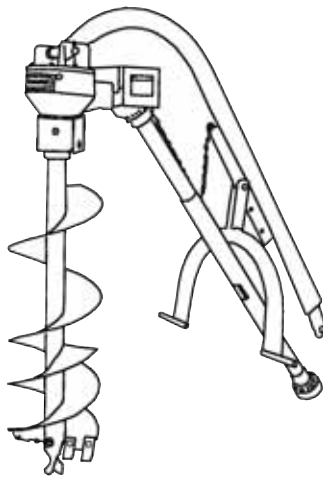




# POST HOLE DIGGER



**Operation, Service  
& Parts Manual For  
Models D20 & D40**

September 2006  
Revised August 2009

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# INTRODUCTION

Thank you for purchasing a Gearmore Digger.

In order to be able to safely and properly operate this digger, it will be necessary for you to familiarize yourself with the contents of the entire manual before you attempt to assemble and operate your digger.

Please read all safety and assembly instructions before attempting to operate digger.

Date of Purchase: \_\_\_\_\_

Model Number: \_\_\_\_\_

Serial Number \_\_\_\_\_

# PREPARATION

## WARNING

To prevent possible personal injury or death during assembly, installation, operation, adjustment, or removal of implement: **DO NOT** wear loose clothing, always wear gloves and safety glasses or face shield. Keep other persons a minimum of twenty-five feet (25') away from any unit under power.



## READ THIS BEFORE OPERATING DIGGER

### TRAINING:

Know your controls. Read this operator's manual and the manual provided with your tractor.

Learn how to stop the tractor, engine and digger quickly, in case of an emergency.

**DO NOT** allow children to operate machine, or adults to operate it without proper instructions.

### PREPARATION:

- Clear area of debris.
- Never permit any person other than the operator to ride on board the tractor at any time.
- DO NOT** allow riders on digger at any time.
- Operate only in daylight or good artificial light.
- Ensure all safety shielding is properly installed.
- Always** wear relatively tight and belted clothing when operating digger. Loose clothing should not be worn, as it could get caught in the moving parts or controls.

# SAFETY INFORMATION

## OPERATIONAL SAFETY:

- Guards and safety shields are for your protection. **DO NOT** operate equipment unless they are in place.
- Always operate tractor PTO (power take-off) at recommended RPM (revolutions per minute).
- Disengage tractor PTO and shift into neutral before attempting to start engine.
- Read and observe all safety decals on the tractor and digger.
- **NEVER** allow anyone within 25' of machine while it is in operation.
- Do not stop or start suddenly when going uphill or downhill. Avoid operation on steep slopes.
- Be alert for holes in terrain and other hidden hazards. Always drive slowly over rough ground.
- Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Be careful when changing direction on slopes.
- Stop digger and tractor immediately upon striking an obstruction. Turn off engine, inspect digger, and repair any damage before resuming operation.
- Disengage power to digger and stop engine before dismounting from tractor, making any repairs or adjustments, transporting, or unclogging digger.
- Take all possible precautions when leaving tractor unattended. Disengage PTO, lower digger, shift into neutral, set parking brake, stop engine, and remove key from ignition.
- Front tractor weights or front tire ballast should be used to enhance front end stability on small tractors.
- Check to make sure PTO is properly connected and that the driveline is correct to prevent bottoming out or pulling apart during the full lift range of the hitch.
- This implement is designed for a one-man operation. It is the responsibility of the tractor operator to see that no one is in the proximity of the implement when it is started. **DO NOT** operate the implement with another person within 25' of the implement, PTO drive, or auger.

# ASSEMBLY INSTRUCTIONS

**The Gearmore Diggers are shipped disassembled in four (4) pieces.**

1. Gearbox and auger assembly.
2. Driveshaft assembly with pins and operating instructions packet.
3. The yoke assembly.
4. The boom assembly.

**Please assemble in the following manner:**

1. Attach end of boom to upper 3-point link bracket of the tractor.
2. Attach yoke lift pins into bottom lift arms of tractor. Attach with lynch pins (not supplied).
3. Bolt yoke to boom with  $\frac{5}{8}$ " x 2  $\frac{1}{2}$ " grade 5 bolt (supplied).
4. Raise gearbox assembly up and attach it to the boom with the supplied pin, fasten into place with two cotter pins.
5. Slide driveshaft onto input shaft of gearbox and secure with  $\frac{3}{8}$ " x 2  $\frac{1}{4}$ " grade 2 shear bolt.
6. Install safety roll pin on implement yoke. This will prevent driveshaft from coming off input shaft if shear bolt shears.
7. Install input shaft shield onto gearbox.
8. Install other end of driveshaft to tractor PTO. Raise and lower digger assembly to verify driveshaft is not bottoming out or pulling apart during the full lift range of the hitch.
9. Slide auger adapter shield onto auger to be used.
10. Attach auger to output shaft using  $\frac{1}{2}$ " x 3" grade 2 bolt.
11. Make sure all bolts and pins are in place and secure before operating digger.

# 3-POINT HITCH ADJUSTMENTS

The average operating range of the digger should be between 5" and 65" above the ground level. It is recommended that the 3-point hitch be adjusted toward the minimum required operating range, due to the fact that the greater the operating range, the less force there is available for raising the auger in difficult soil conditions.



## CAUTION

Any time an adjustment is made to the 3-point hitch, reference should be made to the 3-point hitch section of the tractor operator's manual. After any adjustments, the digger should be carefully raised and lowered through its operating range and checked for interference.

To change vertical limits of the digger (transport height and digging depth).

1. Attach front end of boom to a hole in the upper link bracket. *Upper holes will lower the digger; lower holes will raise the digger.*
2. Attach yoke to one of the other existing holes on the boom. *Front holes usually increase range; rear holes decrease range.*
3. Check tractor hydraulic system to be sure it is raising and lowering to its maximum and minimum recommended heights. Transport height and digging depth can be limited by adjusting lift control handle limit stops.
4. If the front end of the boom strikes some part of the tractor when digger is raised or lowered:
  - a. Make adjustments under Ref. #1.
  - b. If at all possible, relocate or adjust the part of the tractor that is causing the interference.
5. If the tractor has difficulty raising the digger, decrease the lift range.
6. If the tractor hitch raises or lowers rapidly during hydraulic functions, refer to hydraulic adjustment section of the tractor manual.

# OPERATING DIGGER



## WARNING

Never operate digger without gloves and eye protection. Keep other persons a minimum of twenty-five feet (25') away from the digger operation.

### TO OPERATE DIGGER:

1. With your digger correctly assembled and attached to the tractor, engage the tractor PTO at idling speed to give the digger a test run. Then disengage tractor PTO.
2. Place the auger at a vertical position at the desired location of the first hole.
3. Set tractor brake to hold the tractor at the correct position and to prevent damage to the digger.
4. Make sure gloves are on, eye protection is in place, and that nobody is within twenty-five feet (25') of the operation. Engage PTO with the engine at a little more than idle (this speed will depend on soil conditions and experience will help determine proper speed).
5. Slowly lower digger to the ground. After the auger goes a foot or so into the ground, raise auger almost out of the hole, this allows the auger to clean itself of loose soil. Then drill deeper and raise the auger again. Repeat this procedure until the desired hole depth is reached.
6. When desired hole depth is reached, disengage PTO and raise auger from the hole. For tractors that require PTO engagement to produce lifting power, allow auger to turn at idle while raising it from the hole.
7. If shear bolt breaks:
  - a. Shut off tractor engine and allow PTO shaft to come to a complete stop.
  - b. Remove broken shear bolt.
  - c. Install new shear bolt (part #600518), then tighten the shear bolt nut securely.
8. If auger becomes lodged on an obstruction under ground, shut off PTO and tractor engine. Turn the auger several revolutions in reverse. **Never** attempt to use hydraulic lift of tractor to dislodge auger.

# LUBRICATION

## **GEARBOX -**

Fill gearbox with gear oil. Use SAE #140 multigear lubricant or equivalent. Gear oil should be changed after **500 hours of use**.

## **DRIVESHAFT -**

Grease both cross & bearing and shear pin yoke. After that grease **every 8 hours** of use. It is also necessary, from time to time, to untelescope the driveshaft to clean and re-grease tubing.

## **GENERAL MAINTENANCE**

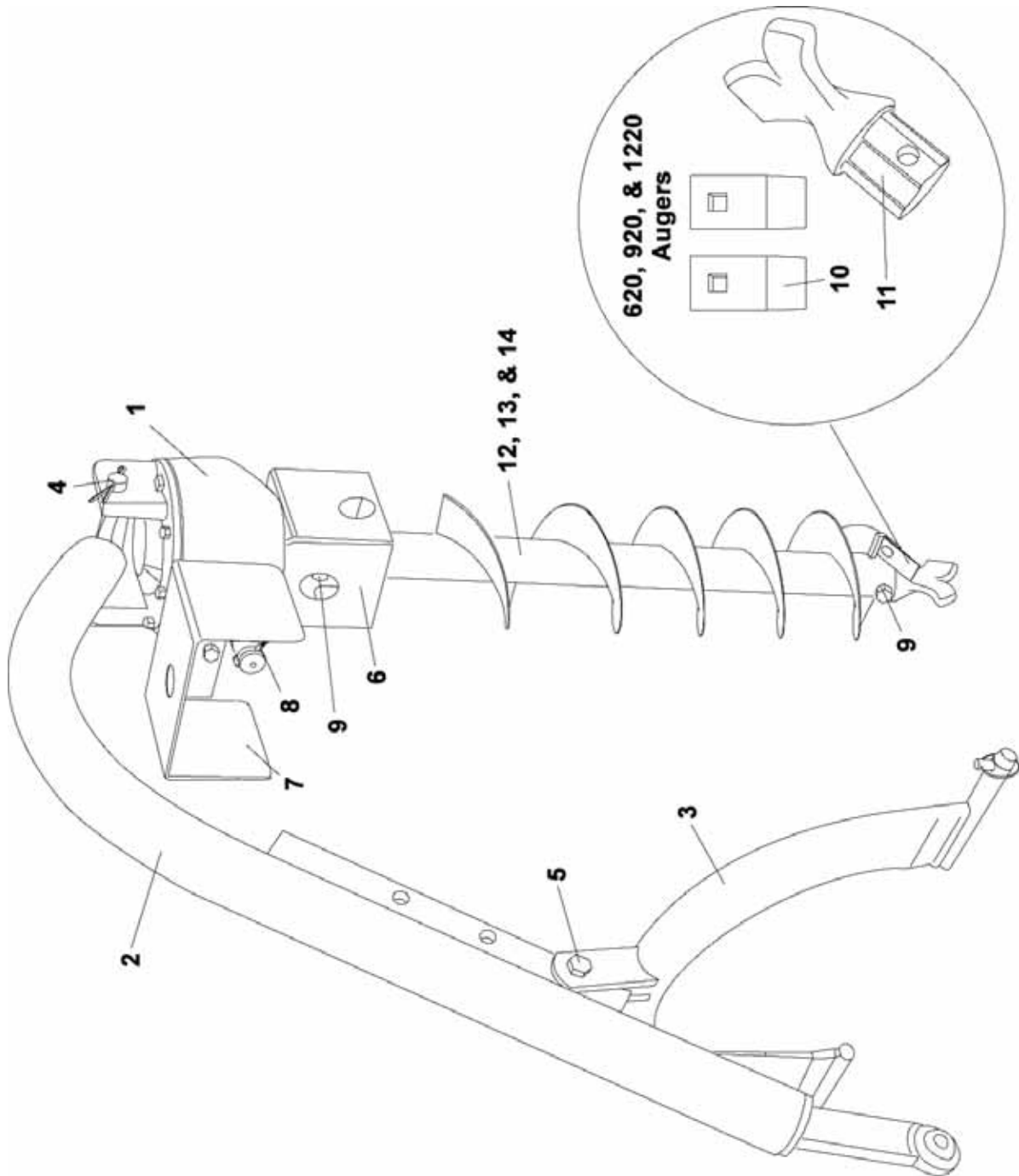
Carefully follow all instructions as stated in this operator's manual, this includes safety, assembly, 3-point hitch adjustments, operation, lubrication, and maintenance of the digger.

1. Check bolts, nuts, cotter pins, etc. for tightness.
2. Check auger daily for loose, worn or broken teeth or points.
3. Replace, immediately, any damaged or worn parts.
4. Check lubrication - *see lubrication section*.

### ***IMPORTANT NOTICE:***

Due to the exceptionally long travel of the hitch arms on some tractors, extreme caution should be taken that you do not lift and operate the digger at too high of an angle. Also, do not have PTO engaged when moving from hole to hole. Failure to follow these procedures can damage the digger and/or tractor.

# COMPONENTS FOR D20 DIGGER



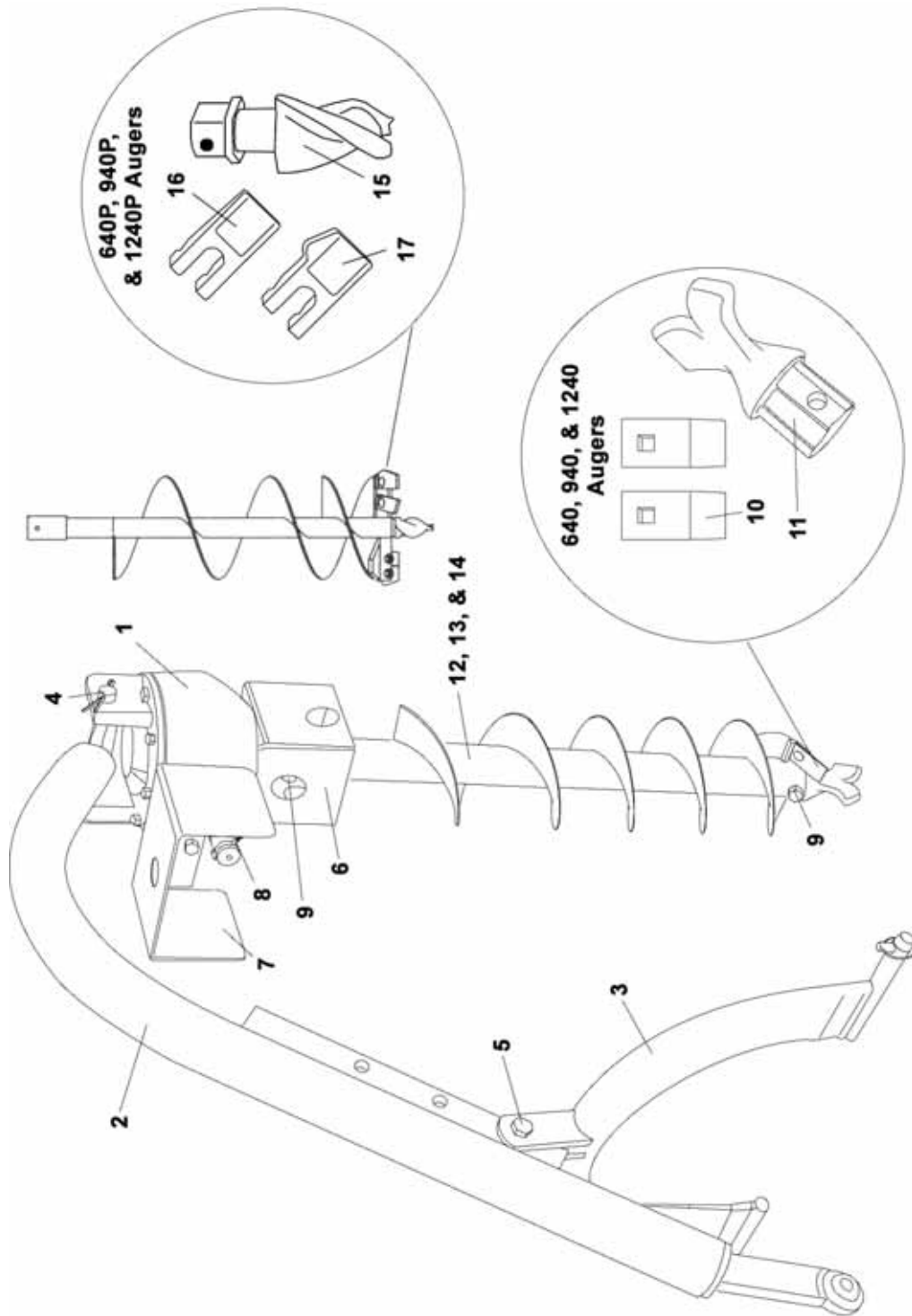
# COMPONENTS FOR D20 DIGGER

| <u>REF#</u> | <u>QTY.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>                            |
|-------------|-------------|-----------------|---|
| 1           | 1           | 680000          | Gearbox, Complete - Comer                     |
| 1           | 1           | 01-082          | Gearbox, Complete - ITG                       |
| 2           | 1           | 610039          | Boom  |
| 3           | 1           | 610626          | Lift Bracket                                  |
| 4           | 1           | 610680          | Pin w/Cotter Pin, Gearbox to Boom (7/8" x 6") |
| 5           | 1           | 600662          | Lift Bracket Bolt 5/8" x 2 1/2"               |
| 6           | 1           | 680022          | Auger Adapter Shield                          |
| 7           | 1           | 680126          | Gearbox Shield, Input Shaft                   |
| 8           | 1           | 600518          | Driveline Bolt 3/8" x 2 1/4" Grade 2          |
| 9           | 1           | 600660          | Auger Bolt 1/2" x 3"                          |

## 620, 920, & 1220 Augers

|    |          |        |                                 |
|----|----------|--------|---------------------------------|
| 10 | As Req'd | 630223 | Tooth For 620, 920 & 1220       |
| 10 | As Req'd | 630222 | Tooth, Hardfaced for 920 & 1220 |
| 11 | 1        | 600530 | Point, Auger                    |
| 12 | As Req'd | 620    | 6" Auger                        |
| 13 | As Req'd | 920    | 9" Auger                        |
| 14 | As Req'd | 1220   | 12" Auger                       |

# COMPONENTS FOR D40 DIGGER



# COMPONENTS FOR D40 DIGGER

| <u>REF#</u> | <u>QTY.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>                            |
|-------------|-------------|-----------------|---|
| 1           | 1           | 680000          | Gearbox, Complete - Comer                     |
| 1           | 1           | 01-082          | Gearbox, Complete - ITG                       |
| 2           | 1           | 680039          | Boom  |
| 3           | 1           | 600625          | Lift Bracket                                  |
| 4           | 1           | 682105          | Pin w/Cotter Pin, Gearbox to Boom (7/8" x 7") |
| 5           | 1           | 600662          | Lift Bracket Bolt 5/8" x 2 1/2"               |
| 6           | 1           | 680022          | Auger Adapter Shield                          |
| 7           | 1           | 680126          | Gearbox Shield, Input Shaft                   |
| 8           | 1           | 600518          | 3/8" x 2 1/4" Grade 2 Bolt                    |
| 9           | 1           | 600660          | Auger Bolt 1/2" x 3"                          |

### 640, 940, & 1240 Augers

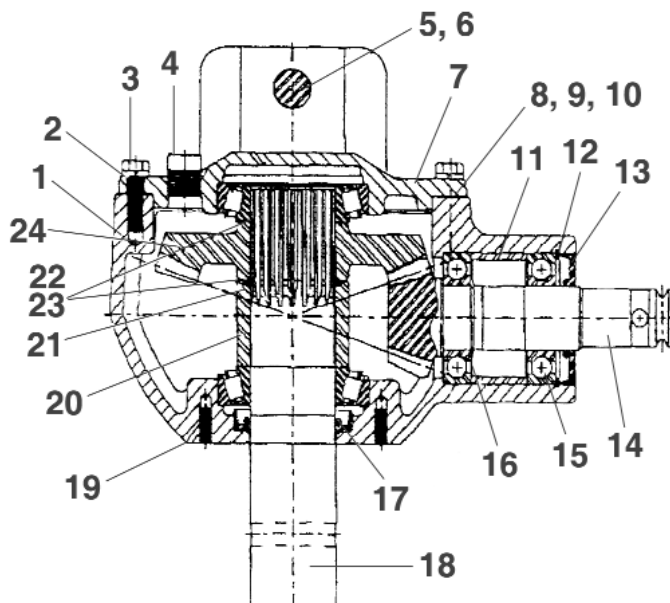
|    |          |        |                                 |
|----|----------|--------|---------------------------------|
| 10 | As Req'd | 630223 | Tooth For 640, 940 & 1240       |
| 10 | As Req'd | 630222 | Tooth, Hardfaced for 940 & 1240 |
| 11 | 1        | 600530 | Point, Auger                    |
| 12 | As Req'd | 640    | 6" Auger                        |
| 13 | As Req'd | 940    | 9" Auger                        |
| 14 | As Req'd | 1240   | 12" Auger                       |

### 640P, 940P, & 1240P Augers

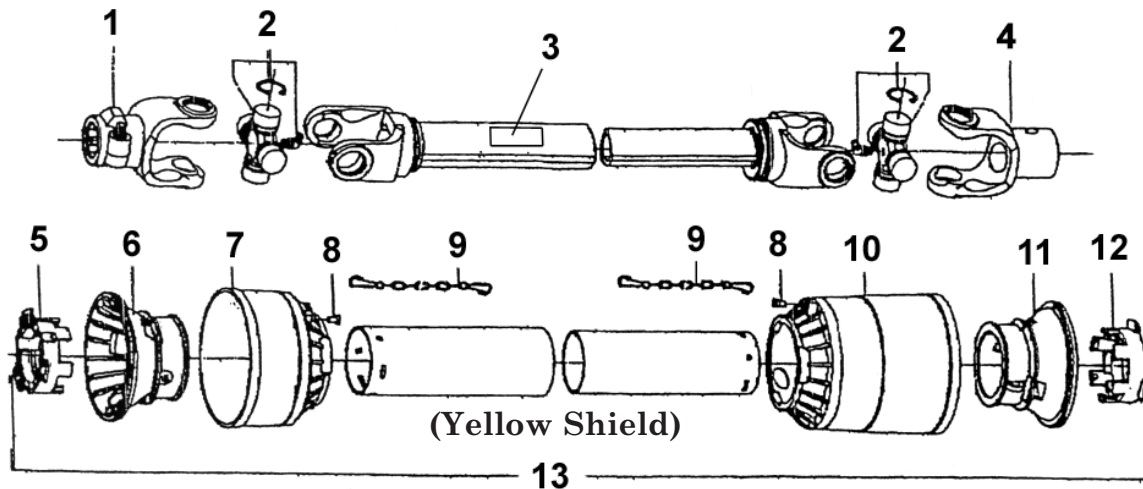
|    |          |        |                 |
|----|----------|--------|-----------------|
| 15 | 1        | 135088 | Point, Auger    |
| 16 | As Req'd | 35     | Tooth, Dirt     |
| 17 | As Req'd | 37     | Tooth, Gage     |
| 18 | As Req'd | 640P   | 6" Pengo Auger  |
| 19 | As Req'd | 940P   | 9" Pengo Auger  |
| 20 | As Req'd | 1240P  | 12" Pengo Auger |

# GEARBOX BREAKDOWN - 682100

| <u>REF #</u> | <u>QTY.</u> | <u>PART NUMBER</u> | <u>DESCRIPTION</u>                   |
|--------------|-------------|--------------------|--------------------------------------|
| 1            | 1           | 682-101            | Housing (18-013)                     |
| 2            | 8           | 682-102            | Lockwasher (07-001)                  |
| 3            | 8           | 682-103            | Cap Screw M10 x 30 x 1.75 (06-003)   |
| 4            | 2           | 682-104            | Pipe Plug 1/2" (09-002)              |
| 5            | 1           | 682-105            | Pin, Hinge 7/8" x 8"                 |
| 6            | 2           | 682-106            | Cotter Pin                           |
| 7            | 1           | 682-107            | Top Cap (20-014)                     |
| 8            | As Req'd    | 682-108            | Top Gasket .30 (08-021)              |
| 9            | As Req'd    | 682-109            | Top Gasket .25 (08-022)              |
| 10           | As Req'd    | 682-110            | Top Gasket .40 (08-023)              |
| 11           | 1           | 682-111            | Bearing Spacer (10-008)              |
| 12           | 1           | 682-112            | Retaining Ring (21-004)              |
| 13           | 1           | 682-113            | Input Seal (05-010)                  |
| 14           | 1           | 682-114            | Pinion 11T w/Shaft (03-033)          |
| 15           | 2           | 682-115            | Bearing 207 (04-004)                 |
| 16           | 1           | 682-116            | Retaining Ring (21-006)              |
| 17           | 1           | 682-117            | Output Seal 50 x 70 x 10 (05-008)    |
| 18           | 1           | 682-118            | Output Shaft (02-029)                |
| 19           | 2           | 682-119            | Taper Bearing Assembly 7210 (04-011) |
| 20           | 1           | 682-120            | Outer Bearing Spacer (10-011)        |
| 21           | 1           | 682-121            | Retaining Ring (21-001)              |
| 22           | As Req'd    | 682-122            | Gear Adj. Shim .30 (17-002)          |
| 23           | As Req'd    | 682-123            | Gear Adj. Shim .50 (17-003)          |
| 24           | 1           | 682-124            | Ring Gear 33T (03-032)               |
|              | 1           | 682-126            | Set Collar 7/8"                      |

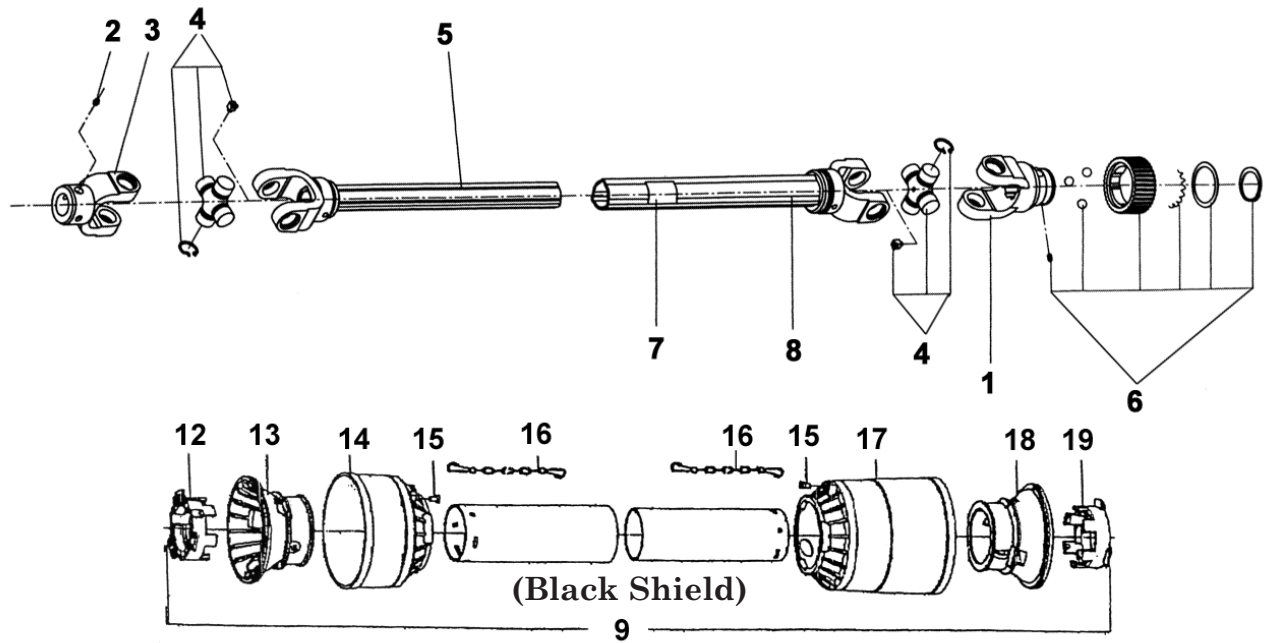


# DRIVELINE BREAKDOWN - (EUROCARDAN)



| <u>REF #</u> | <u>QTY.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>                      |
|--------------|-------------|-----------------|---|
|              | 1           | 36718           | Driveline Complete (Eurocardan)         |
| 1            | 1           | 31372           | Yoke Assembly 1 3/8" x 6 Sp Tractor End |
| 2            | 2           | 31369           | Repair Kit #4 Metric                    |
| 3            | 1           | 1140003         | Decal, Warning                          |
| 4            | 1           | 32204           | Yoke 1 1/4" Rnd Implement End           |
| 5            | 1           | 35064           | Tube Bearing Lock                       |
| 6            | 1           | 35070           | Outer Tube Rigid Cone                   |
| 7            | 1           | 33994           | Cone, Standard                          |
| 8            | 4           | 35072           | Stop Rotation Pin                       |
| 9            | 2           | 33994           | Anti-Rotation Chain                     |
| 10           | 1           | 35075           | Soft Cone                               |
| 11           | 1           | 35071           | Inner Tube Rigid Cone                   |
| 12           | 1           | 35067           | Tube Bearing                            |
| 13           | 1           | 36726           | Complete Shield                         |

# DRIVELINE BREAKDOWN - (ITG)



| <u>REF #</u> | <u>QTY.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>                               |
|--------------|-------------|-----------------|--|
|              | 1           | 682200          | Driveline Complete (ITG) - 35-181                |
| 1            | 1           | 612165          | Yoke Assembly 1 3/8" x 6 Sp Tractor End - 26-015 |
| 2            | 1           | 09-017          | Grease Zerk M6 x 1                               |
| 3            | 1           | 612155          | Yoke 1 1/4" Round Bore Imp. End - 23-005         |
| 4            | 2           | 612157          | Cross Kit - 26-021                               |
| 5            | 1           | 682204          | Inner Tube & Yoke - 28-045                       |
| 6            | 1           | 612163          | Collar Kit - 26-021                              |
| 7            | 1           | 13-001          | Warning Label                                    |
| 8            | 1           | 682206          | Outer Tube & Yoke - 28-090                       |
| 9            | 1           | 682207          | Complete Shield - 27-062                         |
| 10           | 1           | 633154          | Shear Bolt 2 1/4" (not shown)                    |
| 11           | 1           | 1/4-20x1/2      | Set Screw (not shown)                            |
| 12           | 1           | 612180          | Outer Tube Bearing Lock - 04-043                 |
| 13           | 1           | 612174          | Outer Tube Rigid Cone - 24-014                   |
| 14           | 1           | 612178          | Cone, Standard - 24-015                          |
| 15           | 6           | 612175          | Locking Pin - 12-014                             |
| 16           | 2           | 33994           | Anti-Rotation Chain                              |
| 17           | 1           | 612174          | Soft Cone - 24-012                               |
| 18           | 1           | 612173          | Inner Tube Rigid Cone - 24-011                   |
| 19           | 1           | 612172          | Inner Tube Bearing Lock - 04-042                 |

# LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.  
13477 Benson Ave.  
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

The serial number of this product is stored in our computer database, thus submitting a warranty registration card is not required.