Genie
A TEREX BRAND

Operator's Manual

GTH-5519

Auger 3K, 5K

ANSI/CSA
North America

with
Maintenance
Information

Original Instructions
First Edition
First Printing
Part No. 1327993GT

Contents

Introduction 1
General Safety 3
Work Area Safety 4
Controls 6
Installation Instructions 7
Inspections 9
Operating Instructions 11
Transport and Lifting Instructions 18
Maintenance 19
Specifications 25

Copyright © 2025 by Terex Corporation

First Edition: First Printing, April 2025

Genie is a registered trademark of Terex South Dakota, Inc. in the U.S.A. and many other countries.

“GTH” is a trademark of Terex South Dakota, Inc.

Complies with ANSI/ITSDF B56.6, CSA B335

Introduction

Important

Read, understand and obey these safety rules and operating instructions before operating this machine. Only trained and authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, contact us.

Approved Model

Model	Serial Number Range
GTH™-5519	from GTH5514B-101

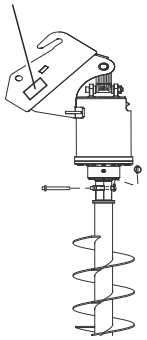
⚠ WARNING Do not install the attachments on any Genie product other than the approved models.

Introduction

Product Identification

Serial label is located on the side of the auger.

Serial Label

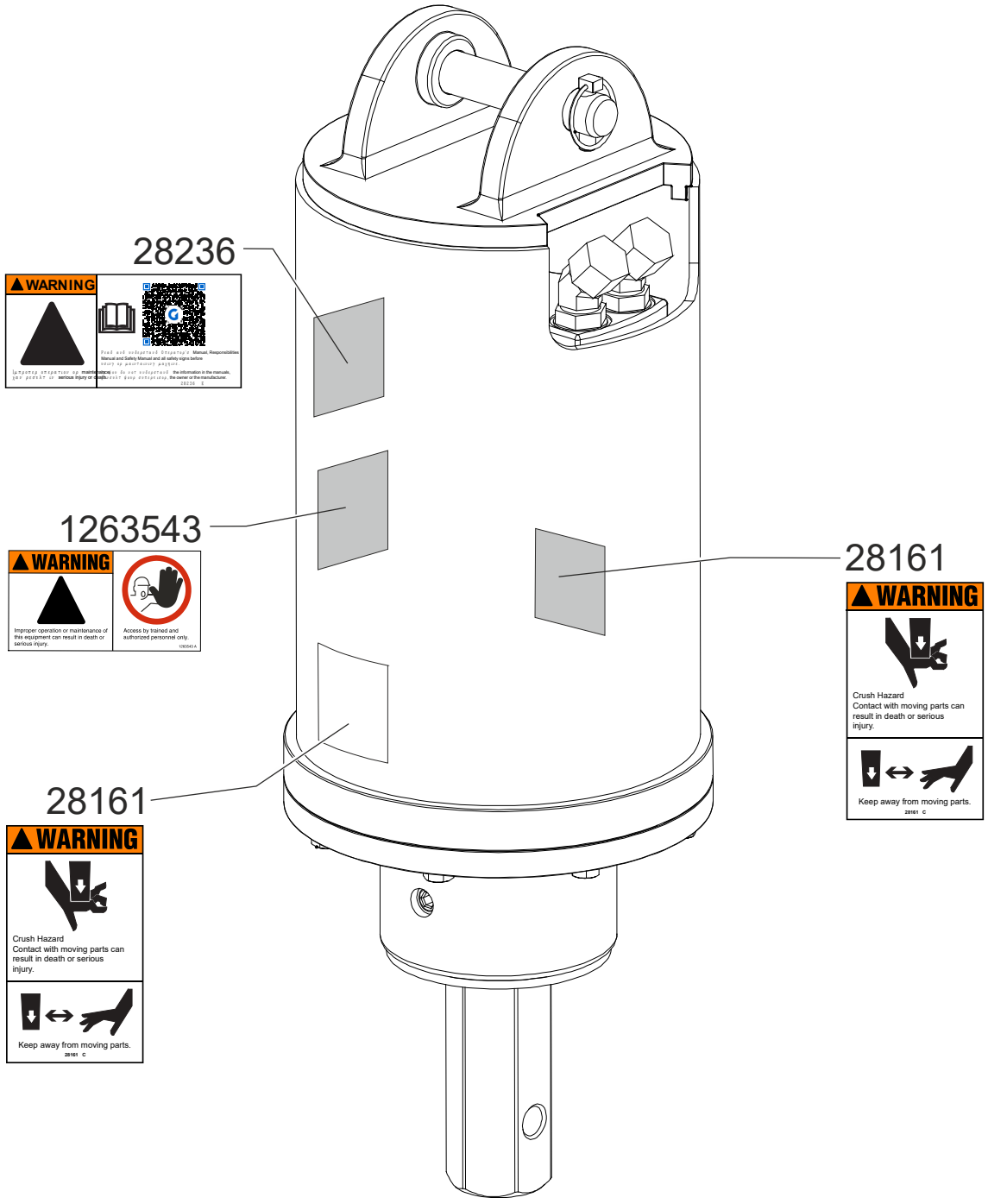


Intended Use

This unit is designed for drilling vertical holes or rotating piers into the ground. Use in any other way is considered contrary to the intended use.

Before operating this machine attachment, it's the operator's responsibility to read and understand this familiarization guide.

General Safety



Work Area Safety

Before You Dig

Ensure the work area has been fully marked for underground utilities before beginning work.

Check with proper local agencies for details.

Call 811 (call811.com) is the service for the United States.

Dust Exposure

Use dust suppression, dust collection, and personal protective equipment as necessary to reduce exposure to crystalline silica dust or other hazardous dusts.

Tip-Over Hazards

Always carry loads close to the ground and do not exit the machine with the boom raised.

Do not exceed rated operating capacity of the machine.

Do not operate on steep hillside. Consult your machine operator’s and safety manual for maximum allowable incline.

Bodily Injury Hazards

Establish and maintain a minimum 6 m/20 ft exclusion zone around the working area.

Only the operator should enter the work zone, while the machine’s engine is running.

Do not allow riders on Drill mast, Planetary drive, Auger or Auger extension at any time, including while stationary, in operation or being moved.

Augers shall be cleaned only when the rotating mechanism is in neutral and Auger is stopped.

Long handled shovels shall be used to move cuttings from the Auger. Materials heavier than 10 kg/22 lbs must be moved mechanically or by two people.

Ensure operator clothing and equipment cannot become entangled in moving equipment.

Operators, helpers, and other personnel working near the attachment must wear appropriate PPE based on the work area.

Do not reach across the auger hole to reach the auger hub if is not safe. Cover the auger hole if necessary.

Work Area Safety

Component Damage Hazards

Travel only with the planetary drive in a safe transport position.

Do not lock the auxiliary hydraulics of your Planetary Drive unit in the “ON” position.

Ensure the drive unit has correct level and grade of oil.

If the customer has ordered the optional Alignment System, then there will be additional electrical harnesses to connect.

Only use a certified Auger Alignment System charger.

Cave-In Hazards

Do not drive close to ditches and excavations etc., cave in could result.

Electrocution Hazards

During operation, weather conditions shall be monitored, operations shall cease during electrical storms or when electrical storms are imminent.

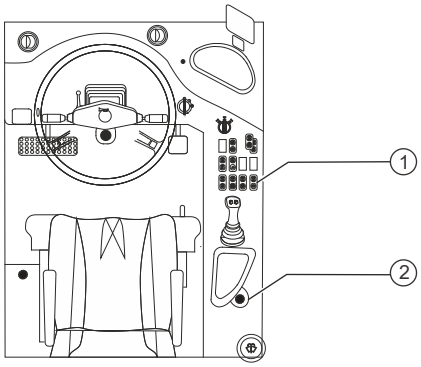
Controls

Continuous Oil Flow Switch

Function: Push the switch to delivery or to return the oil flow from the used attachment.

Continuous Oil Flow Potentiometer

Function: Turn the potentiometer clockwise to increase the flow rate in the circuit feeding the attachments.

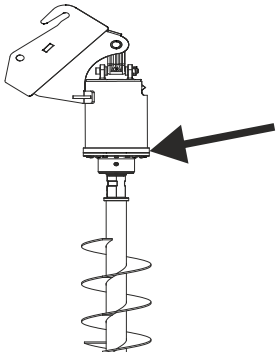


1 oil flow switch
2 oil flow potentiometer

Alignment System LED Array

Solid green: Within 1.5° from plumb.

Partially green, partially red: More than 1.5° from plumb, move your controls to chase the green portion to return to plumb.



Installation Instructions

Auger Installation

Note: Ensure persons assisting are clear and visible to the operator at all times.

1 Ensure the selected auger hub is compatible with your planetary drive shaft (Dimension 63.5mm/2.5 inches. Remove any pins from either the drive shaft or the auger.

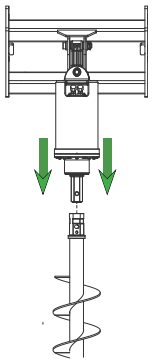


1 dimension 63.5 mm/2.5 inches

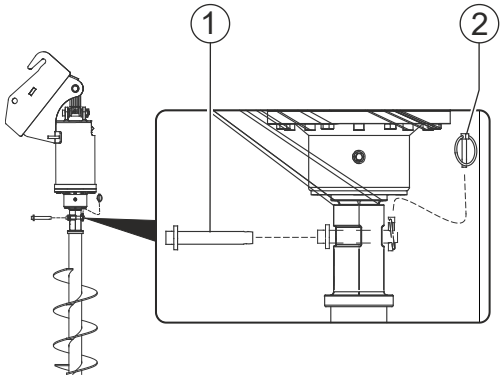
2 Position the auger to align the drive shaft with the auger hub.

Note: Use mechanical assistance or teamwork if the load exceeds 55 lbs/25 kg.

3 Insert the planetary drive into the auger hub, ensuring hole alignment.



4 Insert the pin through the auger hub and drive shaft, then secure it in place with the linch pin.



1 pin
2 linch Pin

5 Release the auger from its cradle (if applicable), lift it, and commence the work.

Installation Instructions

Extension Installation

1 With the auger raised off the ground and the machine engine set at a low RPM, activate the Continuous oil flow switch, to turn auger in a forward (clockwise) rotation. This is the “digging” position.

2 Install the additional extension onto the auger drive with pin and safety clip, lower the extension and attach to the auger with second pin and safety clip.

3 Once you have reached the maximum drilling depth, raise the auger and extension out of the hole until the eyelets of the extension are visible and just above the hole.

4 Slide the two support bars through the two heavy duty eyelets or U-brackets welded to the outer extension.

5 Remove the pin and section of extension and place away from the hole.

6 Then re-pin back to the bottom section, take the weight of the rest of the extension and auger on the machine and remove the support bars. Clear the auger and then keep repeating these steps.

7 For telescopic extensions, use the same method as above, but slide the inner extension back into the auger and pin.

Inspections

Pre-operation Inspection

1 Check Auger teeth.

2 Use only Genie approved replacement parts.

Note: Before performing any maintenance on the Planetary drive or attachment, switch engine off and remove the key. Never leave the key in an unattended machine.

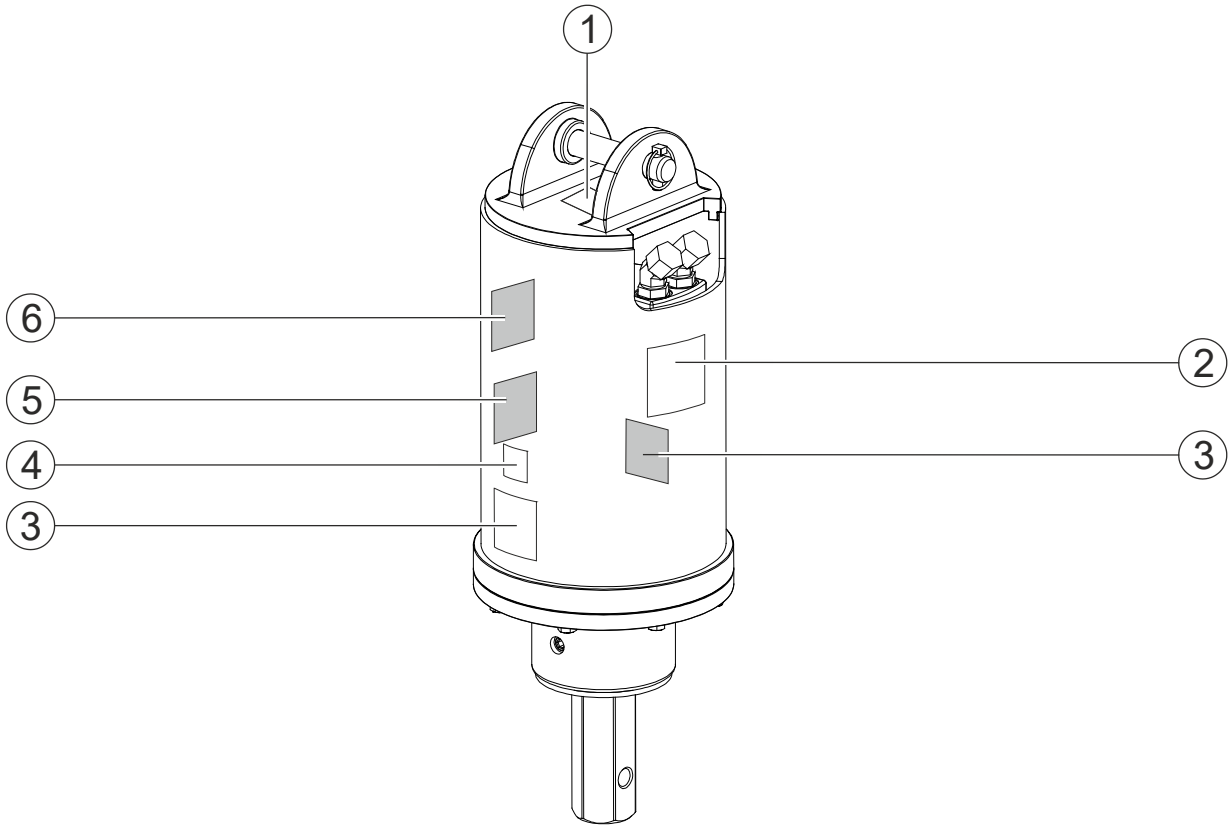
Function Test

1 Activate the continuous oil flow switch to turn auger in a clockwise rotation.

Inspections

Decals Inspection - Auger 3K/5K

The following figure and table show typical safety decal label locations. The actual position and quantity of the labels on your product may differ.



Item	Part No.	Description	Qty
1	1332170GT	Serial Plate, Auger Drive	1
2	1329404GT 1329405GT	Decal, Cosmetic, Genie 3K Decal, Cosmetic, Genie 5K	1
3	28161GT	Decal, Warning, Crush Hazard	2
4	1280819GT	Decal, Warning, Prop 65	1
5	1263543GT	Decal, Warning, Compartment Access	1
6	28236GT	Decal, Warning, Improper Operation	1

Operating Instructions

Operating Procedure

1 When connecting power to the Auger Alignment System (if equipped), allow the drive to hang stationary (no movement) for 30 seconds for the system to perform a start-up calibration.

2 Achieve full operating temperatures through following start up instructions.

3 Determine a suitable Auger RPM. Generally in light and sandy soil a high RPM is desirable. In hard, rocky, or frozen soils a slower RPM is desirable.

4 Turn the Continuous Oil Flow Potentiometer clockwise to increase Auger speed.

5 Turn the Continuous Oil Flow Potentiometer counter-clockwise to reduce Auger speed.

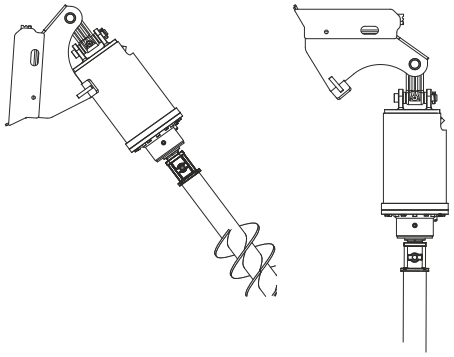
6 Increase engine RPM to increase power.

7 Raise the Auger Drive so the auger hangs vertical then lower the auger into the starting position. Ensure the Auger can move freely within the hole without pressing against the sides.

8 Start rotation of Auger. Ensure it does not stall.

9 Apply the greatest amount of down force from the main boom.

Note: boom up/down movement moves in an arc. Boom or machine may require repositioning to ensure Auger is aligned with drilling position.



Operating Instructions

Clearing Soil from the Auger

As the Auger starts to load up with spoil, stop the rotation while still in the hole then raise the Auger vertically. Move away from the hole, rotate the auger and stop in the forward direction to remove the spoil. Do not rapidly engage forward/reverse action to remove spoil.

If trying to remove the Auger full of material and you experience strong resistance, reverse the Auger slowly while raising the auger vertically to assist with removal. Do not pull with the machine as you may run the risk of shaft damage to the drive.

Do not shake the Auger shaft to remove soil.

Keep clearing the Auger hole regularly as you drill deeper. This will help prolong the life of the auger and the wear parts. In rocks it is recommended to add a slow stream of water to help the performance and life of the rock teeth.

Do not drill with the cradle resting against the drive unit. This will damage your drive unit and Auger.

Extensions and Telescopic Auger Extensions

Once you have obtained the maximum depth with the extension and auger mounted, raise the Auger out of the hole and clear the spoil from the Auger. Place the Auger back into the hole ensuring the Auger is bottomed out in the hole and the hub of the extension is clear and easily accessible.

Remove the Auger pin to disengage the drive unit from the Auger.

Cold Weather Operation

Hints for Cold Weather

For details refer to the Maintenance section of this manual.

Procedure for Startup in Cold Weather

For temperatures below 5°C / 41°F slowly start the drive under no load, at minimum speed. This will allow warm hydraulic oil from your host machine to circulate through the hydraulic motor of your drive and slowly bring it to the minimum recommended operating temperature.

Once the minimum temperature has been achieved slowly introduce load to the output of the drive unit, which in turn will increase the internal gear oil temperature.

Operating Instructions

Alignment System (if equipped)

Main function

The alignment system measures the angle of the drive with respect to plumb. With this measurement, the system displays a sequence of colors on a circular LED array that is visible to the machine operator.

The LED array changes color with the angle of the drive, showing ‘all green’ when very close to plumb (within 1.5°). When the drive is slightly off plumb (by more than 1.5°) the LEDs will change from all green to partially green and red, showing the operator which way to maneuver the drive to return to plumb. The operator should move their machine in the direction of the green portion of the LED array.

When the drive is hanging free when the machine is not operational, the LED sequence may appear to be incorrect or ‘backwards’ when tilting the drive about the hitch. It’s not until the drive pivots about the end of the auger/pile that the system will make sense to the operator.

Start-up

Ensure the auger drive is hitched and hanging approximately plumb before connecting the power supply. After connecting the power supply, the Auger drive with alignment system must be still (not moving) for 30 seconds. During this time you may notice the lights moving even though the drive is still. After 30 seconds, the system will have finished the start-up calibration will be showing the correct LED sequences.

Powering the Auger Alignment System

The alignment system is offered with a variety of power options.

The basic version is powered by the 12V/24V auxiliary power from the cab (otherwise known as a cigarette socket). The basic version does not include any ‘zero’ capability or data capability.

The system can also be powered by a custom built magnetic battery which also features a ‘zero’ switch for drilling at angles and to increase accuracy for piling applications.

The alignment system battery can be connected to the system at the boom or in the cab via any combination of extension cables.

Note: The the alignment sensor measures the orientation of the drive end. There is mechanical play between the drive and the auger so the sensor orientation may differ slightly from the auger orientation.

Note: The angle alignment reading may not show an accurate value while the auger is drilling. To take an accurate reading, stop the rotation of the auger for a brief moment and the system will display a stable reading.

Spare batteries

Spare batteries are readily available from your authorized dealers for hot swapping on long days or as a backup.

Operating Instructions

Operating in wet condition

The Auger Alignment System will operate in a hole filled with water.

When recharging the battery allow the connectors to completely dry before connecting the charger or reconnecting the system to prevent any galvanic corrosion if a small amount of moisture has leaked passed the seals.

Do not manually dry the electrical terminals with an implement.

Battery placement (for the magnetic battery)

The battery features strong magnets within the case that will help to attach the battery to the hitch or boom where it is out of the way.

Place the battery somewhere where it can butt up against an edge to reduce the amount of movement.

Place the battery somewhere on the machine so that the power cable cannot be crushed through normal use.

Do not let the battery hang from the power cable at any point.

Zero switch (for the magnetic battery)

The battery is equipped with a zero function which zero's out the inclination. This can be useful if drilling on an incline that is not plumb, such as inclined piers. It's also useful if a greater accuracy is required.

A color sequence displays on the system LED ring to give the operator an indication of zero mode.

Press the switch to activate zero mode and the LEDs will all flash blue for a moment.

When in zero mode, the middle section of the LED array will illuminate blue. To exit zero mode, press the switch again and the LEDs will all flash white for a moment. Now the middle section of the LED array will display white.

It's not recommended to zero the system beyond 30° from plumb. The zero switch is of a type which has no mechanical movement. This improves the longevity and reliability of the switch. The lack of noticeable movement does not indicate a fault.

To activate the switch, tap and press heavily on the top of the switch and observe the LED changes.

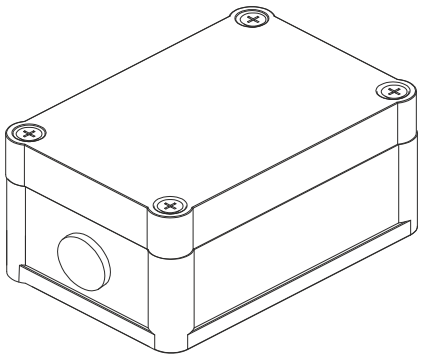
Operating Instructions

Charging the battery

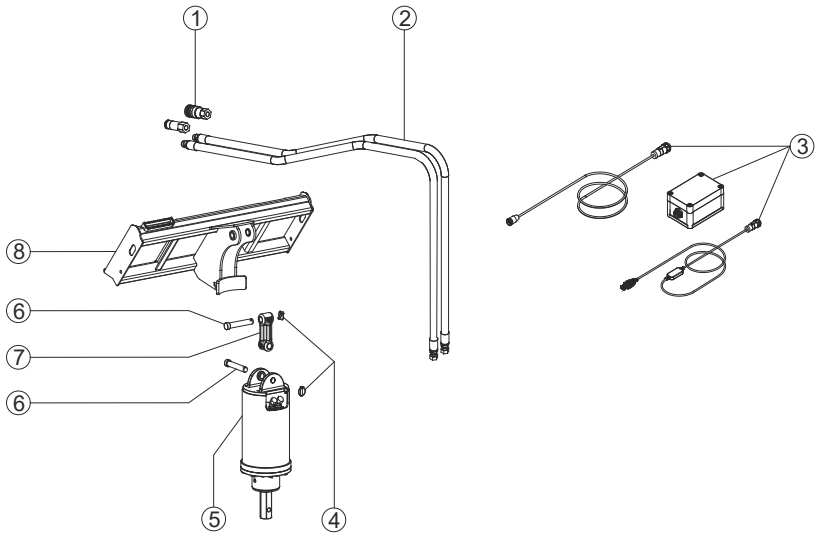
Charge battery after every use and at least once every 3 months if not used regularly.

Only charge indoors and out of direct sunlight in a cool, dry place.

Batteries are shipped at 30% charge as per recommended practice.



Operating Instructions



Components of Kit - Auger

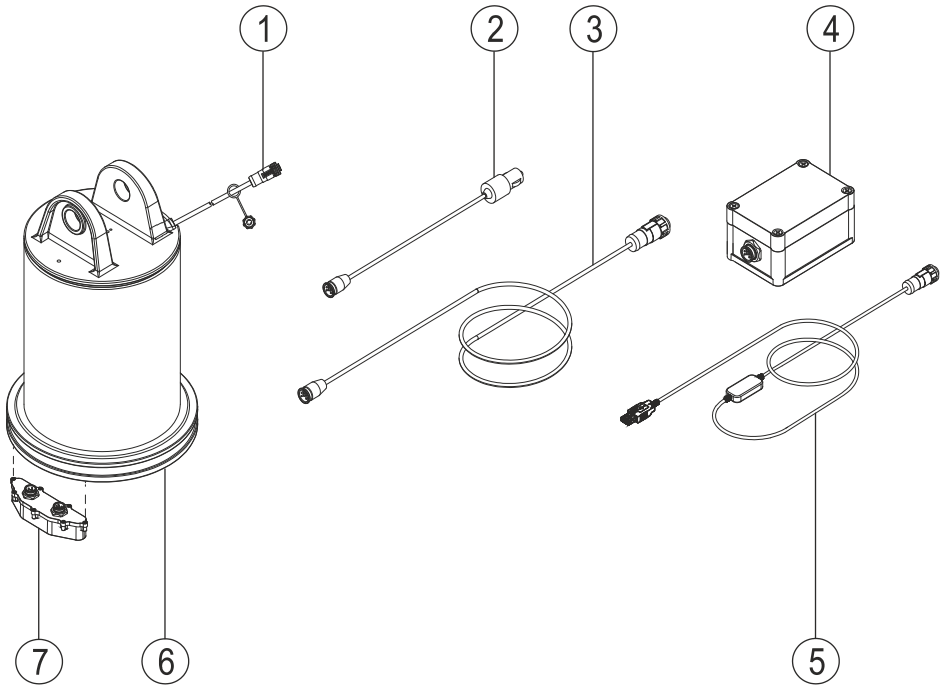
Item	Description	Part No.	Qty
1	Quick release couplers	Consult your local dealer	Set
2	Hydraulic hose kit		Set
3	Battery kit (battery, charger cable & 1m lead-in cable)	1327912GT	Set
4	Linch pin (clip)	1327972GT	1
5	Standard drive unit or Alignment System	See Table 1	1
6	Pin	1327971GT	1
7	Linkage suit standard drive unit	1327970GT	1
8	Cradle Frame	See Table 1	1
9	Operator's Manual	1327993GT	1

Table 1: Models covered in this Manual

Genie Planetary Auger Drive	Part No.
3K Gearbox Assembly - 2.5" Hex Shaft	1327907GT
5K Gearbox Assembly - 2.5" Hex Shaft	1327906GT
3K Gearbox Assembly - 2.5" Hex Shaft - with Alignment System	1327909GT
5K Gearbox Assembly - 2.5" Hex Shaft - with Alignment System	1327908GT

Cradle Frame	Part No.
Drive Frame, Skeed Steer, Multifit	1327974GT
Drive Frame, Standard, GTH-5519	1327975GT

Operating Instructions



Components of Kit - Auger Alignment System

Item	Description
1	Lead In Cable
2	Cigarette Lighter Plug
3	Cable Extension (1m, 3m or 6m)
4	Battery
5	USB Charger Cable
6	Hood Fitted with Light Ring
7	Hood Box

Transport and Lifting Instructions

Transporting the Planetary Drive

Ensure that the attachment is firmly fastened without causing any damage to it.

Disconnect hydraulic couplers during the transportation.

Remove the Auger drive from the machine before transporting to and from the job site.

Tether any auger, anchor or extensions connected to the drive with a chain if necessary, to prevent uncontrolled swinging of the attachments.

While the system is not in use, while being transported or stored, place the yellow lead-in cable into the hood to protect it from potential crushing damage.

Ensure cable is connected to the hood or hoses before placing into the hood to avoid cable from falling out of reach.

Maintenance

Gearbox Oil Capacity

Drive Unit	Oil Capacity			Recommended Oil
	Litres	Quarts	Gallons	
Genie 3K	1.44	1.53	0.383	Chevron Meropa ISO EP320 Mineral
Genie 5K	1.44	1.53	0.383	Chevron Meropa ISO EP320 Mineral

Check the Auger Teeth

If augering, check the auger teeth and pilots are not worn. Ensure all worn parts are replaced. Worn parts will become ineffective and severely diminish the overall performance of the Planetary drive and Auger.

Check the Motor and Gearbox

Be sure that motor and gearbox are full of fluids prior to any load application.

Commissioning

Replace the output shaft seal at the first oil change. During the first hours of operation fine metallic contamination will settle in the output shaft seal and cause premature where if not replaced. See Replacing Shaft Seal section below.

The first oil change must be carried out within the first 50 hours of use under moderate operating conditions.

Change the gear oil after the first 30 hours of severe operating conditions (i.e. severe ambient temperature conditions of +40°C or below 0°C, when augering, screw piling or core barreling in hard ground).

Thick oil can also cause high case pressures which in turn cause shaft seal problems.

Oil Change Schedule	Moderate Operating Conditions	Severe Operating Conditions*
First Oil Change	Within 3 months OR initial 50 hours of use	Within the first 30 hours of use
2nd Oil Change and Subsequent Oil Changes	After 500 hours or 12 months of use	After 300 hours of use thereafter (Drive requires a major stripdown, inspection and rebuild)

Gearbox Oil: Chevron Meropa iso EP 320 extreme Pressure Mineral Gear Oil

The gearbox is filled to the correct level at the factory. Unless there are clear signs of gearbox oil leakage it should not require topping up between scheduled oil changes or services. To check the correct oil level see illustration in next page.

Maintenance

Drain Gearbox Oil

Remove the drain plug from the output housing. Set the gearbox in a stable, vertical position, with a drain pan below and remove the drain plug from the output housing.

Note: this will not drain the gearbox entirely.

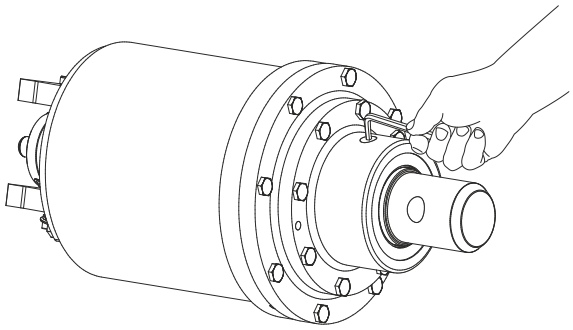
Set the drive unit on its side with the bung hole facing down to allow the remainder of the oil to drain.

Re-filling Gearbox Oil Level

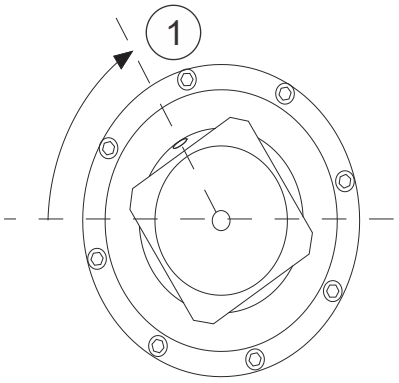
Check the serial tag of the unit to determine the quantity of oil which the gearbox holds.

Set the drive unit flat on the ground with the oil fill bung facing up.

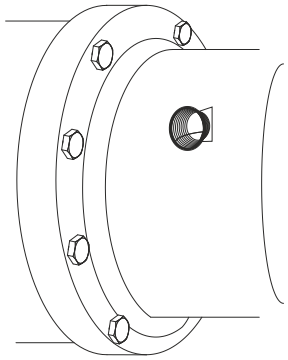
Using an 8 mm/0.31 inch Allen key, remove the bung. To drain oil, turn the drive until the hole is facing down. Allow to drain until all oil has been removed.



Rotate the unit until the oil fill hole is sitting between 60º - 70º from horizontal.



Once the filler hole is at approximately 60º the oil should be sitting at the base of the filler hole thread.



If the oil level is too low to reach the thread it should be topped up. Rotate the unit so the filler hole is sitting at the top and add oil.

Repeat until you have achieved the correct level.

Note: Oil takes time to work it's way through the gearbox. Allow time for it to settle once it has reached the bung hole. Then check the level again until all seepage has occurred.

If the LED display exhibits erratic behavior as a result of an impact or vibration, either disconnect the power during this type of use, or disconnect and reconnect the power supply to reset the system.

Clearing debris from the LED groove.

Where mud or debris becomes heavily caked into the LED ring groove, do not use force or sharp objects to remove the debris. If pressure washing and normal cleaning methods do not prevail, carefully use a blunt implement encourage any caked on mud to dislodge.

Do not under any circumstances use a hammer or any other device to chisel at the LED ring.

Do not make any modifications to your Planetary drive unit.

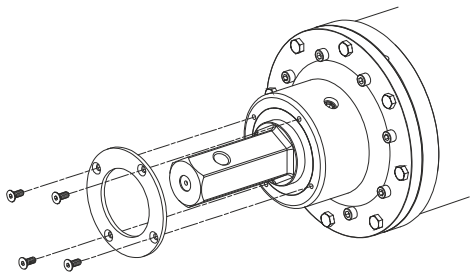
Use only authorized service parts for the gearbox.

The battery and Auger Alignment system is protected from short circuit however the power cables are not repairable and will need to be replaced in the event of damage.

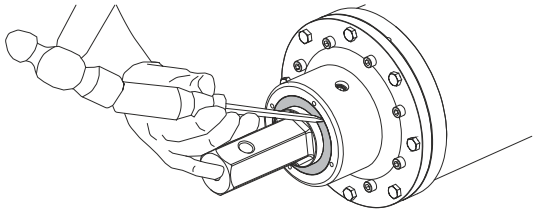
Maintenance

Seal Replacement

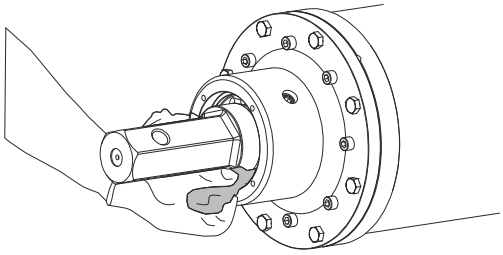
1 Remove the seal shield by unfastening the countersunk allen screws.



2 Use a chisel to remove the output shaft seal.

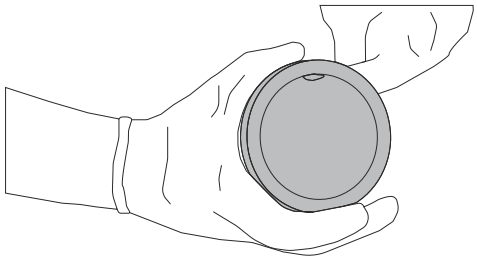


3 Clean the area where the shaft seal sits. It is recommended to clean the surface area with an alcohol-based cleaner.

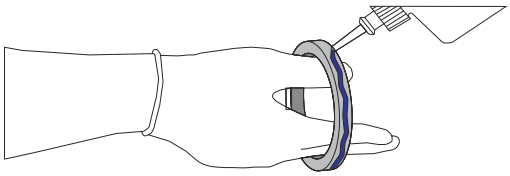


4 Smear multipurpose grease to the inside of the new shaft seal.

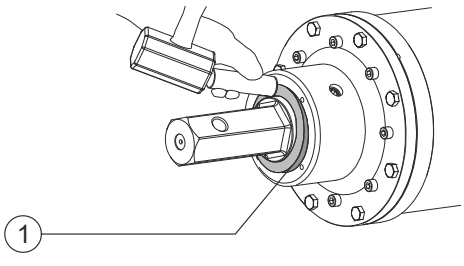
Genie part number 1327976GT



5 Add threadlocker medium strength (e.g. Loctite 243) around the outside of the shaft seal.



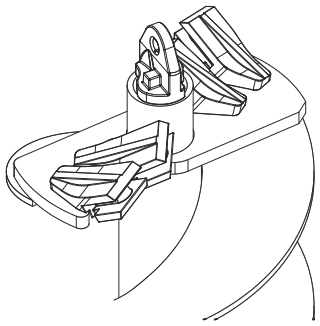
6 Insert new shaft seal and tap it into place with a hammer and level metal plate, until the seal is level with the housing.



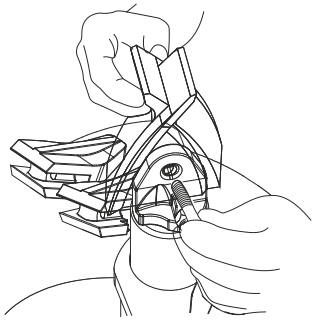
1 shaft seal

Teeth Replacement

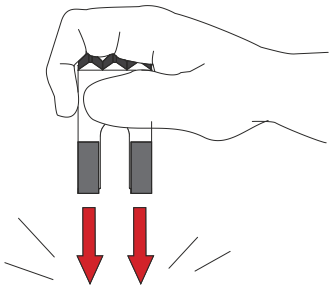
1 Position Auger so that it is easily accessible at the bottom.



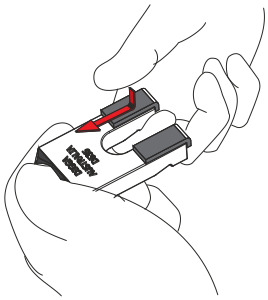
2 Place Pilot on bottom of Auger and secure with nut and bolt.



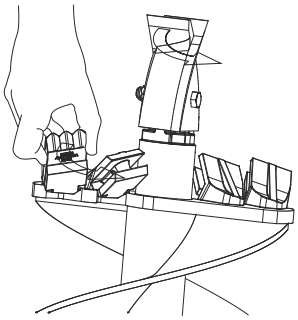
3 Tap Tooth (felt side down) to ensure felt is attached firmly.



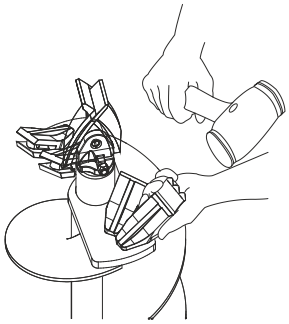
4 Press felt on the front of the tooth to ensure felt is attached firmly.



5 Place tooth in the pocket ensuring the tooth cutting edge is facing the same direction as the pilot.

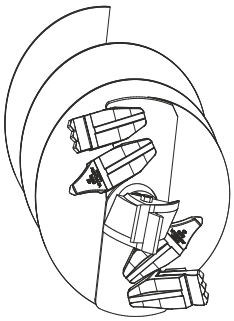


6 With the tooth placed in the pocket, knock the tooth in with a soft head (copper) mallet.



Maintenance

7 Continue until all teeth are replaced as necessary.



End of Life Disposal

At the completion of the useful life of the Planetary Drive unit, drain all fluids and dismantle by separating the different materials (rubber,steel, and plastic etc.).

Follow all federal, state and local regulations for recycling and disposal of the fluid and components.

Specifications

Operating Parameters - HP (kW) Power Ratings

The hydraulic motor of your Planetary drive unit has a maximum power rating. Maximum Pressure and Flow cannot be achieved at the same time.

Ensure you know and understand the maximum flow, pressure and power ratings of your drive unit and parent machine. Never exceed the maximum ratings listed below.

The following charts indicate the maximum capacities of the drive unit.

Auger 3K

Max Power	55 HP	41 kW
Max Torque (24 bar/3500 psi)	3866 Nm	2852 ft-lb
Maximum Flow		208 lpm @ 117 bar 55 gpm @ 1700 psi
Maximum Pressure (Continuous)		241 bar @102 lpm 3500 psi @ 27 gpm
Maximum Pressure (Intermittent)		268 bar @ 91 lpm 3900 psi @ 24 gpm
Maximum Drilling Diameter Earth	762 mm	30 in
Maximum Drilling Diameter Clay/Shale	609 mm	24 in
Ambient Temperature	5°C-30°C	41°F-86°F
Alignment System Accuracy	± 0.25°	
Battery Life	8-9 hours	

Auger 5K

Max Power	55 HP	41 kW
Max Torque (24 bar/3500 psi)	7179 Nm	5295 ft-lb
Maximum Flow		208 lpm @ 117 bar 55 gpm @ 1700 psi
Maximum Pressure (Continuous)		241 bar @102 lpm 3500 psi @ 27 gpm
Maximum Pressure (Intermittent)		268 bar @ 91 lpm 3900 psi @ 24 gpm
Maximum Drilling Diameter Earth	1219 mm	48 in
Maximum Drilling Diameter Clay/Shale	762 mm	30 in
Ambient Temperature	5°C-30°C	41°F-86°F
Alignment System Accuracy	± 0.25°	
Battery Life	8-9 hours	

Leaving the Alignment System turned on while display ‘all green’ will use the battery at a slightly faster rate. Once the power has been depleted, the LEDs will turn off and the battery will need to be recharged.

The battery meets IEC 62133:2012 (Second edition) specifications for safety as a portable sealed battery.

California Proposition 65

WARNING

Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. These chemicals can be emitted from or contained in other various parts and systems, fluids and some component wear by-products. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment and vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment or vehicle and after operation. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

Distributed By: