

PREMIER

SKID STEER LOADER

HYDRAULIC DRIVER-BREAKER

MODELS: PD500, PD750, PD1000, PD1500

OPERATOR'S MANUAL

MODEL NUMBER: _____

SERIAL NUMBER: _____



WARNING!



AVOID INJURY OR DEATH! READ AND UNDERSTAND THIS ENTIRE MANUAL BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT!

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***Congratulations on the purchase of your
PREMIER Hydraulic Driver-Breaker***

You have invested in a quality piece of equipment, backed by people with years of experience. Only through proper installation, operation, and maintenance can you expect to receive the dependable performance and long life for which the attachment was designed.

This manual contains important information regarding the installation, operation, safe use, care and maintenance of your PREMIER Hydraulic Driver-Breaker. Please be sure that all operators study this manual carefully and keep it on file for future reference. Don't forget to send in your owners registration form.

After reading this manual, if you have any questions about your PREMIER Hydraulic Driver-Breaker, please contact us immediately as follows:

| | |
|-------------------|--|
| Toll Free: | (866) 458-0008 |
| Local: | (260) 456-8518 |
| Fax: | (260) 456-6868 |
| Web: | www.premierattach.com |
| E-Mail: | contact@premierattach.com |

Premier strives to provide superior products and the highest level of customer service. If you have any suggestions on how we can improve for the future, we would appreciate hearing from you.

Thank you for putting your trust in PREMIER.

Premier Attachments, Inc.

2707 Lofty Drive
Fort Wayne, IN 46808

PREMIER DRIVER-BREAKER WARRANTY POLICY

Model # _____ **Serial #** _____

PREMIER warrants its Driver-Breaker to be free from defects in material or workmanship for a warranty period of 12 months. The warranty period begins on the date of purchase by the original purchaser.

WARRANTY PERFORMANCE

To make a claim under this warranty, contact the dealer purchased from, who will then obtain written return authorization from PREMIER. All warranty returns must be accompanied by a PREMIER Return Authorization.

REMEDY

During the applicable warranty period, PREMIER at its option, will repair or replace, free of charge, any product determined by it to be defective. Such repair or replacement shall take place at a location designated by PREMIER.

EXCLUSIONS FROM WARRANTY COVERAGE

1. To qualify for warranty performance the complete unit must be available for PREMIER's inspection in its original "failed" condition.
2. There is no warranty against failures caused by or related to alterations or modifications made without the express written consent of PREMIER.
3. This warranty does not cover damage from pressure spikes due to improper hydraulic system application.
4. This warranty does not cover disassembly of components, which voids component warranty.
5. Under no circumstances shall PREMIER be responsible for the cost of labor for field replacement or repair, nor for damage caused by accident, misapplication, abuse, misuse, operator error, or environmental elements.
6. This warranty does not apply to parts subject to normal wear, nor to damage caused by the failure to perform recommended maintenance or to replace worn parts.
7. Under no circumstances shall PREMIER be obligated for the cost of any repair or replacement by anyone other than Premier Auger, without its express written consent.

LIMITATIONS AND EXCLUSIONS

This warranty is in lieu of all other warranties written or oral, express or implied, statutory or otherwise arising by operation of law, including any warranty of merchantability or fitness for purpose.

The liability of PREMIER arising out of the supplying of any product covered by this warranty contract, negligence or otherwise shall not in any case exceed the cost of parts or labor required to rebuild or replace such defective product, together with the transportation costs attributable thereto. Upon the expiration of the applicable warranty period herein specified, all such liability shall terminate.

This warranty constitutes the entire warranty of PREMIER, and no oral representations, warranties or guarantees by any agent of PREMIER or the seller shall be binding on PREMIER, and no part of this warranty may be modified or extended except upon the express written consent of PREMIER.

IMPROVEMENTS

PREMIER continually strives to improve our products. PREMIER reserves the right to make changes or additions to any product without incurring any obligation whatsoever to make such changes or additions to products previously sold.

**PREMIER
WARRANTY REGISTRATION**

DATE PURCHASED _____

MODEL NO. _____

SERIAL# _____

OWNER INFORMATION

OWNER'S NAME _____

PHONE _____

COMPANY NAME _____

ADDRESS _____

CITY _____

STATE/PROVIDENCE _____

ZIP CODE _____

COUNTRY _____

DEALER INFORMATION

DEALER SALESMAN _____

PHONE _____

DEALER NAME _____

ADDRESS _____

CITY _____

STATE/PROVIDENCE _____

ZIP CODE _____

COUNTRY _____

INSTALLATION & APPLICATION INFORMATION

This PREMIER Driver-Breaker Attachment will be mounted on:

SKID STEER MAKE (Brand) _____

MODEL _____

APPLICATION _____

This PREMIER Hydraulic Driver-Breaker has been accepted in good condition and I have been instructed by the dealer to read and understand the entire Operator's Manual for proper installation, proper and safe operation, preventative maintenance, service, warranty, and all other information covered in the Operator's Manual. I also understand that all operators must read and understand the entire Operator's Manual.

OWNER'S SIGNATURE _____

DATE _____

DEALER'S SIGNATURE _____

DATE _____

THIS PAGE MUST BE RETURNED WITHIN 10 DAYS OF PURCHASE TO VALIDATE WARRANTY

MAIL TO:

PREMIER

2707 Lofty Drive

Ft. Wayne, IN 46803

↓ #1 - Fold down here ↓

From:

Place
Postage
Here

PREMIER
2707 Lofty Drive
Fort Wayne, IN 46808

↑ #2 - Fold up here ↑

↓ #3 - Tape or seal here ↓

PRODUCT SPECIFICATIONS

The PREMIER Post Driver is a high-quality attachment designed for performance, flexibility and quality results. With four different energy class models and numerous potential options, we can provide a post driver solution for just about any job. Each model is available in three configurations:

OPTION 1: BASIC POST DRIVER

As the name implies, this option is great for basic post driver jobs and is ideal for almost all conditions.

OPTION 2: EARTH AUGER PRE-DRILL

This option comes equipped with an integrated planetary earth auger system that can be used to pre-drill a pilot hole if the soil conditions are rocky, frozen, or too difficult to simply drive the post into the ground. At the time of purchase, you will select from a variety of auger types and sizes, with a maximum capacity to drill up to a 36" diameter hole.

OPTION 3: COMBO DRIVER-BREAKER

This option has the flexibility to become a concrete breaker as well as a post driver. With additional mounting locations, the mounting bracket can be moved to the top to allow this unit to be used as a concrete breaker. It comes complete with the appropriate post pad as well as a concrete chisel.

Whether you want to drive posts with mini-skid steers, mini excavators, backhoes, track loaders or skid steers, Premier Attachments has a post driver to fit your needs. Each model comes pre-charged with Nitrogen from the factory and includes a Tool Box with an empty Nitrogen tank of for recharging. Currently, four different energy class models are available:

| | PD500 | PD750 | PD1000 | PD1500 |
|---|--|---|---|---|
| Energy Class (ft/lbs) | 500 | 750 | 1,000 | 1,500 |
| Flow Rate (gal/min) | 10-16 | 12-20 | 15-25 | 19-29 |
| Driving Cup Diameter (in) | 6 | 8 | 9 | 10 |
| Minimum Machine Operating Capacity (lbs) | 500 | 1,400 | 1,800 | 2,500 |
| Base Model Weight with Mount (lbs) | 400 (with Mini-Skid Steer Mount) | 1,200 (with Universal Skid Steer Mount) | 1,350 (with Universal Skid Steer Mount) | 1,750 (with Universal Skid Steer Mount) |
| Required Excavator Operating Weight (lbs) | 5,000-13,000 | 7,500-15,000 | 9,900-18,000 | 15,000-25,000 |
| Shaft Diameter (in) | 2 | 2-3/4 | 3 | 3-5/16 |
| Available Mounts | Mini-Skid Steer Mounts Bobcat MT Mount Mini Excavator Mounts | Skid Steer Mounts Excavator Mounts | Skid Steer Mounts Excavator Mounts | Skid Steer Mounts Excavator Mounts |

AUGER SYSTEM DRIVE UNIT SPECIFICATIONS

The PREMIER Driver-Breaker with an attached auger system currently has 3 available model options for the auger drive unit. Listed below are the specifications for these drive units.

| | MS11 | | MS14 | | MS18 | |
|---------------------------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|
| Max. Auger Diameter (in) | 24 | | 30 | | 36 | |
| Min. Hydraulic Flow (gal/min) | 6 | | 10 | | 15 | |
| Max. Hydraulic Flow (gal/min) | 12 | | 20 | | 30 | |
| Max. Hydraulic Pressure (psi) | 3500 | | 3500 | | 3500 | |
| Output Shaft Size (in) | 2-9/16" Round OR 2" Hex | | 2-9/16" Round OR 2" Hex | | 2-9/16" Round OR 2" Hex | |
| Output Speed | GPM | RPM | GPM | RPM | GPM | RMP |
| | 7 | 45 | 12 | 50 | 15 | 50 |
| | 9 | 58 | 15 | 61 | 18 | 60 |
| | 11 | 71 | 17 | 71 | 20 | 67 |
| | - | - | 20 | 83 | 25 | 83 |
| Output Torque | PSI | FT – LBS | PSI | FT – LBS | PSI | FT – LBS |
| | 2500 | 1274 | 2500 | 1825 | 2500 | 2290 |
| | 3000 | 1529 | 3000 | 2190 | 3000 | 2748 |
| | 3500 | 1783 | 3500 | 2555 | 3500 | 3206 |

*Output speed and output torque specifications are based on theoretical values and are provided for comparative purposes only. PREMIER is continually striving to improve its products; therefore, we reserve the right to make changes to our products or specifications at any time without notice or obligation.

SAFETY INFORMATION

TO THE OPERATOR

It is the responsibility of all operators to read and understand this entire manual before installing, operating or servicing the PREMIER Hydraulic Driver-Breaker. Pay particular attention to cautions, warnings and safe operating procedures. Be a safe and qualified operator. Operate your equipment with care and good judgment and see to it that it is properly maintained.

SAFETY DECALS

Please remember it is important that you read, understand, and follow safety signs on the attachment. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety as well as the safety of others. **WORN, DAMAGED OR ILLEGIBLE SAFETY DECALS MUST BE REPLACED!** New safety decals can be ordered from PREMIER.

SAFETY INSTRUCTIONS



Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Driver-Breaker.



All operators of this attachment must read and understand this entire manual, paying particular attention to safety messages and operation instructions, prior to assembling, installing, operating, maintaining, servicing, removing, or moving the Driver-Breaker.



All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.



Personal protection equipment including hard hat, safety glasses, safety shoes, gloves, and ear plugs are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the attachment.



Never check pressurized system for leaks with your bare hand. Wear proper hand and eye protection and use wood or cardboard when searching for suspected leaks. Oil escaping from pinhole leaks under pressure can penetrate skin and create a serious medical emergency. If any fluid is injected into the skin, obtain medical attention immediately.



Always use two people to handle heavy, unwieldy components during assembly, installation, maintenance, service, removal, or movement of the attachment.



Only properly trained people should operate this equipment. Do not allow anyone who has not read this entire manual and understands the safety rules, safety signs, and operation instructions to use this attachment.



Never allow children to operate or be around the Driver-Breaker.



Do not allow riders on the equipment at any time. There is no safe place for any riders.



Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this equipment while taking prescription or over-the-counter medications.



Safe operation of equipment requires the operator's full attention. Avoid distractions such as radio headphones, cell phones, etc. while operating.



Contact with underground gas lines or electrical cables may result in serious injury or death from explosion or electrical shock. Before operating, be sure of the location of any underground utilities.



Stay away from power lines when transporting, raising, or operating the attachment. Electrocution can occur without direct contact.



The attachment must be securely latched to the vehicle. An improperly latched attachment can fall without warning.



Keep hands, feet, hair, jewelry, and clothing away from all moving and/or rotating parts.



Never place yourself between the vehicle and the attachment.



Never allow anyone under the attachment at any time. Even supported by hydraulics with the engine shut off, equipment can suddenly drop if controls are actuated or if hydraulic lines burst.



Keep clear of the Driver-Breaker while in operation. Never position, align, or support the post by hand or with any tool when the attachment is in operation.



Carry the load low. A heavy load can cause instability of the vehicle. Slow down on turns and watch out for bumps. Use all safety devices, including a seat belt, as recommended in the vehicle operator's manual.



Do not operate the Driver-Breaker on steep hillsides. When operating the Driver-Breaker on uneven or hilly terrain, position the vehicle with the attachment uphill. With the attachment downhill, the vehicle could tip when attempting to raise the attachment. Consult your vehicle operator's manual for maximum incline allowable.



Always shut off the vehicle engine, remove the key, lower vehicle arms, and relieve all hydraulic pressure before dismounting the vehicle. Never leave equipment unattended with the vehicle running.



Never attempt adjustments, service, or repairs while the equipment is in operation.



Before servicing or adjusting attachment, relieve all stored energy.



Before disconnecting hydraulic lines or fittings, be sure to relieve all pressure by cycling all hydraulic controls after shutdown. Remember hydraulic systems are under pressure whenever the engine is running and may hold pressure after shutdown.



Store the attachment on a flat, level surface in an area where children do not play. Securely block and support the attachment.



Do not modify the attachment. Modifications may weaken the integrity of the attachment and may impair the safety, function, life, and performance of the Driver-Breaker.



When making repairs or servicing the attachment, use only parts that meet original equipment manufacturer's standards and requirements.



Always use care when operating the Driver-Breaker. Most accidents occur because of neglect or carelessness.


OPERATING INSTRUCTIONS


TO THE OPERATOR


Safety is a primary concern in the design, manufacture, sale, and use of a PREMIER Hydraulic Driver-Breaker. PREMIER confirms to you, our customer, our concern for safety. Improper operation of this equipment can cause serious personal injury or death. Operation of this attachment should only be done by a competent adult acting in compliance with both the vehicle and attachment Operator's Manuals. Since the operation of this Hydraulic Driver-Breaker is beyond our control, we disclaim all liability for any damages, injuries, or death which may result.

DRIVER

1. Only for models with an earth auger attachment:
 - 1.1. Use the planetary earth auger system to pre-drill a pilot hole if the soil conditions are rocky, frozen, or too difficult to simply drive the post into the ground. See instructions for operating the auger system.
 - 1.2. Put the diverter valve lever fully in the "down" position to enable the Driver-Breaker hydraulics.
2. Using the Driver requires a second person to position the post. This person will set the post at the desired location and grasp the post securely, making sure their hands are at least 30 inches from the top of the post.

 When using a second person, do not activate the auxiliary hydraulics until the second person is clear from the work area.
3. After the post is in position, move the vehicle with the arms raised, and position the Driver directly over the top of the post.

 Never allow anyone under the attachment at any time.
4. Lower the Driver onto the top of the post, ensuring the post is inside of the bottom portion of the Driver. Continue lowering the Driver until the weight of the Driver is supported by the post.

 After the post is in position, the second person must move away from the Driver and vehicle.
5. After the second person has cleared the area, place the loader arms in the float position. If the vehicle is not equipped with a float function, the loader arms should be lowered, applying down force to the post.
6. Move the vehicle slowly left, right, forward, or backward as needed until the post is vertical to the ground.
7. The Driver can now be activated by turning the auxiliary hydraulics to the forward position. If you are not using the loader float position, the loader arms should be lowered as the post is driven into the ground.
8. Drive the post to the desired depth and deactivate the auxiliary hydraulics. Raise the Driver until the post is cleared and move on to the next post.

BREAKER

1. If the model contains an auger system, ensure that the diverter valve lever is fully in the "down" position to enable the Driver-Breaker hydraulics.
2. During the striking operation, apply appropriate disruptive force with the Breaker to guarantee effective breaking.



If the disruptive force is insufficient, the hammering energy of the piston cannot effectively break the rocks. The reactive force of such hammering force would be transmitted to the Breaker body, the boom and arm of the excavator, etc. and damage such parts.



If the disruptive force is excessively high, and the breaking operation is made, the machine would be tilted at the moment of breaking the rock. The severe impacting of the breaking hammer against the rock would damage the Breaker. In addition, striking under such conditions would also transmit the vibrations in a way that could damage the excavator tracks.

3. The disruption point should be properly selected during the breaking operation to guarantee stable striking of the steel rod. Operate the Breaker's steel rod in the vertical position as possible.



If the hammering direction is tilted, the steel rod could escape from the Driver during the striking operation, causing breakage or jamming of the steel rod and piston

4. The following precautions should be followed by the operating personnel during the operation of the Breaker:

- 4.1. The operation should be stopped under strenuous vibration of the hose.



Excessive vibration of the hoses can lead to failure of the accumulator or oil leakage at hose joints. Stay vigilant during operation, and mitigate these issues.

- 4.2. Stop hammering immediately after the rocks are crushed. The operation should be suspended to avoid excessive empty striking.



Continuous empty striking could damage the accumulator; break the bolts, flat pins and front head, harm the steel rod, and even adversely affect the excavator.

- 4.3. Do not use the Breaker to roll or push the rocks.



Using the steel rod or the sides of the bracket to move rocks could damage the boom and/or arm of the excavator. Using the Breaker in this way could also fracture the bolts of the Breaker, damage the bracket, and fracture or scratch the steel rod. It should be particularly noted that, if the steel rod is inserted into the rock, do not make the excavator travel.

- 4.4. Do not use the steel rod as a pry bar.



If the steel rod is used as a pry bar during the breaking operation, the bolts and the steel rod could be fractured.

- 4.5. Do not operate the Breaker under continuous striking for longer than one minute.



Long time striking would rise the oil temperature and further damage the accumulator or cause excessive abrasion of the steel rod. Where hard rocks are to be crushed, change to another location for striking after one minute.

- 4.6. For relatively long, hard, or large rocks, it is recommended to start crushing at the cracks or rear end and breaking the rock in multiple locations until completion.

- 4.7. The Breaker should be operated under the appropriate engine speed.



Engine speed exceeding the operation requirements would not increase the striking force. Instead, it would increase the oil temperature and further damage the equipment.

- 4.8. Do not operate the Breaker in water or mud.



This Driver is not intended to be submerged in water or mud. Such action would result in the piston or similar parts becoming permanently damaged by corrosion.

- 4.9. Do not vertically fall the Breaker to crush rocks.



If the Breaker directly falls onto the rocks to be crushed, the Breaker or the excavator would bear excessive forces, which would easily damage the excavator parts.

- 4.10. Do not make the striking operation when the oil cylinder on the excavator boom reaches its greatest travel distance.



When the oil cylinder rod of the excavator reaches its greatest travel distance (the oil cylinder rod is fully extended or withdrawn), the breaking operation could cause damage to the oil cylinder and different parts of the excavator.

- 4.11. Do not use ropes, chains, etc. to suspend objects under the Breaker.



In addition to being quite dangerous, suspending objects under the attachment could easily damage the Breaker.

- 4.12. In cold weather, the engine should be preheated before operation according to the operation and maintenance instructions of the excavator (~5-20 minutes).



Low temperature breaking operation without preheating the engine could easily damage the parts of the Breaker such as the piston and seal.

AUGER DRIVE UNIT

1. After all installation instructions have been completed, all safety information has been read and understood, and the rest of this operator's manual has been reviewed, your Hydraulic Earth Auger will be ready to use.
2. Check that the auger teeth and points are in good condition. This should be maintained frequently. Always keep spare parts on hand so that they can be replaced as wear is detected, which should help to avoid causing unnecessary damage to the tooth holders and auger flighting.
3. Remove the hairpin cotter pin from the auger system's locking pin. Carefully lower the auger and then secure the locking pin back in place.
4. Put the diverter valve lever fully in the "up" position to enable the auger system hydraulics.
5. With the auger raised off the ground and the vehicle engine set at low RPM, activate the earth auger control valve. The control valve lever must be in to turn the auger in a forward (clockwise) rotation. This is the "digging" position.
6. Before beginning to dig, experiment with auger speed to determine a suitable RPM. Generally, in light and sandy soil, a high RPM is desirable; whereas, in hard, rocky, or frozen soils, a slower RPM is preferable. To increase or decrease the auger RPM, increase or decrease the engine RPM.
7. Return the earth auger control valve to the neutral position to stop the auger. Lower the auger to the ground so that only the auger's pilot point penetrates the ground by about 2 inches.



Avoid excessive side loading to the earth auger, which can cause drive unit or auger damage.

8. Activate the earth auger control valve so that the auger is turning in a forward (clockwise) rotation. Use only enough down pressure to assure positive penetration of the auger into the ground.



Too much down pressure will cause the auger to stall frequently. If the auger rotation slows down drastically or stalls, ease up on applied down pressure.

9. When the auger has penetrated about 24" into the ground, raise the auger from the hole to clean the dirt out. Repeat this procedure until the desired hole depth is obtained.



In some soil conditions or when excessive down pressure is applied, the auger may screw itself into the ground and become stuck, causing the earth auger to stall. Additionally, the auger may become lodged under rocks, roots, or other large obstructions. If this happens, do not attempt to raise the auger out of the ground. Instead, reverse the auger rotation (counter-clockwise) by moving the control valve lever to the reverse position and slowly raise the auger. Once the auger is unstuck, return the control valve lever to the forward position and continue digging.

10. Once the required hole depth is reached, allow the auger to turn a few seconds at this depth to clean the hole.
11. Return the earth auger control valve to the neutral position to stop the rotation of the auger. Raise the auger out of the hole, move away from the hole, and then activate the earth auger control valve to spin the loose soil off of the auger.
12. If necessary, repeat steps 10 and 11 to obtain a cleaner hole.

REPAIR AND MAINTENANCE

It is the responsibility of all operators to read and understand this entire manual before installing, operating or servicing the PREMIER Hydraulic Driver-Breaker. Only through proper installation, operation, and maintenance can you expect to receive the dependable performance and long life for which the attachment was designed. Operate your equipment with care and good judgment and see to it that it is properly maintained.

GENERAL CHECKLIST

- ✓ Check all hydraulic oil for contamination. If a contamination is present, determine the source of the problem as soon as possible.



Clean hydraulic oil is essential. Most hydraulic component failures are caused by contamination of the hydraulic oil. Always keep all dirt and other contaminants from entering the hydraulic system during disconnect and connect operations. Always use dust caps and plugs on all quick disconnects when not in use. Tightly cap all hydraulic openings to hold oil in and keep dirt and other contaminants from entering the hydraulic systems.

- ✓ Inspect all hydraulic hose assemblies daily for cracked and brittle covers caused by excessive heat.



Reduced viscosity of hydraulic oil occurs at higher operating temperatures and causes a breakdown of fluid additives such as wear inhibitors. Excessive heat may cause internal leakage in the drive unit motor, which could cause it to become brittle and crack. Replacement of hoses before failure will prevent loss of hydraulic oil, hydraulic oil contamination, and component damage caused by cavitation. This will also reduce the chance of personal injury caused by hydraulic fluid.

- ✓ Visually inspect the attachment for any damage, worn parts, or cracked welds.
- ✓ Check all fasteners. Ensure that they are all fully tightened and secure.
- ✓ Check for any worn, damaged, or missing safety decals. Clean or replace all safety signs if they cannot be clearly read and understood. New safety decals can be ordered from PREMIER.
- ✓ Check for any abnormal chisel or driver head damage, breakage, etc. If wearing or damage is found, the part should be immediately replaced or repaired. Do not continue to use a chisel or driver head with excessive wear.
- ✓ The Driver-Breaker should be lubricated before operation and every 2-3 hours during continuous operation. There is an injection port for the lubrication on the front head of the attachment.

AUGER SYSTEM CHECKLIST

- ✓ Check the auger daily for loose, worn or broken cutting teeth and point.



Worn teeth or points can drastically affect the auger penetration and greatly reduce the auger's life expectancy. Always keep spare teeth and points on hand. Some digging conditions may require checking teeth and points at more frequent intervals.

- ✓ Check the drive unit and all accessories daily for loose, bent, cracked or worn bolts and fasteners.



Always use grade 5 or better replacement bolts. Also, always use lock washers with standard hex nuts or self-locking nuts.

- ✓ Check all connecting pins daily for bends, cracks, breaks or wear. Replace the part if any of these conditions exist.

- ✓ Check the drive unit output shaft daily for bends, cracks, breaks or wear. Replace the part if any of these conditions exist.
- ✓ Change the planetary gear reduction oil after the first 50 hours of operation, then every 1000 hours or in one year, whichever comes first.



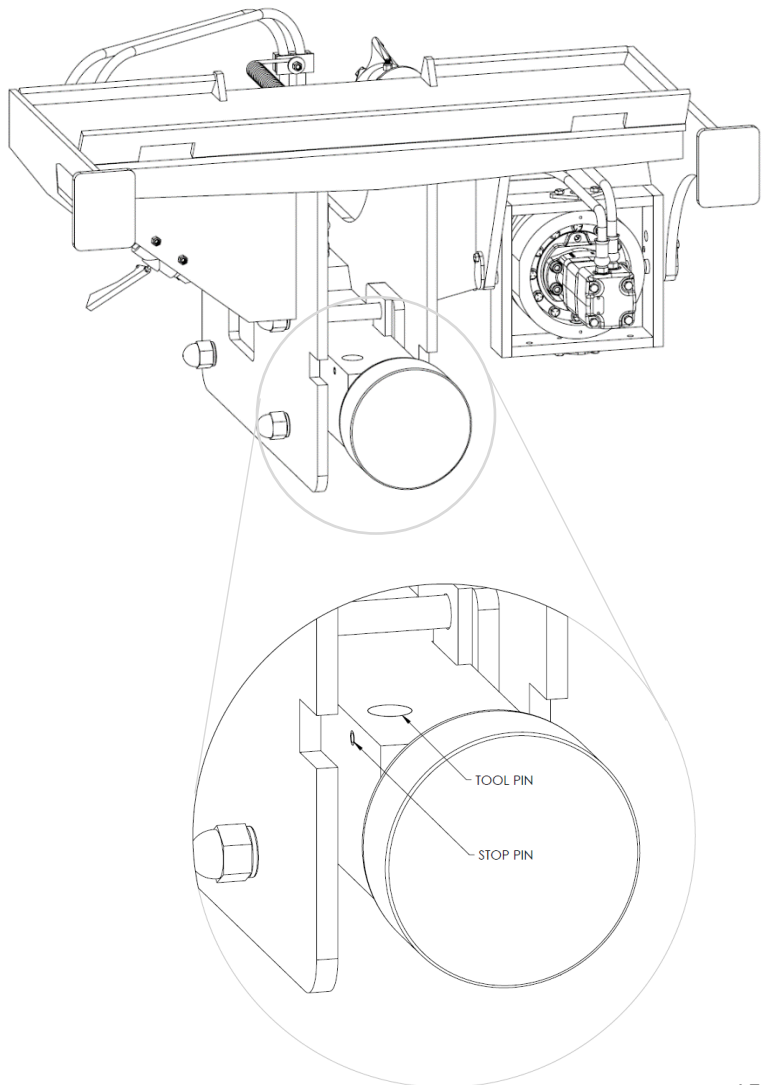
Use mild extreme pressure lubricant API-GL-5 number 80 or 90 for filling planetary gear reduction under normal temperature ranges (between 0 and 120 degrees Fahrenheit). Approximate oil capacity for models MS11, MS14, and MS18 is 1.5 pints. Check the oil level daily to assure proper lubrication is maintained.

- ✓ When storing the unit for any length of time, be sure that the drive unit motor and hoses are full of clean oil. Also, be sure that the planetary gear reduction is full to the recommended capacity for each model.
- ✓ The following parts should be coated liberally with grease, as required to prevent rust and wear: the drive unit output shaft, the inside of the auger collar, the variable auger extension shaft, the inside of the variable auger extension collar, and all connecting pins.
- ✓ Once the paint has been worn off of the auger, coat it liberally with grease, as required to prevent rusting.

DISASSEMBLY AND ASSEMBLY OF DRIVER HEAD/BREAKER CHISEL

DISASSEMBLY

1. Optionally, remove the auger from the auger system to make it easier to balance the attachment when it is down.
2. Use a skid steer to place the Driver-Breaker on its backside. Ensure that supports are in place to securely balance the attachment in this position.
3. Carefully disconnect the skid steer from the Driver-Breaker.
4. Use the push bar tool (in the provided tool box) and a hammer to push the stop pin past the tool pin.
5. The tool pin should freely fall out of the attachment, allowing the driver head/breaker chisel to be removed.



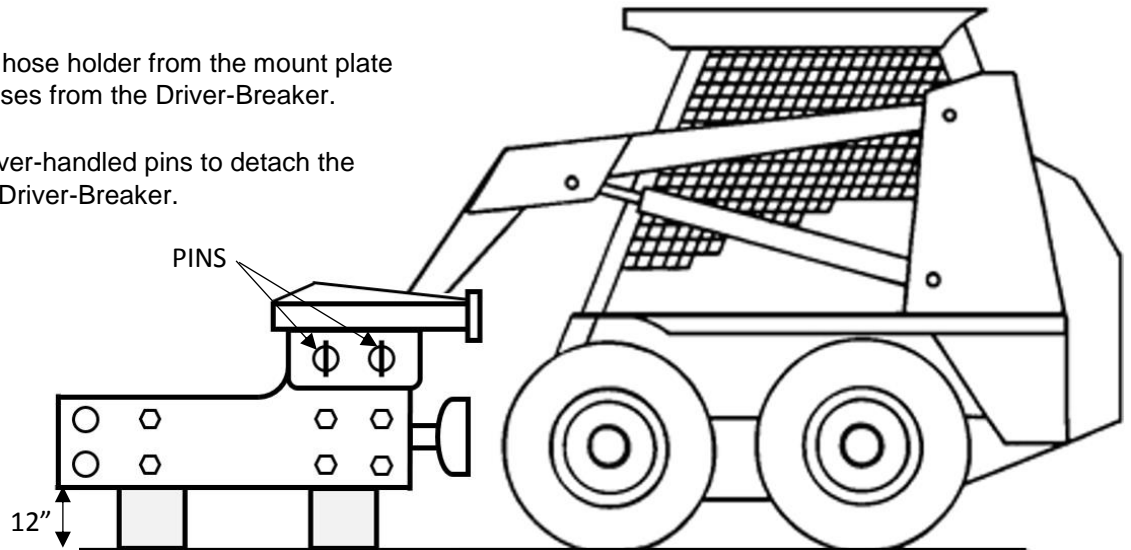
ASSEMBLY

1. Clean and lubricate the driver head/breaker chisel.
2. Place the driver head/breaker chisel into position.
3. Place the tool pin into position.
4. Secure the tool pin by hitting the stop pin back into position.

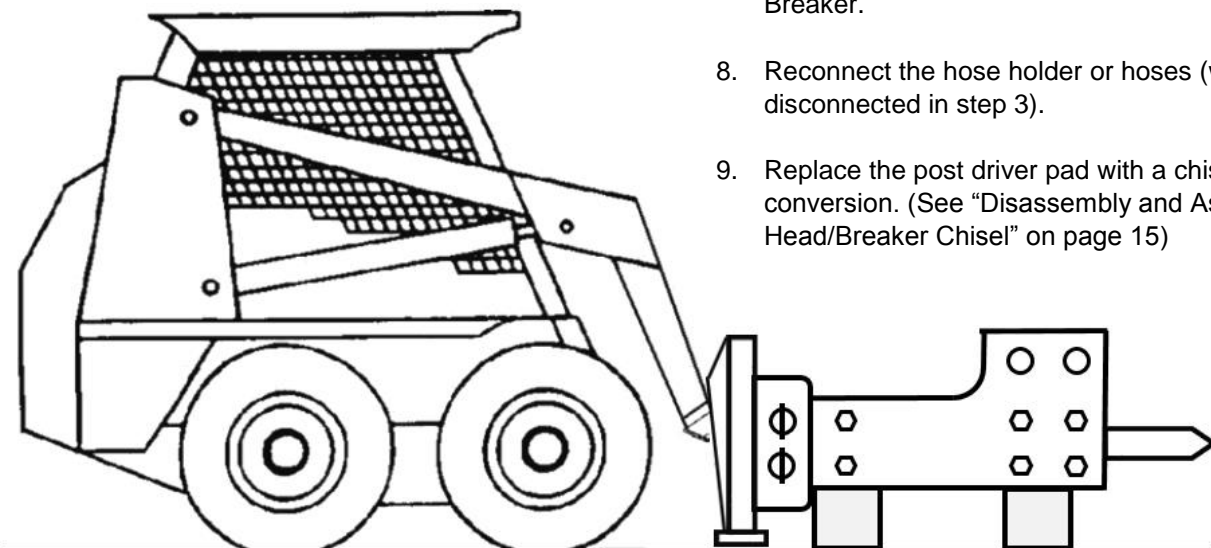
DRIVER-BREAKER MOUNT CONVERSION

The Combo Driver-Breaker configuration has the flexibility to become a concrete breaker as well as a post driver. With additional mounting locations, the mounting bracket can be moved to the top to allow this unit to be used as a concrete breaker. Follow the steps below to convert your Combo unit from a Post Driver to a Concrete Breaker.

1. Secure a flat pad of solid concrete for the work area.
2. Support the Driver-Breaker approximately 12" off the ground.
3. Either disconnect the hose holder from the mount plate or disconnect both hoses from the Driver-Breaker.
4. Remove the large, silver-handled pins to detach the mount plate from the Driver-Breaker.



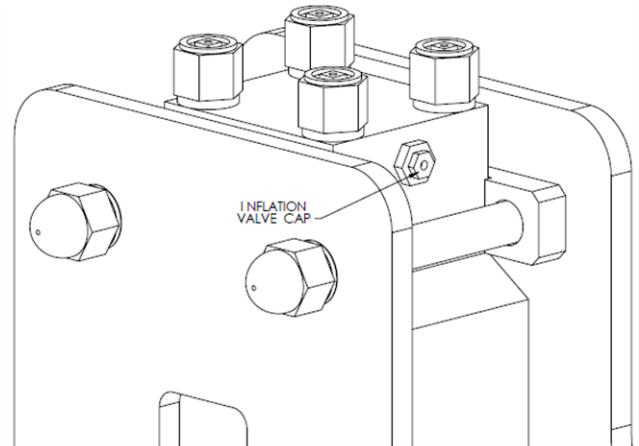
5. Use the skid steer to raise the mount plate off the main assembly, and reposition the skid steer on the other end of the Driver-Breaker.
6. Carefully align the pin holes in the mount plate with the bushing holes on the top end of the Driver-Breaker.
7. Insert the silver-handled pins into the mount plate and through the side plate bushing holes on top of the Driver-Breaker.
8. Reconnect the hose holder or hoses (whichever was disconnected in step 3).
9. Replace the post driver pad with a chisel to complete the conversion. (See "Disassembly and Assembly of Driver Head/Breaker Chisel" on page 15)



INFLATION AND DISCHARGING OF NITROGEN IN THE BACK HEAD

INFLATION

1. Remove the inflation valve cap from the the back head.
2. Connect the end of the pressure gauge adapter (1) to the inflation valve on the back head.
3. Remove the end cap (4) to uncover the pipe fitting for the hose.
4. Connect the hose from the pipe fitting to your Nitrogen tank.
5. Ensure that the pressure relief valve (3) is tightened.
6. Press and hold the pressure release pin (2) to begin inflating the back head with Nitrogen.
7. When the appropriate pressure is reached, stop pressing the pressure release pin (2).
8. Disconnect the hose and reattach the end cap (4).
9. Disconnect the end of the pressure gauge adapter (1) and securely reattach the inflation valve cap to the back head.

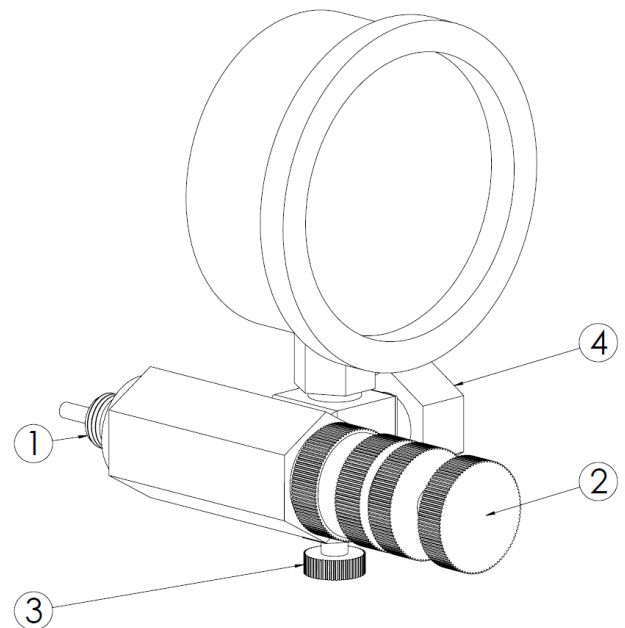


DISCHARGING



We do not recommend trying to disassemble or assemble the back head, but if such action is taken, the Nitrogen must be fully discharged first. If the through bolts atop the back head are loosened before discharging the Nitrogen, an explosion could occur.

1. Remove the inflation valve cap from the back head.
2. Connect the end of the pressure gauge adapter (1) to the inflation valve on the back head.
3. Loosen the pressure relief valve (3).
4. Press and hold the pressure release pin (2) to begin discharging Nitrogen from the back head.
5. When all of the Nitrogen has been discharged, stop pressing the pressure release pin (2).
6. Disconnect the end of the pressure gauge adapter (1) and securely reattach the inflation valve cap to the back head.



PERFORMANCE TROUBLESHOOTING

DRIVER-BREAKER

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|--|--|
| The driver-breaker fails to strike | The driver head/breaking chisel is jammed | Inspect and replace worn parts |
| | Insufficient hydraulic oil | Supplement the hydraulic oil |
| | Oil temperature is too low | The oil temperature should be at least 30 degrees Celsius |
| | Improper main valve operation | Inspect the operation of the breaking button in the driving cab |
| | The internal pressure of the back head is too low | Inspect the Nitrogen pressure |
| | There is hydraulic oil leakage in the cap chamber of the back head | Replace the sealing elements |
| | Poor working performance of the hydraulic oil | Immediately contact the excavator manufacturer |
| The striking frequency is normal at first, but becomes irregular with use | Oil temperature rise, caused by oil shortage | Supplement the hydraulic oil |
| | Excessively high pressure in the back head | Inspect the gas pressure |
| | The lowering pressure of the attachment is insufficient | Inspect the boom and arm of the excavator |
| | The driver head/breaking chisel is excessively worn | Remove the part and make inspections, replacing if necessary |
| | The hydraulic oil pump is in poor performance | Have the oil pipeline inspected by the excavator manufacturer |
| Weak striking force | The gas pressure in the back head is relatively low | Inspect the gas pressure |
| Low striking frequency | The gas pressure is too high | Inspect the gas pressure |
| | The lowering pressure of the attachment is insufficient | Inspect the boom and arm of the excavator |
| | The working pressure is too high | Inspect the set pressure |
| | Poor working performance of the hydraulic oil | Have the oil pipeline inspected by the excavator manufacturer |
| The oil temperature rises too fast | The heat dispersion of the excavator is not good; the hydraulic pump is under premature abrasion and the pipeline is blocked | Change the settings of the attachment; inspect or replace the hydraulic pump |
| The hydraulic oil is emulsified | The oil is mixed with water | Replace the hydraulic oil immediately |
| The engine speed is reduced sharply | The output power of the engine is insufficient | Lower the pressure in the back head |
| | The engine performance is downgraded | Lower the position of the throttle; require the excavator manufacturer to make an inspection |
| | The oil temperature is too low | Preheat before operation |

AUGER SYSTEM

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|----------------------------|--|---|
| Slow speed | Low flow | Check the flow meter; if low, investigate the cause |
| | Line restrictions | Clear lines |
| | Fittings or connections are too small | Replace with the proper fittings |
| | The oil filter is dirty | Replace the oil filter |
| | The hydraulic pump is worn or damaged | See dealer for repair |
| Insufficient digging power | The teeth or auger point have become worn | Replace the worn parts |
| | Low system pressure | Check the pressure gauge; if low, investigate cause |
| | Relief valve damaged or set incorrectly | Adjust or replace the relief valve as required |
| | Excessive load | Reduce the load to remain within machine specifications |
| Reverse direction | The hoses are reversed | Re-install the hoses in the correct orientation |
| Excessive oil heating | Line restriction | Clear lines |
| | Hydraulic fluid is dirty | Replace the hydraulic fluid and filter |
| | Insufficient amount of hydraulic fluid | Fill the reservoir to the proper level |
| Oil leaks | Hoses and/or fittings are loose or damaged | Tighten or replace the parts as required |
| | Hydraulic motor seals are worn or damaged | See dealer for repair |

DRIVE UNIT SERVICING PROCEDURES

IDENTIFICATION

All Power Wheel drive units and kits are shipped with a label (example shown below) that includes the Auburn Gear part number and order code.



In addition to the label, Power Wheel drive units are stamped with the last four digits of the part number and the date code, which appears on the cover or hub flange. When ordering parts, the information included on the label or the stamped identification number is necessary to accurately identify the drive unit and obtain the correct replacement parts.

DISASSEMBLY

**The reference numbers in this section correlate to the drive unit exploded view (Figure D) in the “Parts List Diagrams” section of this manual.

1. Remove the twelve socket head cap screws (17) and washers (16) from the cover (14).
2. Lift the cover (14) off of the assembly. The thrust washer (13) usually remains with the cover.
3. Lift the sun gear (12) from the secondary carrier assembly (11).
4. Remove the secondary carrier assembly (11) from the ring gear (10).
5. Remove the ring gear (10) from the hub (6).
6. One tab of the lock washer (8) will be engaged in a slot of the bearing nut (9). Bend the tab back to release the lock washer (8). Remove the bearing nut (9), lock washer (8) and thrust washer (7).

**A special locknut wrench (Part #: 613A) is required for the removal of the bearing locknut. Contact Auburn Gear for procurement of this wrench and other service tools.

7. Care should be taken to avoid damaging the splines and threads on the shaft (1).

**The bearing cone (3) has been designed with a slip fit with respect to the shaft (1).

8. Remove the seal (2) and bearing cones (3) from the hub (6). Inspect the bearing cups (4) in the hub (6) and remove them only if replacement is required.

ASSEMBLY

**The reference numbers in this section correlate to the drive unit exploded view (Figure D) in the “Parts List Diagrams” section of this manual.

1. Press new bearing cups (4) in each side of the hub (6). It is recommended that the bearing cups (4) and bearing cones (3) be replaced in sets.
2. Assemble the outer bearing cone (3) into the bearing cup (4) at the seal end of the hub (6) and press a new seal (2) into the hub (6).
3. Lubricate the shaft oil seal (2) and lower the hub (6) onto the output shaft (1). Keep the hub (6) centered to prevent damage to the oil seal.

**On heavy duty seals, there is to be no lubricant on the seal (2), output shaft (1) or hub (6).

4. Assemble the inner bearing cone (3) over the output shaft (1). Place the bearing cone (3) over the output shaft bearing journal. Press the bearing cone (3) down until the rollers just touch the bearing cup (4). Take care to avoid pressing the bearing cone (3) too far.
5. Install the thrust washer (7) with the tab in the keyway of the output shaft (1) and lock washer (8).
6. Install the lock nut (9) and tighten to 30 ft-lbs (41 Nm). Rotate the hub clockwise twenty turns then counter-clockwise twenty turns. Tighten the lock nut (9) to 50 ft-lbs (68 Nm). Repeat the hub rotation process in this step and then tighten the lock nut (9) to 70 ft-lbs (95 Nm).

7. Secure the lock nut (9) by bending the lock washer tab (8) into one of the 4 slots of the lock nut (9). If no tab from the lock washer (8) aligns with a slot of the lock nut (9), then the lock nut (9) may be tightened until one of the slots aligns with the lock washer tab (8).
8. Clean the mating surface and apply a bead of silicone sealant to the face of the hub (6) that mates with the ring gear (10). See the instructions on the sealant package. Assemble the ring gear (10) to the hub (6), being careful to align the bolt holes.
9. Assemble the secondary carrier assembly (11) into the ring gear (10), aligning the gear teeth. The carrier splines will mesh with the splines on the output shaft (1).
10. Install the sun gear (12) into the secondary carrier assembly (11). The sun gear (12) should turn freely by hand when assembled.
11. Apply a bead of silicone sealant to cover the face of the ring gear (10). Secure the thrust washer (13), using a small amount of grease or silicone sealant, with its tangs engaged in the cover (14). Assemble the cover (14) to the ring gear (10).
12. Install the twelve socket head cap screws (17) and washers (16), and torque them to 45-50 ft-lbs (60-68 Nm).
13. Position the filler opening vertically and fill it with lubricant to the proper level.

CARRIER ASSEMBLIES

It is recommended that the secondary carrier assembly be serviced in its entirety to protect the integrity of the Power Wheel drive unit.

LUBRICATION RECOMMENDATIONS

Power Wheel planetary drives are shipped without lubricant and must be filled to the proper level prior to start up. Please observe the lubrication recommendations given by the original equipment manufacturer. If specific recommendations are not available, use mild extreme pressure lubricant API-GL-5, No. 80 or 90 when filling the Power Wheel under normal temperature ranges between 0-120°F (-18-49°C). See the specifications below for oil fill requirements for various Power Wheel mounting orientations. Use drain and fill plugs located in the hub and cover. Oil is to be changed after the first 50 hours of operation, with subsequent changes every 1000 hours or yearly, whichever comes first. If ambient conditions are outside the specified range or if the oil temperature exceeds 200°F (93°C), contact Auburn Gear for oil and level recommendations.

STORAGE

A protective film is applied to the Power Wheel drive units at the factory to prevent rust during shipment. Additional protection may be required if the drive unit is to be stored for an extended period of time.

SEALING COMPOUND

Silastic RTV732 and General Electric Silimate RTV No. 1473 or RTV No. 1503 are currently recommended for sealing gasket surfaces. Sealant should be applied in a continuous bead, which should be centered on the surface to be sealed but should move to the inside of the hole at each bolt hole location. For service requirements, order Auburn Gear part number 604101.

ACCESSORIES AND AUGER REPLACEMENT WEAR PARTS

CONSTRUCTION AUGER TEETH

| PART DESCRIPTION | PART # |
|--------------------------------|--------|
| Wisdom Tooth | 00200 |
| Chisel Tooth | 00201 |
| Wisdom Gage Tooth | 00202 |
| Hardfaced Wisdom Tooth | 00205 |
| Hardfaced Chisel Tooth | 00206 |
| Hardfaced Wisdom Gage Tooth | 00207 |
| Carbide Wisdom Tooth | 00208 |
| Carbide Chisel Tooth | 00209 |
| RB Carbide Wisdom Tooth | 00237 |
| Tooth Pocket for CDC Augers | 00225 |
| Rock Auger Bullet Tooth | 00221 |
| Bullet Tooth Holder | 00223 |
| 5/8"-11 x 1-1/2" Carriage Bolt | 40000 |
| 5/8"-11 Lock Nut | 40001 |



Gage
Tooth



Wisdom
Tooth



Chisel
Tooth



Rock Auger
Bullet Tooth

HOSES AND FITTINGS

| PART DESCRIPTION | PART # |
|---------------------------------|--------|
| Quick Coupler, 1/2" FF Female | 61006 |
| Quick Coupler, 1/2" FF Male | 61007 |
| Mini Skid Quick Coupler, Female | 61010 |
| Mini Skid Quick Coupler, Male | 61011 |
| Hydraulic Hoses 120" Long | 61049 |
| Hydraulic Hoses 108" Long | 61050 |
| Hydraulic Hoses 68" Long | 61061 |

CONSTRUCTION AUGER PILOT POINTS

| PART DESCRIPTION | PART # |
|---|--------|
| Square Drive Lug | 00105 |
| 4" Auger Drive Lug | 00106 |
| Fishtail Point | 00203 |
| 4-1/2" Auger Fishtail Point | 00204 |
| Hardfaced Fishtail Point | 00210 |
| Carbide Fishtail Point | 00211 |
| CDR Rock Auger Bullet Tooth | 00221 |
| CDR Rock Auger Pilot with 2-3/8" API | 00222 |
| with 1-3/4" Square Shank | 00236 |
| CRB Rock Auger Fishtail Point | 00239 |



Fishtail
Point



CRB Rock
Auger Fishtail



CDR Rock
Auger Pilot

AUGER COLLARS

| PART DESCRIPTION | PART # |
|----------------------------|--------|
| 2" Round Auger Collar | 00100 |
| 2-9/16" Round Auger Collar | 00101 |
| 2" Hex Auger Collar | 00102 |
| 2-1/2" Hex Collar | 00103 |
| 2-5/8" Hex Collar | 00104 |

MISCELLANEOUS WEAR PARTS

| PART DESCRIPTION | PART # |
|--------------------|--------|
| Drive Unit Housing | 91000 |
| Knuckle Pin | 91001 |

PARTS LIST DIAGRAMS

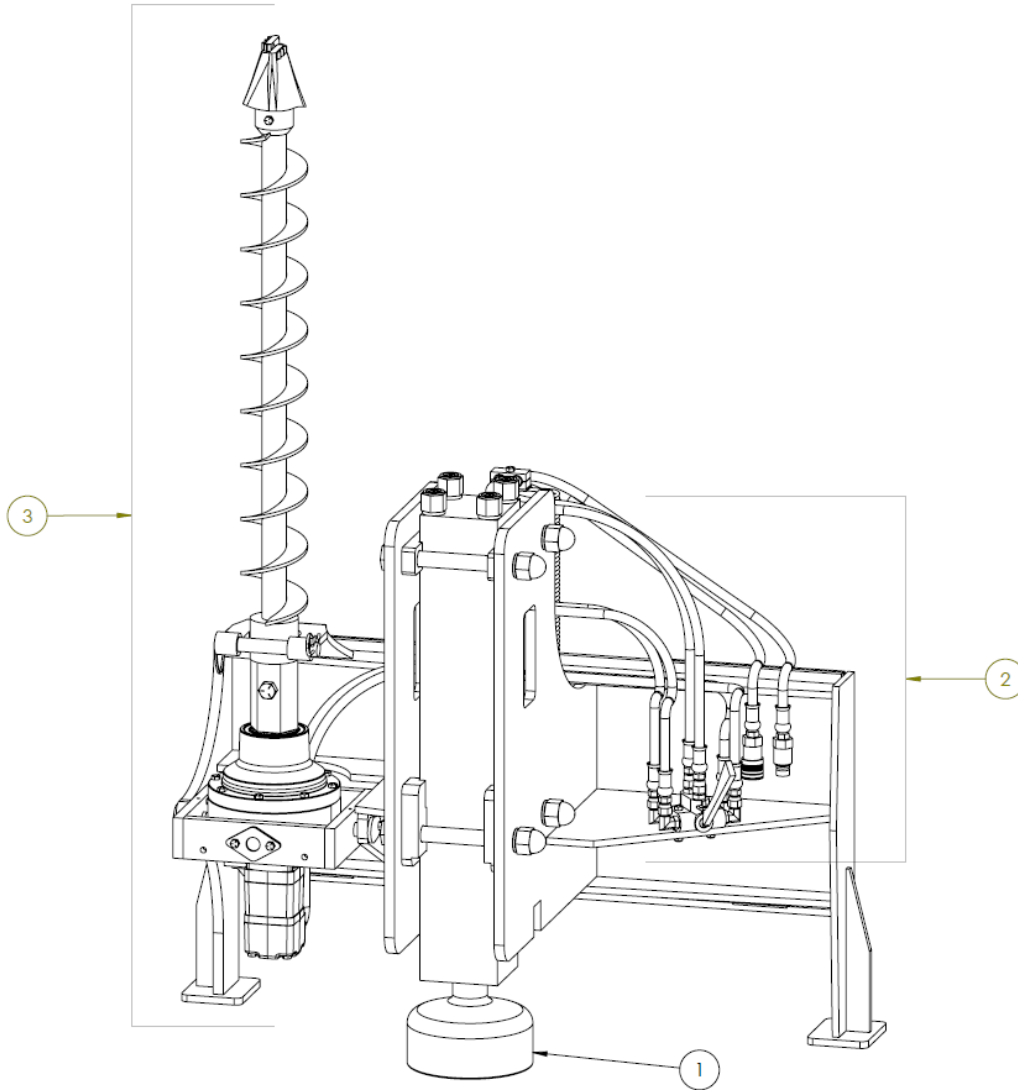


Figure A: Full Assembly

| REF. # | PART DESCRIPTION | PART # | | | |
|--------|---|----------------------------------|--------------|--------------------------|---------------|
| 1 | | POST DRIVER MODEL | | | |
| | | PD500 | PD750 | PD1000 | PD1500 |
| | Dome Post Pad | 63500 | 63501 | 63502 | 63503 |
| | Flat Post Pad | 63504 | 63505 | 63506 | 63507 |
| | T-Post Driver Adapter | 63510 | 63511 | 63512 | 63513 |
| | Chisel | 63514 | 63515 | 63516 | 63517 |
| 2 | **See Figure B | POST DRIVER CONFIGURATION | | | |
| | | STANDARD | | WITH AUGER SYSTEM | |
| | 1/2" Hose Kit, Post Driver | 61103 | | 61104 | |
| 3 | **See Figure C/D | DRIVE UNIT MODEL | | | |
| | | MS11 | MS14 | MS18 | |
| | Post Driver Auger System Kit, 2" Hex | PDMS11H200 | PDMS14H200 | PDMS18H200 | |
| | Post Driver Auger System Kit, 2-9/16" Round | PDMS11R256 | PDMS14R256 | PDMS18R256 | |

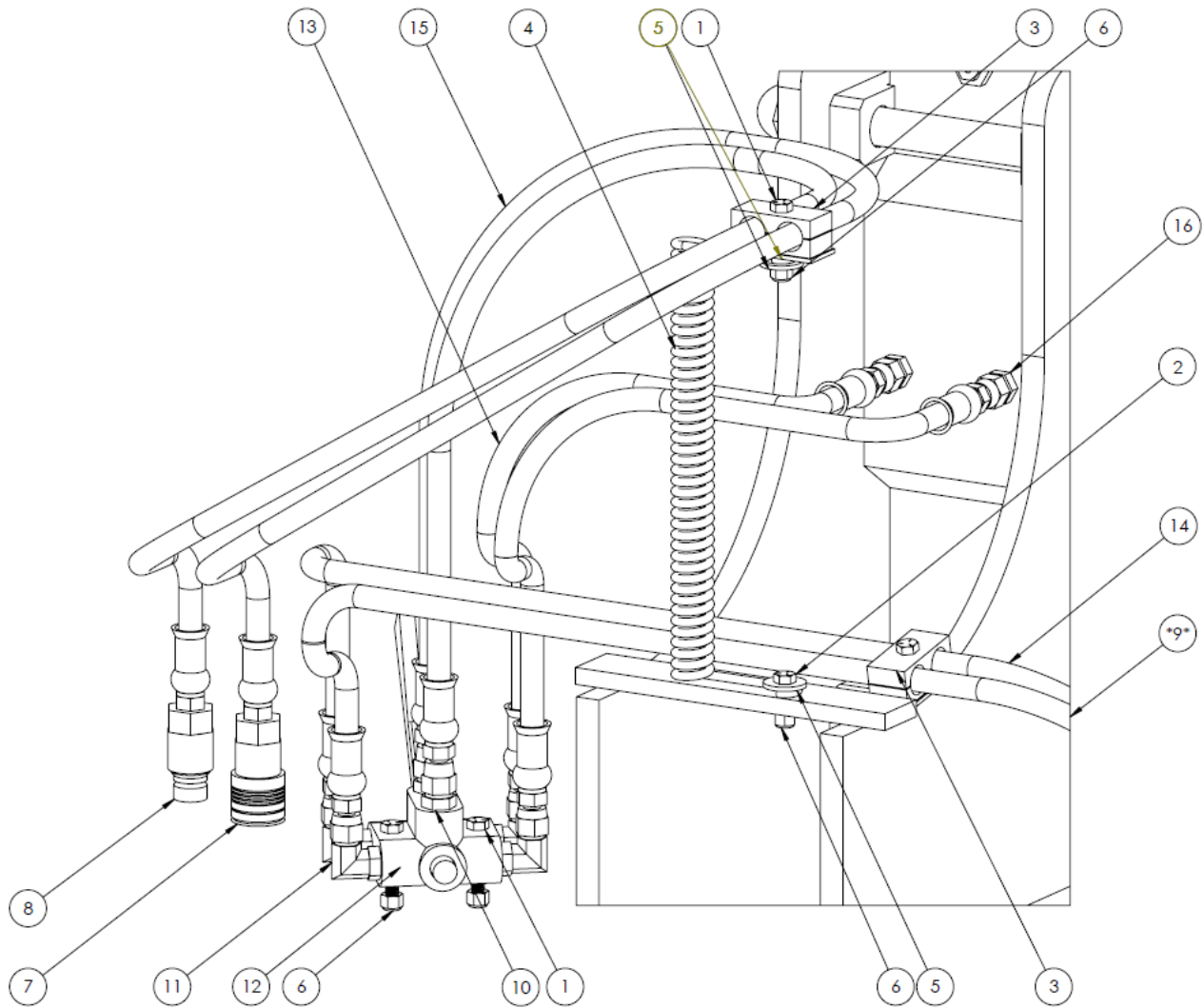


Figure B: Hose Kit Components for Attachment with Auger System

| REF. # | PART # | QTY. | PART DESCRIPTION |
|--------|--------|------|---|
| 1 | 40012 | 3 | 5/16"-18 x 2-1/2" HHCS, Grade 5 |
| 2 | 40013 | 1 | 5/16"-18 x 1-1/4" HHCS, Grade 5 |
| 3 | 40018 | 2 | Hose Holder Kit, 3252T6 |
| 4 | 40057 | 1 | Hose Holder Spring |
| 5 | 40062 | 3 | 5/16" x 1-1/2" OD Fender Washer, Grade 5 |
| 6 | 40077 | 4 | 5/16"-18 Crown Lock Nut, Grade 5 |
| 7 | 61006 | 1 | Quick Coupler, 1/2" FF Female |
| 8 | 61007 | 1 | Quick Coupler, 1/2" FF Male |
| *9* | 61048 | 2 | Mini-Skid 45 Degree Fitting (**Connects from hose end to auger motor) |
| 10 | 61097 | 2 | #10M JIC x #10M Pipe Fitting |
| 11 | 61098 | 4 | #10M JIC x #10M 90 Pipe Fitting |
| 12 | 61099 | 1 | 6-Port Diverter Valve, #10 NPT |
| 13 | 61100 | 2 | 1/2" x 27" Hose, #10F JIC x #10F JIC |
| 14 | 61101 | 2 | 1/2" x 63" Hose, #10F JIC x #10F JIC |
| 15 | 61102 | 2 | 1/2" x 75" Hose, #10F JIC x #12MB |
| 16 | 61105 | 2 | #10M JIC x #10M BS |

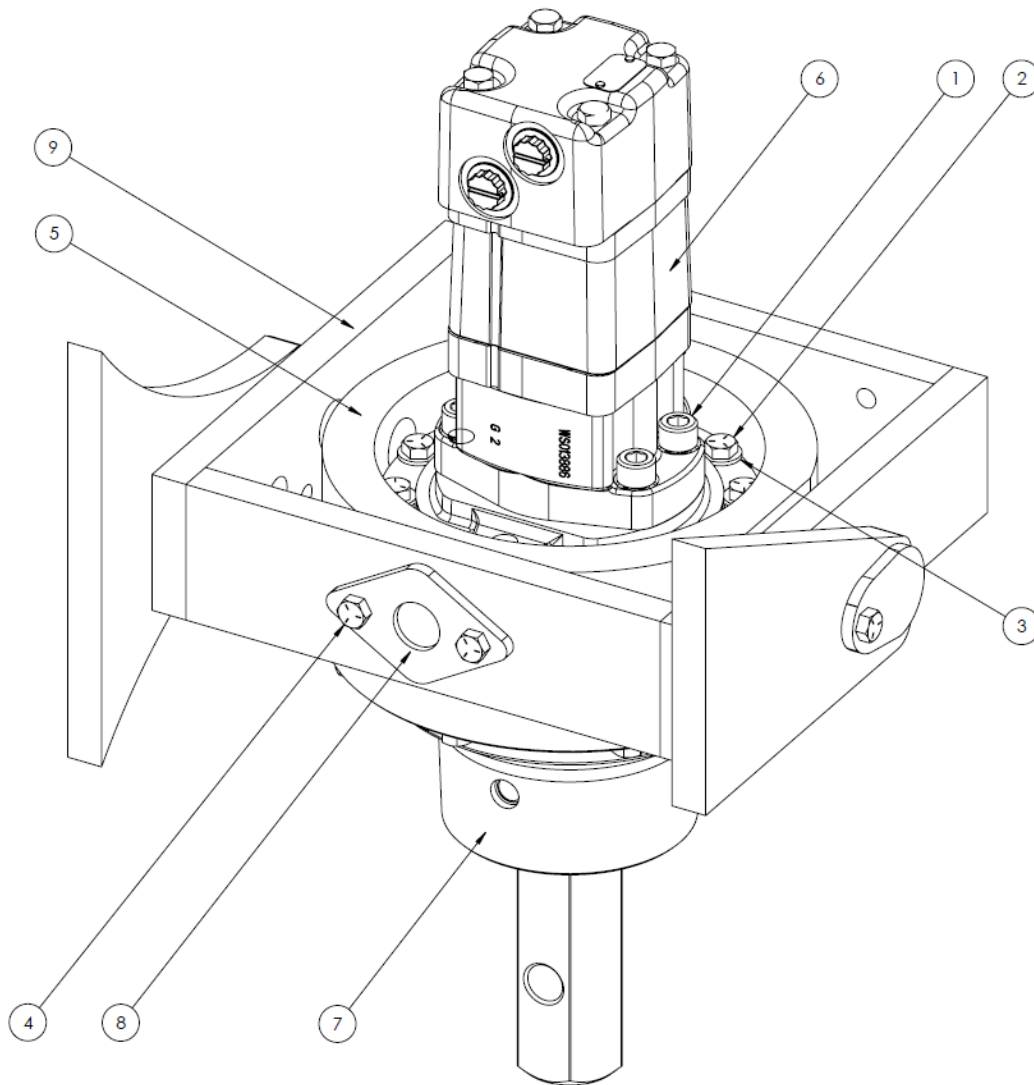


Figure C: Auger System Overview

| REF. # | PART # | QTY. | PART DESCRIPTION |
|--------|--------|------|----------------------------|
| 1 | 40004 | 4 | 1/2"-13 x 1-1/2" SHCS |
| 2 | 40020 | 8 | 3/8"-16 x 2" HHCS |
| 3 | 40045 | 8 | 3/8" Split Lock Washer |
| 4 | 41002 | 4 | 3/8"-16 x 1" HHCS |
| 5 | 50290 | 1 | Mini-Skid Drive Ring |
| 6 | 60024 | 1 | 9.4 CI Motor (for MS11) |
| | 60026 | | 15.5 CI Motor (for MS14) |
| | 60027 | | 18.97 CI Motor (for MS18) |
| 7 | 65017 | 1 | 2" Hex Output Shaft |
| | 65018 | | 2-9/16" Round Output Shaft |
| 8 | 91060 | 2 | Swivel Pin Weldment |
| 9 | 91061 | 1 | Mini-Skid Housing Weldment |

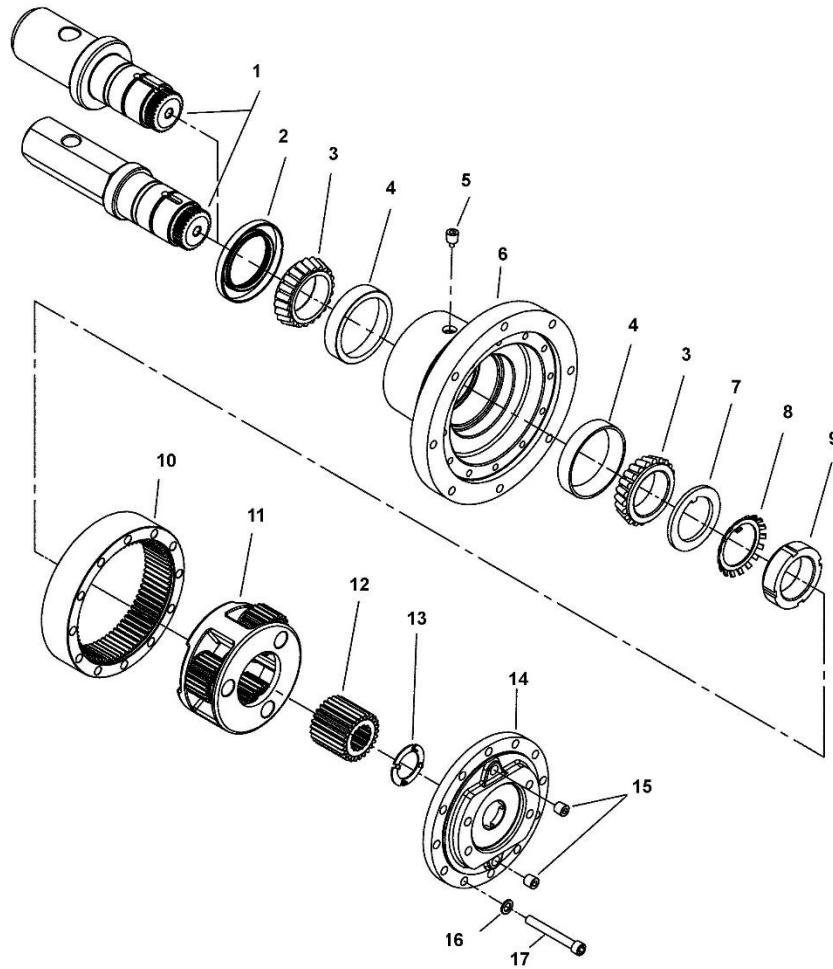


Figure D: Auger System Drive Unit

| REF. # | PART # | QTY. | PART DESCRIPTION |
|--------|--------|------|----------------------------|
| 1 | 69200 | 1 | 2" Hex Output Shaft |
| | 69201 | | 2-9/16" Round Output Shaft |
| 2 | 69202 | 1 | Oil Seal |
| 3 | 69203 | 2 | Bearing Cone |
| 4 | 69204 | 2 | Bearing Cup |
| 5 | 69205 | 1 | Magnetic Plug |
| 6 | 69206 | 1 | Hub |
| 7 | 69207 | 1 | Thrust Washer |
| 8 | 69208 | 1 | Lock Washer |
| 9 | 69209 | 1 | Lock Nut |
| 10 | 69210 | 1 | Ring Gear |
| 11 | 69211 | 1 | Secondary Carrier Assembly |
| 12 | 69212 | 1 | Sun Gear |
| 13 | 69213 | 1 | Thrust Washer |
| 14 | 69214 | 1 | Cover |
| 15 | 69215 | 2 | Pipe Plug |
| 16 | 69216 | 12 | Washer |
| 17 | 69217 | 12 | Socket Head Cap Screw |

