efficiency with the Hole Digger.
- No warranty, guarantee or representation is made by manufacturer as to absolute correctness or sufficiency of any information or statement.
- Safety instructions are intended to deal with common practices and conditions encountered in use of Hole Digger and are not intended to be all inclusive.
- Not following instructions in this manual can result in property damage, personal injury and/or death.

BEFORE OPERATING



1. BEFORE operating the Hole Digger, read this manual plus applicable information supplied by engine manufacturer to familiarize each operator with correct operating procedures.
2. Visually inspect Hole Digger per MAINTENANCE INSTRUCTIONS STEPS 5 through 15 of this manual.
3. Determine Hole Digger is in original, factory configuration and has not been modified in any manner. If questions arise about possible modifications, contact the European Representative or Customer Service Department BEFORE utilization. There is no charge for this service.
4. Always start and stop Hole Digger according to instructions to minimize possibility of unexpected or uncontrolled auger rotation. Know how to stop unit in an emergency.

Physical Exertion/Body Strain

Operating the Hole Digger requires proper physical stamina, mental alertness and is strenuous. Take work breaks to maintain stamina and alertness. If you have condition(s) that might be aggravated by strenuous work, check with doctor BEFORE operating.

Operator

Operator must be of adequate height for any given operating configuration and operator handle must remain below their shoulder sockets. DO NOT operate Hole Digger if this condition is not satisfied. Hole Digger requires operator to be of adequate height, weight and strength to maximize digging efficiency and minimize possibility of personal injury.

Vibration

Prolonged use of Hole Digger (or other, similar machines) exposes operator to vibrations which may produce Whitefinger Disease (Raynaud's Phenomenon). Continuous and regular users should closely monitor condition of hands and fingers. After each period of use, exercise to restore normal blood circulation. If any symptoms appear, seek medical advice immediately.

Noise

Hole Digger and actual digging process creates exposure to high noise emission levels that can result in hearing loss or damage. Hearing protection is required while operating or when near operating equipment. Continuous and regular operators should have hearing checked regularly.

Poisonous Gas

Hole Digger is powered by a gasoline engine which produces Carbon Monoxide fumes during combustion process. Carbon Monoxide fumes are poisonous. If Hole Digger is operated in closed area (indoors or outdoors), determine if supplemental ventilation is required to minimize potential effects of Carbon Monoxide to operators.

Clothing

Clothing must be sturdy, snug fitting, but allow complete freedom of movement. Never wear loose fitting jackets, scarves, neckties, jewelry, flared or cuffed pants or anything that could become caught on controls or moving parts. Properly secure eyeglasses, hearing aid devices and other medical related devices. Wear long pants to protect legs. Protect hands and improve grip with heavy duty, nonslip gloves. Wear and properly lace sturdy boots with nonslip soles. Steel-toed safety shoes are mandatory. Wear approved safety hard hat where there is danger of head injuries.

Flying Debris

Hole digging process can result in flying debris. Eye protection and appropriate safety apparel is required when near or operating Hole Digger. DO NOT operate unit with onlookers or animals close by.

Auger Entrapment

Auger is not shielded. Keep body and all foreign objects clear of rotating auger.

Back Care & Proper Lifting Procedures

Operator will be required to lift Hole Digger as demanded by specific job applications. When lifting, two people are required. Maximum lifting weight per person is 23 Kg (50.7 lbs) per NIOSH standards. Utilize proper lifting techniques to minimize fatigue and back-related injuries.

TRANSPORTATION



1. Hole Digger is designed for one operator to transport it by the operator handle to, while on, and from job site.
2. When transporting Hole Digger in/on motor vehicle, gasoline tank breather vent (if so equipped) must be completely closed to eliminate fuel seepage.
3. To minimize damage to Hole Digger, transport in vehicle to job site with auger disconnected and operator handle level with transport surface. This prevents crankcase oil entering combustion chamber causing hydraulic lock up.
4. DO NOT allow operator handle to contact augers, shovels, or other sharp/abrasive objects during transit or drop Hole Digger to prevent damage to unit.
5. All equipment must be secured in/on vehicles with suitable strapping or tie downs.

DETERMINATION OF POTENTIAL SUBSURFACE HAZARDS IN PROPOSED DIGGING LOCATION(S)



Hole Digger operator handle and throttle control are constructed of metallic and non-metallic, composite material and do not guarantee operator will be properly insulated from contact with charged electrical cables. Hole Digger and related accessories are not classified as insulated.

BEFORE attempting to dig any holes, identify/mark all potential subsurface hazards in proposed digging location(s). Many utilities/other agencies will perform these tasks at minimal or no cost. Subsurface hazards may include, but may not be limited to the following:

1. Rocks and roots of any size.
2. Differences and/or variances in specific soil classifications.
3. Buried garbage/other debris.
4. Buried pressurized pipelines (e.g. natural gas, propane, etc.)
5. Buried electrical cables.

DETERMINATION OF POTENTIAL ABOVE SURFACE HAZARDS IN PROPOSED DIGGING LOCATION(S)



Normal Hole Digger use is on level ground. Avoid other terrains which can be dangerous. Special care must be exercised on overgrown, slippery, and/or difficult/uneven terrain. Watch for surface irregularities. Remove any trip/fall hazard, grass or other overgrowth BEFORE operating Hole Digger. Operate only when/where visibility and light are adequate for job at hand. Keep proper footing and balance at all times. Engine/engine muffler can become extremely hot with potential to burn operator and/or ignite dried materials such as leaves, grass, etc. Remove such materials where digging with or placing Hole Digger.

OPERATIONAL HAZARDS UNDERSTANDING KICKBACK



Torque and kickback generated by digging process is common with portable, one-man hole diggers. Hole Digger engine torque is transmitted and multiplied by transmission to auger. When auger contacts a buried obstruction, left side of operator handle is "thrust" towards operator in a sharp, sudden, counter-clockwise rotation. "Thrusting" force is called kickback and varies depending on speed of handle movement. Kickback force can have magnitude to "throw" operator from Hole Digger and/or inflict damage to hands, arms, and other upper body parts.

Preventive Measures:

- Operator must maintain physical and mental alertness. Be prepared for unexpected auger contact with buried tree roots, rocks, etc., and be capable to sense level of machine control they have.
- DO NOT operate Hole Digger on jobsite where kickback forces can allow body parts to come in direct contact with vertical wall, foundation or other support type structures. Maintain a safe and reasonable distance from these structures.
- Maintaining proper operating stances and applying reactive "body english" is one of the most IMPORTANT and EFFECTIVE procedures to control kickback. Refer to OPERATOR STANCES in OPERATING INSTRUCTIONS section of this manual for more information.
- If operator senses losing full control of Hole Digger for any reason, they should "push" themselves free and clear of operator handle. If machine continues to "spin" about its axis, DO NOT attempt to stop and/or block rotation by grasping operator handle or introducing any foreign object. Instead, allow engine to exhaust its fuel supply.
- "Spinning" about axis is caused by improper engine throttle control adjustment. Refer to MAGURA® THROTTLE CONTROL MAINTENANCE CONTROL PROGRAM in MAINTENANCE INSTRUCTION section of this manual to correct situation BEFORE placing machine back into service.

4 MACHINE SPECIFICATIONS

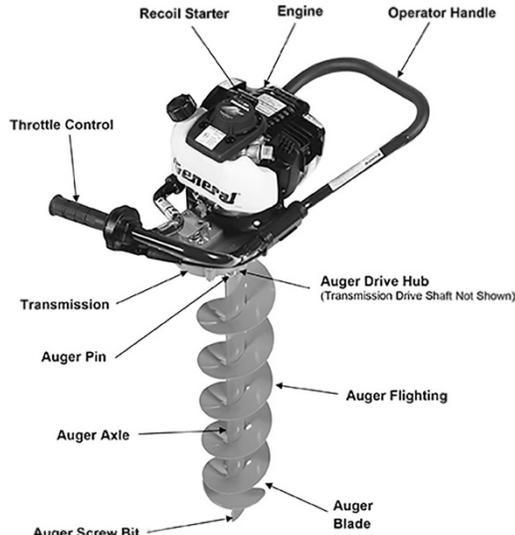


FIGURE 1

ENGINE TYPE	Honda GX35
HIGH SPEED	9000 RPM (No Load)
IDLE SPEED	2900 RPM
SPARK PLUG GAP	0.762 mm (.030 inch)
FUEL	Unleaded, "regular" grade gasoline (RON 87). Consult engine manufacturer supplied materials for specific information.
FUEL TANK CAPACITY	0.64 L (22 US ounces)
TRANSMISSION TYPE	Enclosed, spur geared, double reduction
REDUCTION RATIO	42.5 to 1
LUBRICANT CAPACITY	224 g (8 US ounces)
LUBRICANT SPECIFICATION	High temperature transmission grease containing an extreme pressure (EP) additive.
CLUTCH	76 mm (3 inch) diameter, automatic type centrifugal.
MACHINE WEIGHT	13.0 Kg (28 lbs) (less auger)
AUGER CAPACITY	50.8 mm (2 inch) diameter up to and including 203.2 mm (8 inch) diameter. Refer to DIGGING OPERATION section in this manual for specific information.
OPERATING ENVIRONMENTS	Non-hazardous type locations.
REQUIRED NUMBER OF OPERATORS	1

NOISE & VIBRATION EMISSIONS

Description	North America	Europe
Model	242H	
Noise Level	85 db	
Vibration Level	51 m/s ²	

5 STANDARD PRODUCT & ACCESSORIES

Refer to FIGURE 1 for overview description of standard components included in machine. Included in shipment for Hole Digger should be the following:

- 1 each, engine/transmission assembly
- 1 each, auger pin
- 1 each, bottle of engine oil
- 1 each, operator manual
- 1 each, applicable engine manual
- 1 each, final inspection form

ACCESSORIES

NOTE: All augers, extensions, blades and screw bits are for use in general purpose projects for a variety of soil conditions unless otherwise specified. All auger and auger extension drive connections are 25 mm (1 inch) diameter. Digging depth for all augers is 762 mm (30 inch) and auger extension is 381 mm (15 inch).

	Part #	Description	Cutting Diameter	Weight (in Kg)
	2350-2E	57 mm (2.25 inch) Auger OD	64 mm (2.50 inch)	3,6
	2350-3E	83 mm (3.25 inch) Auger OD	89 mm (3.50 inch)	4,1
	2350-4E	102 mm (4 inch) Auger OD	5.2 inch (133 mm)	5,4
	2350-6E	152 mm (6 inch) Auger OD	191 mm (7.5 inch)	6,4
	2350-8E	203mm (8 inch) Auger OD	241 mm (9.5 inch)	8,2
	2350-15X	No Flighting Auger Extension	NA	1,6
	E244PAK3	102 mm (4 inch) Auger Blade	NA	0,2
	E246PAK3	152 mm (6 inch) Auger Blade	NA	0,4
	E248PAK3	203 mm (8 inch) Auger Blade	NA	0,5
	P302PAK2	Auger Screw Bit, 2350-3E ONLY.	NA	0,7
	P801PAK3	Auger Screw Bit, 2350-2E ONLY.	NA	1,2
	SB26PAK3	Auger Screw Bit, all other augers.	NA	1,9
	2121PAK3	Auger Pin	NA	0,2

6 MACHINE SET-UP



Open shipping carton immediately upon receipt. Remove Hole Digger from carton. Visually inspect contents of carton for freight damage and/or missing parts. If shipping damage is evident, contact delivering carrier immediately to arrange for an inspection of damage by their claims representative. **DO NOT DESTROY OR DISCARD SHIPPING CARTON UNTIL INSTRUCTED BY AUTHORIZED REPRESENTATIVE OF CARRIER OR FACTORY.** If missing parts are detected, notify your dealer who will assist you in obtaining them.

ASSEMBLY

Hole Digger is shipped from factory completely assembled. The transmission is lubricated at the factory and will not require further servicing prior to initial usage.

1. Visually inspect throttle control, throttle control cable assembly and carburetor for signs of damage. Rotate throttle control to determine carburetor spring allows carburetor throttle lever to travel from its low to high speed position and back again without any restriction and/or binding. Throttle control level must return engine to idle speed when twist grip throttle is released by operator.
2. Check all fasteners for security, tighten as required.

>>>> BEFORE STARTING ENGINE <<<<



FILLING ENGINE CRANKCASE WITH OIL

Tools Required:

1 each, small, clean funnel with a flexible extension spout

Fill engine crankcase with oil on level working platform of appropriate size and height. As an alternative, transmission driveshaft can be securely mounted in suitable bench vise.

1. Wipe any dust/dirt from crankcase dipstick/filler plug area. Remove dipstick/filler plug.
2. Using funnel, add oil to engine crankcase. For proper classifications and/or amount, consult material supplied by engine manufacturer for specific information.
3. Replace dipstick/filler plug and tighten. Wipe off any excess spilled oil. Properly dispose of spilled oil/rags per international and local regulations.
4. Consult material supplied by engine manufacturer for other service related information including oil change interval. DO NOT operate Hole Digger unless proper oil level is maintained. Engine damage can result.

FILLING ENGINE FUEL TANK



Tools Required:

1 each, small, clean funnel.

Hole Digger uses a 4-Stroke engine. DO NOT mix engine oil with gasoline. Damage to engine can result. BEFORE operating Hole Digger refer to MACHINE SPECIFICATIONS section in this manual and engine manufacturer supplied materials for information regarding engine fuel, fueling and lubrication requirements.

1. Use extreme caution handling gasoline. Always use UN marked, European ADR regulation approved container for storage and transportation of fuel. Shut engine off and allow to cool before fueling. Never remove fuel tank filler cap or fill fuel tank while engine is running. Never operate engine without fuel tank filler cap. Select bare ground for fueling and move at least 3.05 M (10 feet) from fueling spot before starting engine.
2. Carefully clean filler cap and surrounding area to prevent dirt/debris falling into fuel tank.
3. Fill fuel tank with fresh, clean, unleaded automotive gasoline. Leaded "regular" grade gasoline is acceptable substitute. DO NOT USE GASOLINE CONTAINING METHANOL (WOOD ALCOHOL). Gasoline containing maximum 10 percent ethanol/grain alcohol (sometimes referred to as Gasohol) may be used but requires special care when storing engine for extended periods.

NOTE: DO NOT use gasoline left over from previous season for easier engine start-up and prevent poor engine performance.

4. DO NOT completely fill tank. Fill tank to within 6.4 mm (1/4 inch) to 13 mm (1/2 inch) of tank top to allow for fuel expansion. Replace filler cap. Wipe any fuel spillage and oil if leak is detected from engine and Hole Digger BEFORE operating engine. DO NOT operate engine until oil leak is fixed and fuel is wiped away. Properly dispose of any fuel or oil wiped from machine/rags per international and local regulations. DO NOT allow fuel or oil to get on clothing. Change clothes immediately if this happens.

7 APPLICATION THEORY & TECHNIQUES



The Hole Digger operates on principle of accessory augers attached to the transmission drive shaft to rotate and dig holes in a variety of soil types. The combination of auger diameter, blade, screw bit, soil type and down pressure supplied by operator will affect the hole digging rate.

Hole digging process is directly controlled by:

1. Soil type.
2. Auger boring head design and diameter selected.
3. When required, sufficient application and/or reduction of machine weight and/or down force provided by operators to assist auger soil penetration.
4. No two soil types are exactly alike, no two holes can be dug by exact same method, overall operator feed rates vary. The hole digging process, along with operator experience, skill and common sense, suggests hole digging is a matter of trial and error and directly determines overall success of the job application.

SOLE DIGGING TECHNIQUES

1. Normal Hole Digger operation runs engine at full, governed speed allowing centrifugal clutch to become firmly engaged. Technique transmits more usable power to auger, increasing productivity and reducing component wear. For any soil condition, allow auger to dig at rate most comfortable to operators, but not cause centrifugal clutch to overload and slip.

NOTE: Hole Digger is equipped with a centrifugal clutch assembly within the transmission. The clutch assembly is designed to ALWAYS slip (NOT DISENGAGE) when overloaded or if auger contacts buried obstruction. When slipping, clutch still transmits a specific amount of torque to auger. Response time for clutch to react to overload condition is directly proportional to rotational speed. With higher rotational speeds (RPM) of clutch at time of overload, it takes more time for clutch to react and actually slip.

2. In general, pressing down on operator handle is not required to initiate and/or sustain the digging process. In most moderate density soils, auger dig rates will not cause centrifugal clutch to overload and slip. In most soft, low density soils (sandy, etc.), it may be necessary to hold up on operator handle to reduce auger dig rate due to tendency of any auger design to cause centrifugal clutch to overload and slip. In most hard, high density soils (hard clay, etc.), it may be necessary to press down on operator handle to establish and maintain acceptable dig rates.
3. Some soil conditions may require more power to dig than machine is capable of delivering for a given auger diameter. To minimize problem, apply suitable down force by operator and use augers with new screw bits and blades. DO NOT use more than one operator to apply down force.
4. When digging in areas filled with known, buried obstructions such as tree roots, rocks and other debris, operate Hole Digger at less than full (an intermediate) speed for more rapid release of centrifugal clutch when obstruction is encountered. This is an industry wide operating procedure.
5. When digging in areas filled with small tree roots, small rocks or other buried obstructions, allow auger blade to "chip away" at obstruction until auger can pass by (by working object loose) or go through it (as in penetrating tree roots). Technique usually involves holding up on operator handle using minimal auger feed rate. Many times size and nature of buried object will prevent auger from passing by or going through it. Instead, remove buried object with shovel or other suitable tool and proceed to dig to desired depth using Hole Digger.
6. Some job applications may encounter buried obstructions too massive in size or soil classifications too compacted for Hole Digger use. Another type equipment of proper size may be required.
7. In most soil conditions, the auger will retract with less effort if allowed to rotate at slow speed. This procedure, however, will leave more loose soil at bottom of hole. To minimize amount of loose soil remaining at bottom of hole, stop rotation before retracting auger.

8. When restarting a Hole Digger with auger in a partially or completely dug hole extra caution is required. The throttle control can be advanced beyond idle speed before operator can exercise proper control of Hole Digger. The accepted procedure (when not using non-flighted auger extension) is to first remove unit from hole and restart engine per STARTING ENGINE WITH AUGER ATTACHED in OPERATING INSTRUCTIONS section of this manual. Return unit to hole with engine at idle speed and complete hole to desired depth.
9. DO NOT dig an initial "pilot" hole with a smaller auger then use larger diameter auger to "ream" hole to desired size. This method will prevent auger screw bit of larger auger from providing sufficient directional stability during "reaming" process.
10. DO NOT use shovel and/or foreign object to remove loose soil from around hole area while operating Hole Digger. This can result in shovel and/or foreign object to become entrapped by rotating auger.
11. Grass and other overgrowth conditions will hamper digging capability of any auger by becoming "clogged" around auger teeth and screw bit. Removal of such obstructions from hole location BEFORE digging will increase digging efficiency and overall productivity.

8 OPERATING INSTRUCTIONS



INSTALLING AUGER

1. DO NOT connect auger to Hole Digger while engine is running. Refer to STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual. To install auger, place Hole Digger with spark plug facing up to minimize potential oil and/or gasoline entering combustion chamber and creating a hydraulic lock.
2. Connect auger to Hole Digger with correct factory supplied auger pin. DO NOT use any other connecting device, including cap screws, bolts, pins, etc., that can damage Hole Digger driveshaft and/or auger hub.

STARTING ENGINE WITH AUGER ATTACHED

DO NOT attempt to dig with Hole Digger until operator is ready and in full control of machine/accessories.

3. Place Hole Digger in vertical orientation on desired hole location so right hand operates throttle control.
4. With left hand, open fuel tank breather vent (if so equipped) to its maximum set position. Failure to open breather vent prevents engine from receiving continuous supply of fuel.
5. Gripping operator handle on left side with left hand, use right hand to turn engine ON/OFF ignition switch to ON position. FIGURE 2



FIGURE 2

6. With left hand, depress engine primer system bulb repeatedly until fuel can be seen in clear plastic fuel line and primer bulb. FIGURE 3



FIGURE 3

7. If engine is cold or the ambient temperature is low, using left hand, move choke control lever to the left/closed position (away from fuel tank). A warm (previously run) engine may not require choking. FIGURE 4



FIGURE 4

NOTE: Proper choke lever operation moves in a sideways motion as viewed by operator. DO NOT move choke lever in a fore and aft direction to prevent damage to choke control mechanism. DO NOT apply excessive force when moving choke lever to prevent damage to carburetor.

8. Grip throttle control with right hand. It is not necessary to rotate the throttle control to start the engine.
9. Using left hand, pull engine starter recoil handle slowly, until resistance is felt (this is the compression point), then give a fast, short, steady pull. Allow starter rope to retract slowly. DO NOT pull rope out to its maximum, extended length. IF engine does not start in three pulls, consult material supplied by engine manufacturer for specific information.

NOTE: Normally, engines not running for some time require three to five pulls to start. Recently run engines usually start on its first or second pull. In cold weather, initial starting will require additional pulls due to extremely rich fuel/air mixture.

10. Allow engine to properly "warm up" and operate without requirement for engine choke. Check for proper centrifugal clutch operation, excessive transmission noise and/or vibration.
11. Rotate throttle control counterclockwise to increase engine speed/regulate digging process. Auger begins rotation when centrifugal clutch reaches initial engagement speed.

PROPER OPERATOR STANCE (FIGURE 5 & 6)

12. Grasp operator handle and throttle control firmly. Wrap fingers around handle and throttle control grip, keeping both cradled between thumbs and forefingers.
13. Keep wrists as perpendicular to operator handle and throttle control as feasible while digging. Proper wrist position can minimize and/or reduce stress and strain related damage potential to this body area, plus, operator control is enhanced and fatigue reduced. FIGURE 6
14. Keep left side operator handles as close to waist/leg/arm areas as possible for maximum leverage/control and minimize effects of "kickback" if obstruction is encountered when digging.

15. Keep arms close to upper body, back as vertical as possible, and bend legs as needed to minimize physical stress.
16. Position left foot forward of right foot and a comfortable distance apart.



FIGURE 5



FIGURE 6

NOTE: Not using a proper operator stance (FIGURES 7, 8, 9):

- a) Reduces operator control and balance.
- b) Increases operator fatigue.
- c) Increases risk of property damage and/or personal injury.



FIGURE 7



FIGURE 8



FIGURE 9

REMOVING STUCK AUGER FROM HOLE

17. Usually due to excessive auger feed rate, an auger can "bind" and/or "bury" itself in the hole. This is also common when digging with smaller diameter 50.8 mm (2 inch) to 101.6 mm (4 inch) augers. When this occurs, DO NOT continue to overload and slip clutch assembly. Hole Digger is not capable of transmitting ample power to "free" auger.

IMPORTANT: The Hole Digger uses a manually deployed Auger-LOK® to prevent gear rotation. DO NOT use chains and/or slings wrapped around Hole Digger and/or operator handles connected to external towing device such as a truck or loader to remove Hole Digger from ground. Action can result in damage to Hole Digger and auger. Use the following procedure to remove a stuck auger from hole:

18. Before attempting to remove stuck auger from hole, STOP engine per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual BEFORE moving to step 19 below.
19. Locate Auger-LOK® on top of transmission housing under spark plug/engine cooling fin area of engine. Area can become hot to the touch. Wear gloves for added protection. FIGURE 10



FIGURE 10

20. Push lock handle down slightly to disengage upper detent position. Turn lock handle counterclockwise (to right) until it stops against vertical slot of lock bracket. FIGURE 10
21. Push lock handle down until it stops against bottom slot of lock bracket and engages transmission gear. (Note, it may be necessary to rotate Hole Digger back and forth slightly to allow lock pin to fully engage gear.) Turn lock handle clockwise (to left) until it stops against right side of slot. Release allowing spring to push handle up into lower detent position. In this position, lock device is fully deployed. FIGURE 11



FIGURE 11

IMPORTANT: Lock device spring should always be in direct contact with handle in any position.

22. Grasp operator handle and rotate Hole Digger/auger counterclockwise (to left). DO NOT FORCE. Apply steady pressure until auger loosens in ground, continuing rotation until auger is freed from obstruction and Hole Digger/auger can be lifted from hole. An additional person may be necessary to assist in this process, one on each side of the widest portion of the operator handle.
23. Inspect Hole Digger/auger for damage. Remove any obstruction from auger and/or hole.
24. Reverse locking device process to disengage locking pin from gear. Check spring positions handle in upper detent position of locking bracket to prevent inadvertent lock deployment.
25. Reconnect spark plug wire. Start engine and resume digging process per STARTING ENGINE WITH AUGER ATTACHED in OPERATING INSTRUCTIONS section of this manual.

ADDING/REMOVING NONFLIGHTED AUGER EXTENSION

For holes deeper than standard augers provide, a non-flighted auger extension increases digging depth 381 mm (15 inches). Additional operator experience, over introductory/novice skill levels, is required when using. Follow this accepted procedure to add non-flighted extension:

26. Dig to approximate full depth of auger following operating instructions. Remove as much loose soil from hole as possible per STEP 7 of HOLE DIGGING TECHNIQUES in APPLICATION THEORY & TECHNIQUES section of this manual.
27. STOP Hole Digger per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual.

28. Remove Hole Digger/auger from hole. Disconnect auger from Hole Digger. Place auger in hole. Attach auger extension to auger and secure with auger pin. The Hole Digger can now be connected to auger extension using auger pin.

IMPORTANT: DO NOT dig using more than one auger extension in combination with auger and Hole Digger. Loose dirt cannot be removed from hole and auger can "bury" itself with potential of losing control of machine.

29. Per STARTING ENGINE WITH AUGER ATTACHED in OPERATING INSTRUCTIONS section of this manual, dig to desired depth or to full depth of auger extension. To remove auger extension, follow this accepted procedure:
30. STOP Hole Digger per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual.
31. Remove as much loose soil from hole as possible per STEP 7 of HOLE DIGGING TECHNIQUES in APPLICATION THEORY & TECHNIQUES section of this manual.
32. Lift auger extension/auger/Hole Digger up far enough out of hole so bottom end of auger extension is clear. FIGURE 12. Block remaining auger with auger fork to prevent falling back into hole. An additional Crew Member will usually be required. FIGURE 13



FIGURE 12



FIGURE 13

33. Disconnect Hole Digger from auger extension. Disconnect auger extension from auger.
34. Reconnect Hole Digger to remaining auger and remove power unit/auger from hole. Reconnect spark plug wire.
35. Per STARTING ENGINE WITH AUGER ATTACHED in OPERATING INSTRUCTIONS section of this manual dig next hole based on job application. If project is complete, store Hole Digger per STORAGE section of this manual.

STOPPING HOLE DIGGER

NOTE: Stop Hole Digger between each hole. Never leave Hole Digger running and unattended.

36. Stop Hole Digger by releasing throttle control grip. Engine should return to the idle speed position. FIGURE 14



FIGURE 14

NOTE: If engine power does not return to the idle position, check throttle control grip, throttle cable, and engine throttle control arm for binding and/or improper adjustment.

37. Turn engine ON/OFF ignition switch to OFF position.
38. Disconnect spark plug wire to prevent accidental engine starting.
39. When engine is not in operation or is to be stored, close fuel tank breather vent (if so equipped). Turn fuel tank ON/OFF valve to OFF position to minimize fuel flooding carburetor and/or entering engine crankcase and/or impacting upon environment.

9 MAINTENANCE INSTRUCTIONS



For routine maintenance, the following information should be followed once per week or 40 hours of use at minimum for maximum performance and return on investment unless otherwise indicated. Information is for reference only and is not intended to be all inclusive.

1. Use factory approved replacement parts/accessories only for maintenance and repair.
2. All maintenance/repairs not described in this operator manual must be done by a dedicated service center following a specific service/repair manual.
3. STOP Hole Digger BEFORE performing maintenance and service per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual.
4. DO NOT perform service and/or repair with Hole Digger mounted to 999 Series Display Stands. Stands are not designed and/or intended for these functions.
5. Inspect for loose or broken parts. Inspect all fasteners, individual parts, operator controls and safety devices for proper function. Tighten fasteners as necessary. Replace any worn or damaged part or assembly.
6. Remove all loose accumulations, dirt, grease to prevent safety hazards, poor performance and reduced service life using safety type solvent.

IMPORTANT: Use safety type solvent. DO NOT use thinner, benzene, or other volatile solvents that will attack rubber/plastic components when cleaning Hole Digger. Provide adequate ventilation. Dispose of rags/solvents per international and local regulations.

7. Inspect engine throttle control arm and throttle cable assemblies are not damaged, bent, abraded or parts missing, are in correct operating position and allow for complete freedom of movement. DO NOT operate Hole Digger with damaged engine throttle control arm and/or throttle cable assembly.
8. Inspect throttle control grip is free of moisture, pitch, oil or grease and is not cracked, damaged or worn. DO NOT operate Hole Digger until such grip is repaired and/or replaced to prevent aggravated effects of "kickback" and/or loss of operator control when digging.
9. Inspect operator handle and attach areas for signs of cracking, fatigue, deformation or damage. If cracking, fatigue deformation or damage is present, replace. Keep handle clean and free of dirt, moisture, grease, oil and other, foreign material accumulations.

IMPORTANT: Keep external condition of operator handle and throttle control free of accumulation of moisture, dirt, pitch and other foreign substance that can provide a conductive pathway for energy to be transmitted. Throttle control should be maintained in clean, dry condition and free of all foreign materials.

10. Inspect centrifugal clutch assembly properly disengages at specified engine speed or slips during overload conditions.
11. Inspect engine muffler for wear or damage and replace as necessary to minimize fire hazard and hearing loss risk. If muffler is equipped with a spark arresting device, check for proper working condition. If not, replace with approved replacement from engine manufacturer.
12. Inspect all safety and operation decals. If any decal becomes damaged and/or unreadable, replace.
13. Hole Digger may utilize self-locking type hexagon nuts to minimize effects of vibration. If worn or damaged, replace.
14. Inspect auger for bent or damaged axle that will cause auger to "wobble" during use and can cause loss of machine control. Maximum allowable auger wobble is 6.4 mm (0.25 inch) total indicator runout (TIR). Augers with TIR in excess of this value must be removed from service and scrapped.
15. Inspect auger blade and screw bit for excessive wear, cracking, sharpness and missing parts. Replace as required to prevent undo wear to boring head and inverted cone configuration to auger flighting. The end result is substandard productivity and usually requires complete auger replacement. FIGURE 15. Auger service life can be greatly extended with constant auger wear part maintenance.



FIGURE 15

NOTE: Worn boring head may only be capable of digging a hole 60 to 75% of auger nominal diameter. This will allow auger to "bind" in hole reducing operator control and productivity.

16. Consult material supplied by engine manufacturer for specific information relative to proper operation, lubrication and storage requirements.

CHANGING HOLE DIGGER TRANSMISSION GREASE

Tools Required:

- 1 each, 12 MM (7/16 inch) wrench
- 1 each, #2 Phillips head screwdriver
- 1 each, torque wrench, 13.5 N.m. (120 inch pounds) capacity with 12 mm (7/16 inch)
- 1 each, plastic hammer

Parts Required:

- 1 each, PN 240-0100PAK2 transmission gasket
- 1 each, PN 210-0720 grease packet or 224 g (8 ounces) of high temperature transmission or marine-grade, wheel bearing grease classified for extreme pressure (EP) applications. Fisk Brothers (Lubriplate brand) GR132 is an approved lubricant.

NOTE: Changing transmission lubricant will require a level working platform of sufficient size and appropriate height. As an alternative, the transmission driveshaft can be securely mounted in suitable bench vise.

1. Change transmission grease every 50 hours of operation, or more often as necessary, if Hole Digger is operated in extremely dusty or dirty conditions.
2. STOP Hole Digger per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual.
3. Drain fuel from fuel tank into a UN marked, European ADR regulation approved fuel container. Wipe any excess spilled fuel and dispose of excess fuel and/or rags per international and local regulations.

IMPORTANT: Use safety type solvent. DO NOT use thinner, benzene, or other volatile solvents that will attack rubber/plastic components when cleaning Hole Digger. Provide adequate ventilation. Dispose of rags/solvents per international and local regulations.

4. Remove transmission assembly bolts. Use plastic hammer to split/separate transmission cover and case. DO NOT damage alignment dowel pins.

NOTE: If journals of secondary pinion gear are difficult to remove from ball bearings, transmission cover and case will separate with greater difficulty. It may be necessary to provide a supplemental force to the pinion journals to assist the removal process. If difficult to remove, complete STEP 5 thru 6. If able to remove journals easily and separate cover and case, proceed to STEP 7.

5. Using Phillips screwdriver, remove screw, lock washer and flat washer from outside of transmission case and set aside. FIGURE 16
6. Insert a 6.4 mm-20 UNC (1/4-20 UNC) cap screw with a minimum 25.4 mm (1 inch) into location where screw was removed. Using wrench, turn capscrew in clockwise direction to apply thrust against pinion bearing journal until it clears pinion gear support bearing. Repeat process with transmission cover if necessary. FIGURE 16



FIGURE 16

7. Remove gasket plus, primary gear and pinion assembly.
8. Clean interior surfaces of transmission cover and case plus, pressure relief valve with safety type solvent.
9. Clean each gear with safety type solvent. Inspect teeth for excess wear, cracks or fatigue. Replace parts as necessary.

IMPORTANT: Use safety type solvent. DO NOT use thinner, benzene, or other volatile solvents that will attack rubber/plastic components when cleaning Hole Digger. Provide adequate ventilation. Dispose of rags/solvents per international and local regulations.

10. Fill transmission cover and case with 224 g (8 ounces) of high temperature transmission grease containing an extreme pressure additive. If Fisk Brothers GR-132 lubricant is not available, marine-grade, wheel bearing grease classified for extreme pressure (EP) applications can be used in its place. Refer to FIGURE 17

IMPORTANT: DO NOT use standard lithium-based greases intended for common lubrication purposes. Such grease does not contain an extreme pressure additive for use with gears or for operating at higher temperatures encountered during hole digging process.

11. Reinstall primary gear and pinion assembly. Distribute grease equally around all gear teeth. Install new transmission gasket. FIGURE 17



FIGURE 17

12. Reinstall transmission cover to case, being careful to align transmission dowel pins during process.
13. Reinstall transmission assembly bolts with hexagon nuts placed on transmission cover side. Torque all bolts to 12 N.m. (96 inch pounds) in an "X" sequence.
14. Rotate driveshaft and check for excessive noise and/or binding. If excessive noise and/binding is evident, disassemble transmission and investigate for probable causes. Reassemble and retorque to specified amount. Recheck for excessive noise and/or binding.

MAGURA® THROTTLE CONTROL MAINTENANCE PROGRAM

For every 8 hours of actual operation and whenever throttle cable is replaced, the following maintenance program is to be followed:

1. Remove plastic cover to properly inspect internal components. If damaged or worn, replace. FIGURE 18



FIGURE 18

2. Inspect idler pulley. Normal use will produce a wear pattern into idler pulley by throttle cable. Maximum allowable groove wear depth created by cable is 1.1 mm (0.045 inch). Wear depth in excess of this limit requires idler pulley replacement.

ENGINE LOSES POWER

Possible Cause	Correction
Incorrect carburetor adjustment.	See engine manufacturer supplied information.
Water in fuel supply.	Drain and replace fuel.
Plugged engine exhaust ports.	See engine manufacturer supplied information.
Dirty spark plug.	See engine manufacturer supplied information.
Incorrect throttle control/cable adjustment.	See MACHINE SET-UP this manual.
Gasoline tank breather vent closed (if so equipped).	Open vent.
Dirty air filter.	See engine manufacturer supplied information.

ENGINE OVERHEATS

Possible Cause	Correction
Incorrect carburetor adjustment.	See engine manufacturer supplied information.
Cooling fins clogged with debris.	Remove engine blower housing and clean cooling fins.

HOLE DIGGER LACKS POWER

Possible Cause	Correction
Incorrect transmission oil level.	See FILLING HOLE DIGGER WITH TRANSMISSION OIL in MACHINE SET-UP this manual.
Centrifugal clutch assembly worn.	Replace.
Incorrect throttle control/cable adjustment.	See MACHINE SET-UP this manual.

AUGER ROTATES AT IDLE SPEED

Possible Cause	Correction
Incorrect throttle control/cable adjustment does not permit proper engine idle speed.	See MACHINE SET-UP this manual.
Centrifugal clutch worn.	Replace.
Incorrect engine idle speed.	See MACHINE SET-UP this manual and/or engine manufacturer supplied information.

11 STORAGE

TEMPORARY STORAGE (On Job Site)

Hole Digger can be temporarily stored on job site by one of three acceptable methods. Method chosen by operator is based on personal preference and/or job site conditions.

- In all three storage methods, STOP Hole Digger per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual. DO NOT store Hole Digger with engine operating.

- Dig shallow hole and leave Hole Digger connected to auger. FIGURE 21



FIGURE 21

- Disconnect Hole Digger from auger and/or auger extension and store in level configuration. FIGURE 22

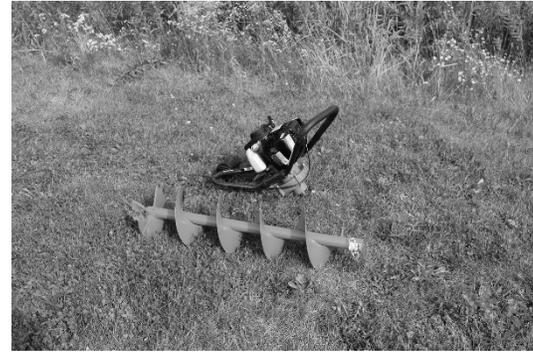


FIGURE 22

- Store Hole Digger connected only to lead auger with engine spark plug facing upward to minimize potential for crankcase oil entering combustion chamber and causing hydraulic lock up. FIGURE 23

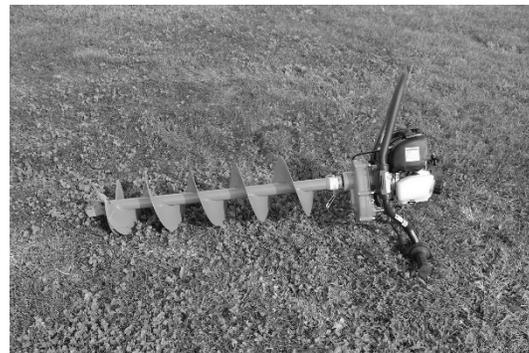


FIGURE 23

- Protect operator handle from external sources of damage. DO NOT allow handle to contact augers, shovels, or other sharp/abrasive objects during transit whether stacked or thrown against handle. DO NOT drag Hole Digger with handle or throttle grips contacting ground. Damage can result.

LONG TERM STORAGE

Procedure for Hole Digger long term storage will protect against effects of corrosion and damage. If Hole Digger is not to be operated for a period of 30 days or more, proceed to store as follows:

- STOP Hole Digger per STOPPING HOLE DIGGER in OPERATING INSTRUCTIONS section of this manual. DO NOT store Hole Digger with engine operating.
- Disconnect auger from Hole Digger.
- Follow procedure as outlined in material supplied by engine manufacturer detailing long term storage of engine.
- Clean all accumulated dirt and grease from Hole Digger utilizing an appropriate solvent. Provide adequate ventilation and observe all applicable safety precautions for solvent.

IMPORTANT: Use safety type solvent. DO NOT use thinner, benzene, or other volatile solvents that will attack rubber/plastic components when cleaning Hole Digger. Provide adequate ventilation. Dispose of rags/solvents per international and local regulations.

- Inspect all visible parts for wear, breakage or damage. Replace any part required to make necessary repair with factory approved parts only.
- Apply light coat of protective grease to transmission driveshaft to prevent formation of rust.

7. Store Hole Digger with operator handle level with ground to minimize potential for crankcase oil entering combustion chamber and creating hydraulic lock up.
8. DO NOT allow handle to come in contact with augers, shovels, or other sharp and abrasive objects during storage to prevent damage.
9. Store Hole Digger inside. If Hole Digger must be stored outside, protect it and each auger with a suitable covering.

12 END OF LIFECYCLE



If the machine comes to the end of its lifecycle, destruction of the machine must be conducted according to international and local environmental regulations.

13 DECLARATION OF CONFORMITY

We, General Equipment Company, 620 Alexander Drive SW, P.O. Box 334, Owatonna, MN 55060, USA declare under our sole responsibility that the portable hole digger product: 242H

To which this declaration relates is in conformity with the following standards or standardization documents:

- EN-ISO 12100:2010

According to the provisions of the European directive:

- 2006/42/EC

Manufactured at: Owatonna, Minnesota 55060, USA
Beginning with serial number: 174809

Signature: Dennis Von Ruden
Position: President
Date: September 14, 2020