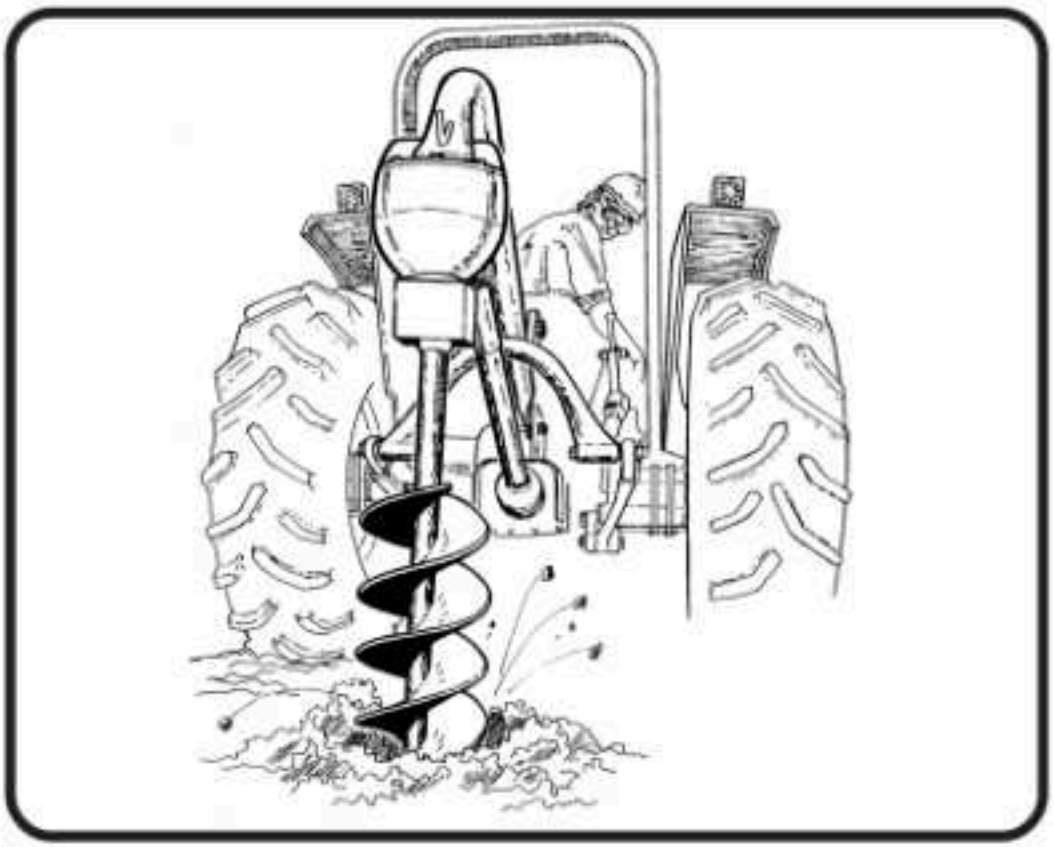
Bobcat®

Operation & Maintenance Manual

Auger

3PTA - S/N A1G300101 & Above



Ingersoll Rand
Compact Vehicle Technologies

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5. STARTING THE TRACTOR

The operator must have a complete understanding of the placement, function, and operational use of all tractor controls before starting the tractor. Review the tractor operator's manual and consult an authorized dealer for tractor operation instructions if needed.

Essential Tractor Controls:

- Locate the light control lever.
- Locate the engine shut off control.
- Locate the brake pedals and the clutch.
- Locate the PTO control.
- Locate the 3-point hitch control lever.
- Locate the hydraulic remote control levers.

Before starting the tractor ensure the following:

- Conduct all pre-start operation inspection and service according to the tractor operator's manual.
- Make sure all guards, shields, and other safety devices are securely in place.
- The parking brake is on.
- The PTO control lever is disengaged.
- The 3-point hitch control lever is in the lowered position.
- The hydraulic remote control levers are in the neutral position.
- The tractor transmission levers are in park or neutral.

Refer to the tractor owner's manual for tractor starting procedures. Only start the tractor while seated and belted in the tractor operator's seat. Never bypass the ignition switch by short circuiting the starter solenoid.

After the tractor engine is running, avoid accidental contact with the tractor transmission to prevent sudden and unexpected tractor movement. *OPS-U-0028*

DANGER!



Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.

(SG-23)

DANGER!



Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)



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10.1 Operating the Auger

1. With your Auger correctly assembled and attached to tractor, engage the tractor PTO (540 RPM position) at idling speed to give the unit a test run. Then, disengage PTO drive. Place the point of the Auger at the desired location of your first hole. Very slowly place point on ground, and drive tactor back or forward until the point is approximately 3" back of center of Gearbox. As Auger works into the ground, this slight angle will staighten due to pivoting action of the Boom downward.

DANGER! Never locate Auger by putting hands on Auger, Gearbox, or Boom when there is any sign of rotation on the Input Driveline or Auger or if tractor is running.



2. With the Auger Point in the correct position and all persons 10 ft. or more from Auger, engage PTO at 540 RPM position with the engine at a little more than idling speed (150-200 RPM PTO speed, 300 RPM Max.). Move the tractor three-point hitch lift control lever slowly to the down position. Allow the Auger to dig until there is an indication of over loading. Raise the Auger, but do not allow the Auger to come completely out of the hole. This allows Auger to clean itself of loose soil and sling soil away from hole. Lower the Auger into the hole and continue this procedure until the desired depth is reached and hole is cleaned out.

3. Use the three-point hitch lift control lever of the tractor to keep the Auger from "corkscrewing" into the ground. If Auger does screw around a rock or root, take a pipe wrench and screw Auger backward until it clears.
NOTICE: Extreme lifting and/or rocking loads while trying to clear stuck Auger can cause Boom and/or Auger failures.

4. Disengage Tractor PTO before transporting Auger from one hole to the next or before putting Tractor into motion to avoid damage to PTO shaft or Auger.

5. Never raise point of Auger over 12" off ground with PTO operating.

6. Keep safety Shields in place at all times.

7. Never operate PTO at over 300 RPM PTO speed.

8. If difficulty is encountered in digging:
   a. **NEVER USE BODY WEIGHT TO HELP WITH PENETRATION** to prevent entanglement and injury or death.
   b. Make certain that point and cutting bits are in place and sharp. Grind point in same direction as original contour, if needed, or replace severely worn parts.
   c. Change to a "Boring Head" Auger for extremely hard ground.
   d. Change to a "Fish Tail" Auger for use in loose stones or soils with considerable shale or flat stones.

NEVER USE BODY WEIGHT TO HELP WITH PENETRATION

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MAINTENANCE

GEARBOX

1. The Gearbox is lubricated at the factory with Grease (3 lbs.-3.18:1 Gearbox, 8 lbs.-4:1 Gearbox). Before leaving the factory, the Gearbox was checked and given a test-run. When adding lubricant, add Grease,

2. Attach Yoke Collar on Driveline to Input Shaft on Gearbox using Shear Pin and Lock Ring. Be sure to properly line-up hole in yoke with the hole in shaft. Once aligned push Shear Pin through until large end is flush with outside of yoke. Retain Shear Pin using Lock Ring supplied. Push Lock Ring onto small end of Shear Pin as far as possible. A simple tool can be made using a 5/16" bolt approximately 2-1/2" long and nut. Screw nut onto bolt 2 turns. Place Lock Ring on end of Shear Pin and push into place by pressing it with nut on end of bolt. **Note:** Pressure must be held on opposite end of shaft when installing Lock Ring.

Make sure Lock Ring is securely placed on Pin .

3. Replacements of Seals - **NOTE** - In event you have a damaged Oil Seal, it is recommended that you return the Gearbox to your dealer. However, it is possible to replace either of the two Seals from the outside of the Gearbox in the following manner: Input Shaft Seal - Remove the Input Driveline from the Gearbox Input Shaft. With a screwdriver, carefully pry out the damaged Seal. Be careful not to scar Shaft in area of Seal. Apply a small amount of lubricant on the new Seal and with the metal flange of the Seal to the outside, carefully install the new Seal in place flush with the face of the casting.

Output Shaft Seal - Remove Shield from the Gearbox and the Auger from the Gearbox Output Shaft. With a screwdriver, carefully pry out the damaged Seal. Be careful not to scar Shaft in area of Seal. Apply a small amount of lubricant on the new Seal; carefully install the new Seal in place flush with the face of the casting with the metal flange of the Seal to the outside of the Gearbox.

4. Grease the universal joint cross and bearing assemblies. Keep the telescoping parts of the Driveline clean and well-lubricated. To grease profile tube, disconnect drive from PTO and pull halves apart. Pump grease into outer profile tube and reinstall together. Raise and lower Auger to spread grease evenly. **NOTE:** If the telescoping parts of the Driveline are allowed to become dirty or dry, they will bind, greatly reduce the life of the U-Joints, and keep the Auger from going into the ground smoothly.

5. Always keep the Cutting Edges on the Auger tip sharp. Grind to maintain same shape. Replace worn or broken Edges for best performance.

Bobcat reserves the right to change the design and specifications at any time.

NOTICE: The decals affixed to your Auger should be retained. If repainted or destroyed, new ones should be ordered from Bobcat immediately.

SHEAR PIN REMOVAL

When Shear Pin breaks, the end with the Lock Ring on it will dislodge from the yoke, leaving the center part of the Shear Pin still engaged in the shaft. To remove broken Shear Pin rotate yoke in relation to shaft until Shear Pin alligns with large hole in yoke. Drive broken pin out by inserting 1/4" drift punch into small hole in yoke driving pin out opposite side. Note: Replace Shear Pin by inserting small end first into large hole in yoke and pushing into place.

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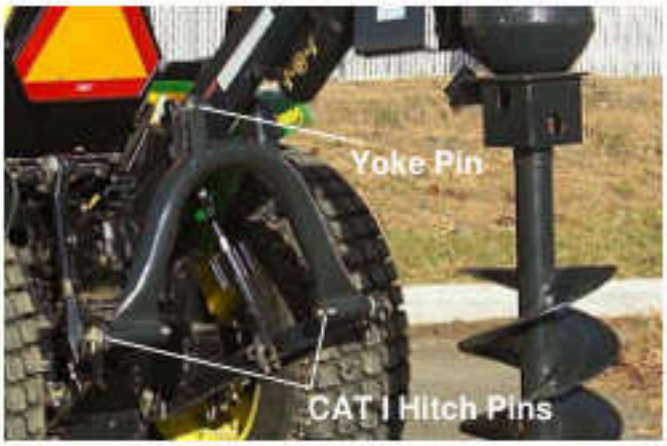
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3.3 Tractor 3-Point Hitch

For the Auger, the tractor 3-point hitch must be rated to lift at least 138 lbs.

The Auger can attach to tractors with a CAT I hitch. Refer to the tractor operator's manual for the category of the tractor used. If the hitch does not conform to the ASAE CAT I dimensions the implements may not fit or raise properly. Consult an authorized dealer for possible modification procedures to mount nonconforming hitches.

Use the correct hitch pins for the hitch category being used. For a Cat 1 hitch, 7/8" lower hitch pins are used, and 3/4" top hitch pins are used.



CAT I Implement / Hitch Specification

Width from outside to outside A-frame
26 7/8"

Quick Hitch width inside lug to lug ..... 27 1/8"

Height from bottom hitch pin to top pin ..... 18"

Lower pin diameter ..... 7/8"

Upper pin diameter ..... 3/4"

Linch pin diameter ..... 15/32"

3.4 Front End Weight

A minimum of 20% total tractor weight must be maintained on the tractor front end at all times. Front end weight is critical to maintain steering control and to prevent the tractor from rearing up while driving. If the front end is too light, add weight until a minimum of 20% total weight is reached on the front tires. Front weights and weight carriers can be purchased through an authorized tractor dealership. *OPS-U-0005*

3.5 Power Take Off (PTO)

Depending on the unit, the auger is designed to operate at a PTO speed of **300 RPM Maximum** in the 540 RPM position. Most tractors operate at either 540, or a combination of 540 and 1000 RPM PTO speeds. The operating speed of the auger and tractor can be determined by the number of splines on the driveline yoke and PTO output shaft. Those operating at 540 RPM will have a 6-spline shaft and those operating at 1000 RPM will have a 21-spline shaft. Note: Refer to the tractor owner's manual for instructions to change PTO speeds on models that oper-ate at more than one speed.

If operating an older model tractor where the tractor's transmission and PTO utilize one master clutch, an over-running clutch must be used between the PTO output shaft and the driveline of the auger. An autho-rized tractor dealer can provide the over-running clutch and its installation if needed. *OPS-U-0006*

WARNING!

DO NOT use a PTO adapter to attach a non-matching Implement driveline to a Tractor PTO. Use of an adapter can double the operating speed of the Implement resulting in excessive vibration, thrown objects, and auger failure. Adapter use will also change the working length of the driveline exposing unshielded driveline areas. Serious bodily injury and/or equipment failure can result from using a PTO adapter. Consult an authorized dealer for assistance if the Implement driveline does not match the Tractor PTO.

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