


EP HEAVY DUTY AUGER SERIES

MODELS

EP6 Hex, EP6 Round
EP10 Hex, EP10 Round
EP15 Hex, EP15 Round
EP20 Hex, EP20 Round

 **Read this entire manual. This safety alert symbol is used throughout this manual to call your attention to messages involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.**

WARNING

Si no entiende ingles, se prefiere que busque a alguien que interprete las instrucciones para usted.

Owner: _____
Date Purchased: _____
Model #: _____ Serial #: _____
Manual #: <u>9MEP2457351</u>

Operator's Manual

Danuser LLC
500 E. 3rd St.
P.O. Box 368
Fulton, MO 65251
Tel: (573) 642-2246 Fax: (573) 642-2240
E-mail: sales@danuser.com
Website: www.danuser.com



Dear Owner/Operator,

Thank you for purchasing this Danuser Hydraulic Earth Auger. We appreciate your business.

The EP heavy-duty auger series is designed to meet the needs of farmers, ranchers, contractors, landscapers, and municipalities. Various auger styles are available for drilling in light ground conditions to harder ground conditions, such as rock, frozen ground, and more.

Your safety as an operator of our product is very important to us. Therefore, *before* you assemble, install, operate, maintain, service, remove, or move your Danuser Earth Auger, read and understand this manual thoroughly. If there is anything you do not understand, immediately contact your dealer, or contact our factory direct.

Phone:	(573) 642-2246
Fax:	(573) 642-2240
E-mail:	sales@danuser.com

Your satisfaction in the performance and longevity of our product is also very important to us and can be prolonged by proper assembly, installation, operation, and maintenance as instructed in this manual.

Thank you again for your business and for your trust in our product. Please feel free to contact us at any time for further assistance.

Sincerely,

Danuser LLC
500 E. 3rd St.
P.O. Box 368
Fulton, MO 65251

Tel: (573) 642-2246 Fax: (573) 642-2240
E-mail: sales@danuser.com Website: www.danuser.com

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Danuser is a registered trademark.

Foreword


Please read this manual thoroughly!

Before you assemble, install, operate, maintain, service, remove, or move your Danuser Earth Auger, read this manual thoroughly. If there is anything you do not understand, immediately contact your dealer, or call our factory direct at (573) 642-2246. Powered equipment can be dangerous if not assembled, installed, operated, maintained, serviced, removed, or moved properly.

Warranty Registration

To activate your warranty coverage and to provide you with efficient customer service, please fill out your WARRANTY REGISTRATION FORM. This form is included in your unit's paperwork package. If you did not complete a WARRANTY REGISTRATION FORM or did not receive one, please call Danuser LLC. Or, register online at www.Danuser.com. Your satisfaction with our product and your safety as a user of our product are both very important to us.

Symbols

 This SAFETY ALERT symbol identifies important safety messages. Carefully read each safety message that follows. Failure to understand and obey a safety message, or recognize a safety hazard, could result in injury or death to you or others around you. The operator is ultimately responsible for the safety of himself, as well as others, in the operating area of the earth auger.





<i>Symbol</i>	<i>Meaning</i>
	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, including hazards that are exposed when guards are removed.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
	This is important information for proper use of this equipment. Failure to comply may lead to premature equipment failure.

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WARNING

Working with unfamiliar equipment can lead to careless injuries. Read and understand this manual and the manual for your vehicle before assembling, installing, operating, maintaining, servicing, removing, or moving this earth auger. If there is anything in this manual you do not understand, contact your dealer or Danuser LLC. The safe use of this machine is strictly up to you, the operator. If this unit is used, loaned, or rented by any other person, it is the owner's responsibility to make certain that the operator prior to operating:

- Reads and understands the Operator's Manuals
- Is instructed in safe and proper use

There is an entanglement risk if you replace the **special** auger retaining bolt with a bolt longer than specified by Danuser LLC. This improper replacement occurs most often on machines that are loaned or rented to someone who has not read the Operator's Manual and is not familiar with an earth auger.

- This earth auger is designed for one-man operation from the vehicle seat. It is the responsibility of the operator to see that no one is within twenty-five feet (25') of the earth auger when it is started or in use. Do not operate the earth auger with another person near or in contact with any part of the drive unit or auger. Serious personal injury or death may result if any attempt is made to assist drilling operation by hand.
- 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 earth auger.
- Please remember it is also important that you read, understand, and follow the 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. Danuser LLC will furnish new safety signs upon request at no charge.
- 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, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the attachment.
- When the use of hand tools is required to perform any part of assembly, installation, maintenance, service, removal, or movement of the earth auger, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.
- 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, gangrene, blood poisoning, even death may result. Obtain medical attention immediately.
- Always use two people to handle heavy, unwieldy components during assembly, installation, maintenance, service, removal, or movement of the attachment.
- Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger.
- Check clearances between vehicle and auger, as well as operator and auger, across the full range of loader arms' operating heights. Keep earth auger in cradle when not drilling.
- Only properly trained people should operate this equipment. Do not allow anyone who has not read this entire manual and understood the safety rules, safety signs, and operation instructions to use this attachment.
- Never allow children to operate or be around this earth auger.

Safety

(continued)

- 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, call 811 or the local number to locate underground utilities.
- Do not drill near underground utility lines.
- Before beginning operation, clear the work area of objects which might be picked up and thrown by or entangled in the auger.
- The earth auger must be securely latched to the vehicle. Ensure both locking handles are in the locked position with pins fully seated. An improperly latched earth auger can fall without warning.
- Before you operate the attachment, check over all pins, bolts, and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.
- Never replace the auger retaining bolt with anything other than the specified length bolt in this manual. A longer, or protruding, fastener is more likely to grab clothing or gloves, which can result in serious injury or death.
- Keep all helpers and bystanders twenty-five feet (25') away from an operating earth auger.
- Keep hands, feet, hair, jewelry, and clothing away from all moving and/or rotating parts.
- Never place yourself between the vehicle and the attachment.
- Worn teeth or a slightly rounded point can seriously affect auger penetration. Check for wear before each use, and replace as necessary.
- Never position the auger point by hand or with any tool when the vehicle is running.
- Never position the auger point by putting your hands on the auger or drive unit.
- Do not shovel dirt away from a rotating auger, as the shovel can be caught and thrown by the auger.
- Never transport with the drive unit out of the cradle or while the auger is rotating.
- A heavy load can cause instability of the vehicle. Use extreme care during travel. 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 earth auger on steep hillsides. When drilling on uneven or hilly terrain, position the vehicle with the earth auger uphill. With the earth auger downhill, the vehicle could tip when attempting to raise the auger from its hole. 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.

Safety

(continued)

- Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or if hydraulic lines burst.
- 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 earth auger.
- When making repairs or servicing the earth auger, use only parts that meet original equipment manufacturer's standards and requirements.
- Always use care when operating the earth auger. Most accidents occur because of neglect or carelessness.

Safety is a primary concern in the design, manufacture, sale, and use of earth augers. Danuser confirms to you, our customer, our concern for safety.

DANGER

Improper operation of this earth auger can cause serious personal injury or death. Operation of this earth auger should only be done by a competent adult acting in compliance with the Operator's Manual. Since drilling operations are beyond our control, we disclaim all liability for any damages, injuries, or death which may result.

Decals & Safety Signs

The earth auger comes equipped with all safety signs in place. Their locations are shown in this section. Read and follow their instructions and ensure their care:

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing, illegible, or damaged.
- Ensure replacement parts installed during repair have safety signs attached.

To install new safety signs, follow these steps:

1. Clean the area where the safety sign is to be placed.
2. Spray a little soapy water on the surface where the safety sign is to be placed.
3. Peel the backing from the safety sign, and apply it in the position shown.
4. Firmly press the safety sign, and squeeze out the air bubbles with a straight edge (e.g., a credit card).



Model No. & Serial No.

Location: Drive unit, inside right side



PART NO. 9875

Location: Drive unit, right side



PART NO. DIG4

Location: Drive unit, rear



**Know what's below.
Call before you dig.**

PART NO. 20673

Location: Drive unit, rear



PART NO. DIG8

Location: Auger



Clean or replace all safety signs if they cannot be clearly read and understood.



PART NO. DANUSER100

Location: Drive unit, front

EP6

**PART NO. 10981 (EP6)
PART NO. 10982 (EP10)
PART NO. 10983 (EP15)
PART NO. 20003 (EP20)**

Location: Drive unit, front



PART NO. DIG3

Locations: Drive unit, left side;
Drive unit, right side

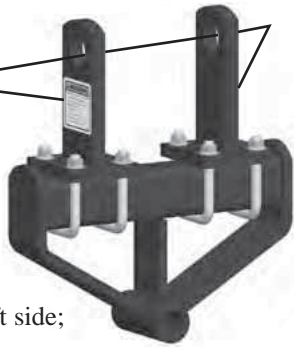


PART NO. DIG5

Location: Drive unit, front

Decals & Safety Signs

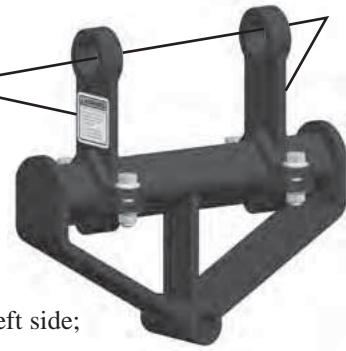
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PART NO. DIG6

Locations: Knuckle ear, left side;
Knuckle ear, right side

Mini-Excavator Knuckle



PART NO. DIG7

Locations: Knuckle ear, left side;
Knuckle ear, right side

TLB & Excavator Knuckle

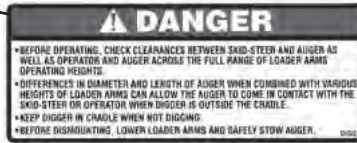


PART NO. DANUSER101

Locations: Quick attach plate, left side;
Quick attach plate, right side

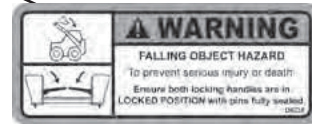


Skid-Steer Mount



PART NO. DIG2

Location: Quick attach plate, top

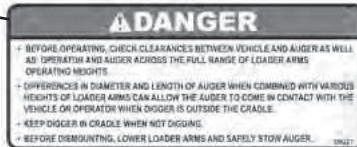


PART NO. DIG35

Location: Quick attach plate, top

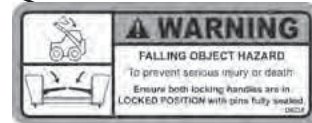


Skid-Steer Offset Mount



PART NO. DIG27

Location: Quick attach plate, top

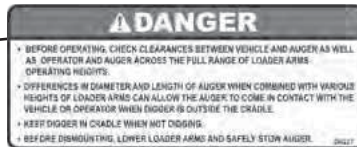


PART NO. DIG35

Location: Quick attach plate, top



Euro Offset Mount



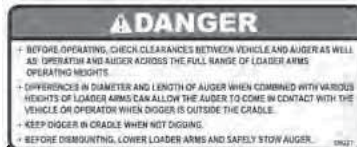
PART NO. DIG27

Location: Quick attach plate, top



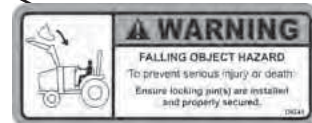
PART NO. DIG41

Location: Quick attach plate, top



PART NO. DIG27

Location: Quick attach plate, top



PART NO. DIG41

Location: Quick attach plate, top



Clean or replace all safety signs if they cannot be clearly read and understood.

Drive Unit Specifications

	EP6	EP10	EP15	EP20
Minimum Hydraulic Flow	6 GPM	10 GPM	15 GPM	20 GPM
Maximum Hydraulic Flow	15 GPM	20 GPM	30 GPM	35 GPM
Maximum Continuous Operating PSI	3000 PSI	3000 PSI	3000 PSI	3000 PSI
Maximum Auger Diameter	24 inches	30 inches	36 inches	36 inches
Output Spindle	2" Hex or 2-9/16" Round	2" Hex or 2-9/16" Round	2" Hex or 2-9/16" Round	2" Hex or 2-9/16" Round

Model EP6

PSI	TORQUE
2000	1014 Ft.-Lbs.
2500	1267 Ft.-Lbs.
3000	1520 Ft.-Lbs.

GPM	RPM
6	36
8	48
10	60
12	73
14	85
15	91

Model EP10

PSI	TORQUE
2000	1270 Ft.-Lbs.
2500	1587 Ft.-Lbs.
3000	1904 Ft.-Lbs.

GPM	RPM
10	48
12	58
14	68
16	77
18	87
20	97

Model EP15

PSI	TORQUE
2000	1874 Ft.-Lbs.
2500	2342 Ft.-Lbs.
3000	2811 Ft.-Lbs.

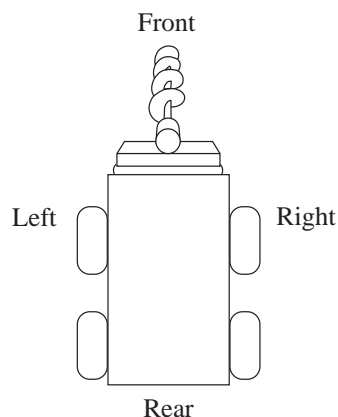
GPM	RPM
15	49
18	59
20	65
24	78
28	92
30	98

Model EP20

PSI	TORQUE
2000	2465 Ft.-Lbs.
2500	3081 Ft.-Lbs.
3000	3697 Ft.-Lbs.

GPM	RPM
20	50
24	60
28	70
30	75
32	80
35	87

Operator's Manual Direction Terminology



Torque and output speed specifications are based on theoretical values and are provided for comparative purposes only.

Hydraulic Requirements

Filtration Requirements:

- A filter of, at least, 25 micron filtration is required. A filter capable of 10 micron filtration is preferred. The majority of paper type filters are 25 microns or better.

NOTE

The life of the hydraulic motor is almost entirely dependent upon cleanliness of the oil. Instructions in your vehicle operator's manual regarding filter and oil changes should be carefully followed. Even small amounts of dirt in the hydraulic oil can cause premature motor failure that is not covered by warranty.

- A low pressure type filter can be installed in the return line from the control valves to the sump. A low pressure type filter can also be installed in the sump or pump intake line but must be sized large enough to avoid starving the pump.
- A high pressure type filter can be used between the pump and the control valves.
- If the source of the hydraulic power does not have a filter, it will be necessary to install one at some point in the system so, at least, part of the hydraulic oil is being filtered whenever the system is operating. After a filter is installed and before attaching the drive unit, the entire hydraulic system should be drained, filled with new oil, and operated for 30 minutes or until the system is warm. During this run time, operate all valves, cylinders, and hydraulic motors on the machine.

Pressure and Flow Requirements:

- Models EP6, EP10, EP15, and EP20 Danuser Earth Augers are designed to operate within the pressure range of 1500 to 3000 PSI.
- Operating flow rate is dependent on model: 6 to 15 GPM for Model EP6, 10 to 20 GPM for Model EP10, 15 to 30 GPM for Model EP15, and 20 to 35 GPM for Model EP20.

Valve Requirements:

- The hydraulic system used to power the drive unit should be equipped with a four-way valve large enough to carry full pump outlet without restricting flow and causing oil heating.
- The four-way valve requires a relief valve which will open and relieve extreme pressures between the drive unit and control valve, even when the control valve is in a neutral position. This feature can be obtained by connecting two external relief valves between the main lines running from the control valve to the drive unit in such a way that high pressure in either line will be relieved to the other line.

Hydraulic Hose Requirements:

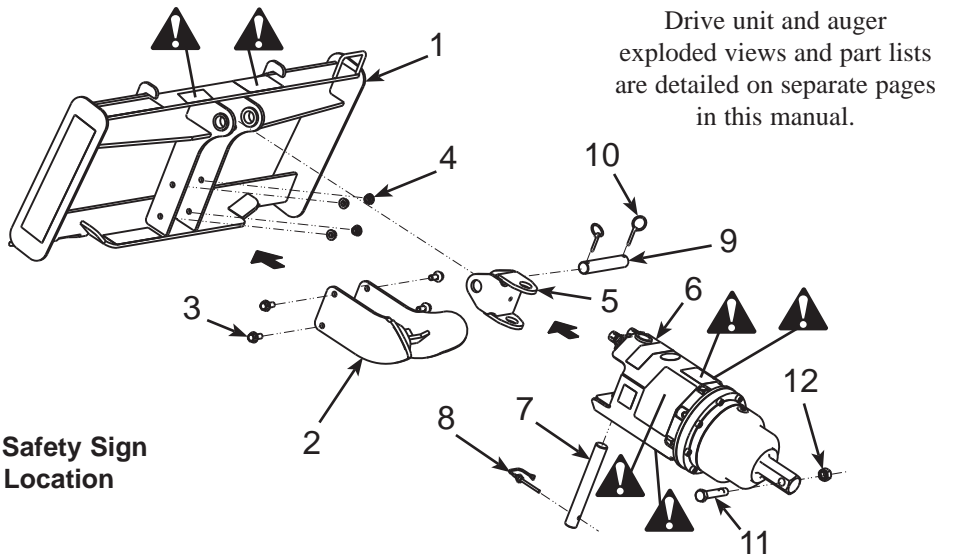
- High pressure hoses of, at least, 1/2 inch inside diameter connect four-way valve to the hydraulic fittings on the top of the drive unit. If the drive unit is mounted 10 feet or more from the hydraulic outlets on your unit, or the pump delivers 20 GPM or more, hose size should be increased to 3/4 inch inside diameter.
- Working pressure of hydraulic hoses must be higher than the rated vehicle hydraulic pressure.
- An abrasion sleeve is recommended on all hydraulic hoses.
- The hydraulic hoses should be equipped with a 45-degree fitting on the drive unit end.
- The hydraulic fittings on the top of the drive unit are #10 JIC male.
- Since the motor is reversible, hose connections to motor fittings are interchangeable.
- All hoses, pipes, and fittings used to connect the drive unit should be thoroughly cleaned before use. Care should be taken to see that no thread sealer or metal chips are forced to the inside of the joints when connections are being tightened.

Hydraulic Fluid Selection Requirements:

- Premium grade petroleum based fluids will provide the best performance.
- Fluids that contains anti-wear agents, rust inhibitors, anti-foaming agents, and oxidation inhibitors are recommended.
- The viscosity of the fluid should never fall below 70 SUS (13 cST). The best viscosity range for the drive unit is 100-200 SUS (20-43 cST).

Assembly & Installation

Skid-Steer Mount



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	10488	Quick Attach Plate Assembly (includes REF. NOS. 1-5 and 9-10)	1
2	10965	Cradle Assembly	1
3	10975	Bolt (1/2"-13 x 1-3/4", Gr. 8)	4
4	6196	Nut (1/2"-13)	4
5	10198	Knuckle Assembly	1
6	----	Drive Unit	1
7	10193	Pin (1-1/4" x 9-1/2")	1
8	20012	Lock Pin	1
9	9598	Pin (1-1/4" x 7-1/8")	1
10	1600	Klik Pin	2
11	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
12	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	

! WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

! CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

STEP 1: Bolt cradle assembly (2) to quick attach plate assembly (1) using bolts (3), and secure with nuts (4). Nuts (4) must be torqued to 105 ft.-lbs.

STEP 2: After removing bucket or other attachment from vehicle, secure quick attach plate assembly (1) to vehicle per vehicle manufacturer's recommendations.

! WARNING

The earth auger must be securely latched to the vehicle. Ensure both locking handles are in the locked position with pins fully seated. An improperly latched earth auger can fall without warning.

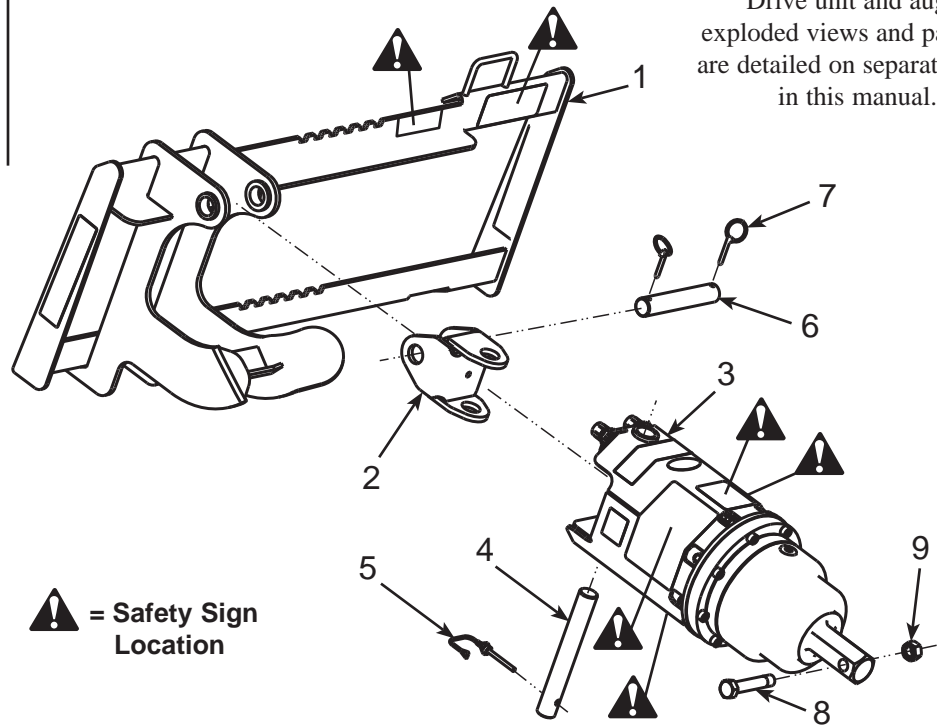
STEP 3: Attach knuckle assembly (5) to the drive unit (6) using pin (7). Secure pin (7) with lock pin (8).

STEP 4: Attach knuckle assembly/drive unit to the quick attach plate assembly (1) using pin (9). Secure pin (9) with klik pins (10).

Proceed to STEP 5 on page 18.

Assembly & Installation

Offset Skid-Steer Mount



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	20652	Offset Quick Attach Plate Assembly (includes REF. NOS. 1-2 and 6-7)	1
2	10198	Knuckle Assembly	1
3	----	Drive Unit	1
4	10193	Pin (1-1/4" x 9-1/2")	1
5	20012	Lock Pin	1
6	9598	Pin (1-1/4" x 7-1/8")	1
7	1600	Klik Pin	2
8	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
9	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	

STEP 1: After removing bucket or other attachment from vehicle, secure quick attach plate assembly (1) to vehicle per vehicle manufacturer's recommendations.

! WARNING

The earth auger must be securely latched to the vehicle. Ensure both locking handles are in the locked position with pins fully seated. An improperly latched earth auger can fall without warning.

STEP 2: Attach knuckle assembly (2) to the drive unit (3) using pin (4). Secure pin (4) with lock pin (5).

STEP 3: Attach knuckle assembly/drive unit to the quick attach plate assembly (1) using pin (6). Secure pin (6) with klik pins (7).

Proceed to STEP 5 on page 18.

! WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

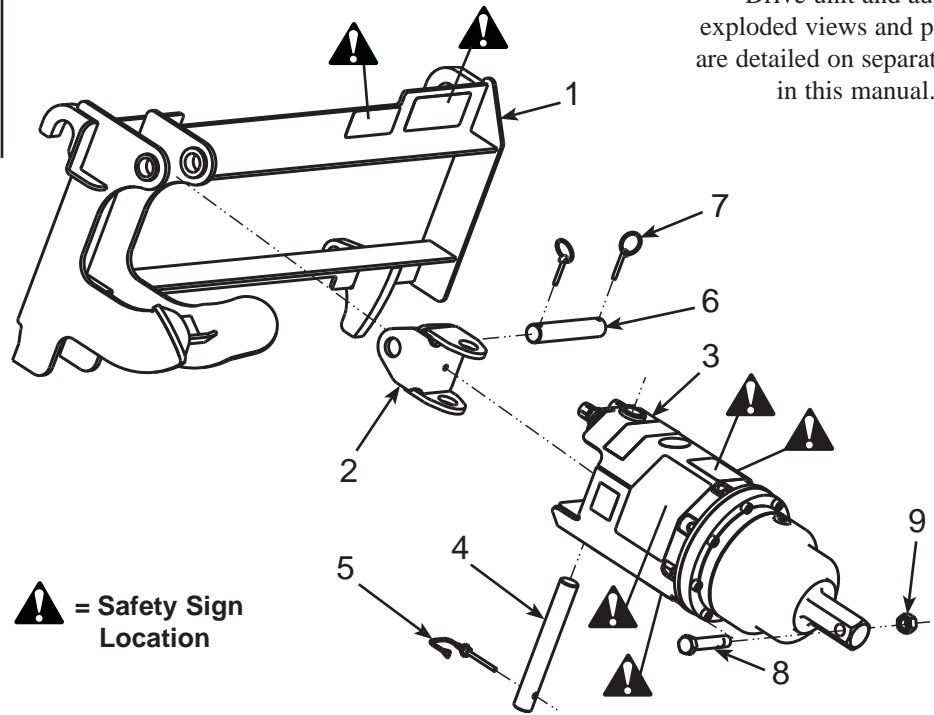
! CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

Assembly & Installation

Offset Euro Mount

Drive unit and auger exploded views and part lists are detailed on separate pages in this manual.



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	20653	Offset Euro Mount Assembly (includes REF. NOS. 1-2 and 6-7)	1
2	10198	Knuckle Assembly	1
3	----	Drive Unit	1
4	10193	Pin (1-1/4" x 9-1/2")	1
5	20012	Lock Pin	1
6	9598	Pin (1-1/4" x 7-1/8")	1
7	1600	Klik Pin	2
8	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
9	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	

STEP 1: After removing bucket or other attachment from vehicle, secure quick attach plate assembly (1) to vehicle per vehicle manufacturer's recommendations.

▲ WARNING

The earth auger must be securely latched to the vehicle. Ensure both locking pins are fully seated. An improperly latched earth auger can fall without warning.

STEP 2: Attach knuckle assembly (2) to the drive unit (3) using pin (4). Secure pin (4) with lock pin (5).

STEP 3: Attach knuckle assembly/drive unit to the quick attach plate assembly (1) using pin (6). Secure pin (6) with klik pins (7).

Proceed to STEP 5 on page 18.

▲ WARNING

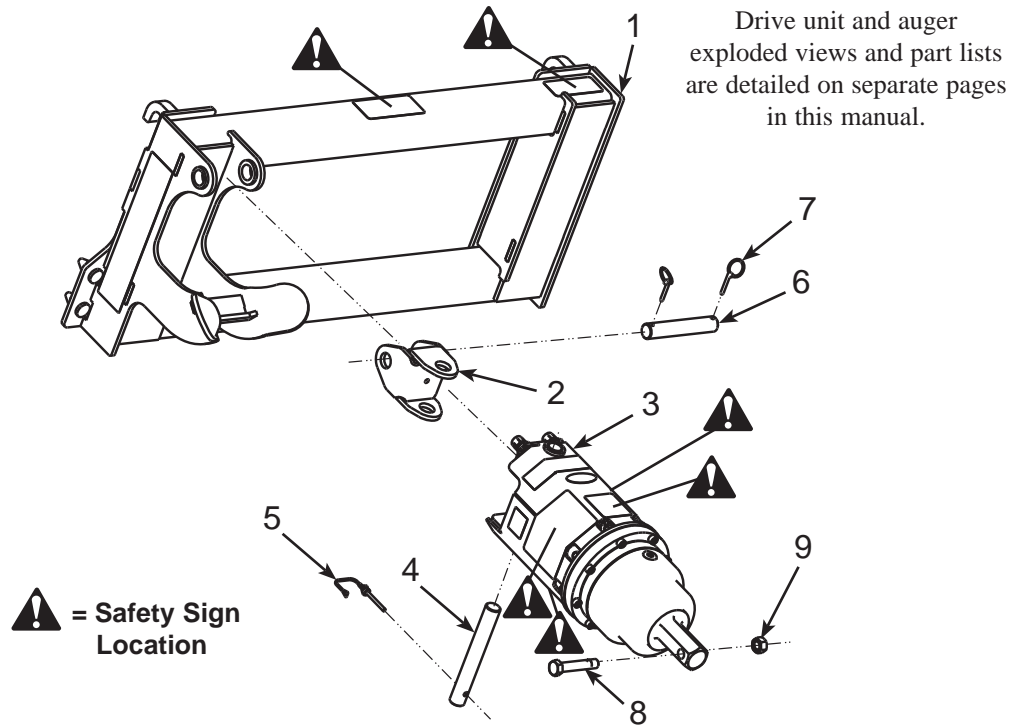
Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

▲ CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

Assembly & Installation

John Deere
200/300/400/500
Series Mount



REF. NO.	PART NO.	DESCRIPTION	QTY.
1	20659	John Deere 200/300/400/500 Series Offset Mount Assembly (includes REF. NOS. 1-2 and 6-7)	1
2	10198	Knuckle Assembly	1
3	----	Drive Unit	1
4	10193	Pin (1-1/4" x 9-1/2")	1
5	20012	Lock Pin	1
6	9598	Pin (1-1/4" x 7-1/8")	1
7	1600	Klik Pin	2
8	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
9	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	

STEP 1: After removing bucket or other attachment from vehicle, secure quick attach plate assembly (1) to vehicle per vehicle manufacturer's recommendations.

WARNING

The earth auger must be securely latched to the vehicle. Ensure both locking pins are fully seated. An improperly latched earth auger can fall without warning.

STEP 2: Attach knuckle assembly (2) to the drive unit (3) using pin (4). Secure pin (4) with lock pin (5).

STEP 3: Attach knuckle assembly/drive unit to the quick attach plate assembly (1) using pin (6). Secure pin (6) with klik pins (7).

Proceed to STEP 5 on page 18.

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

CAUTION

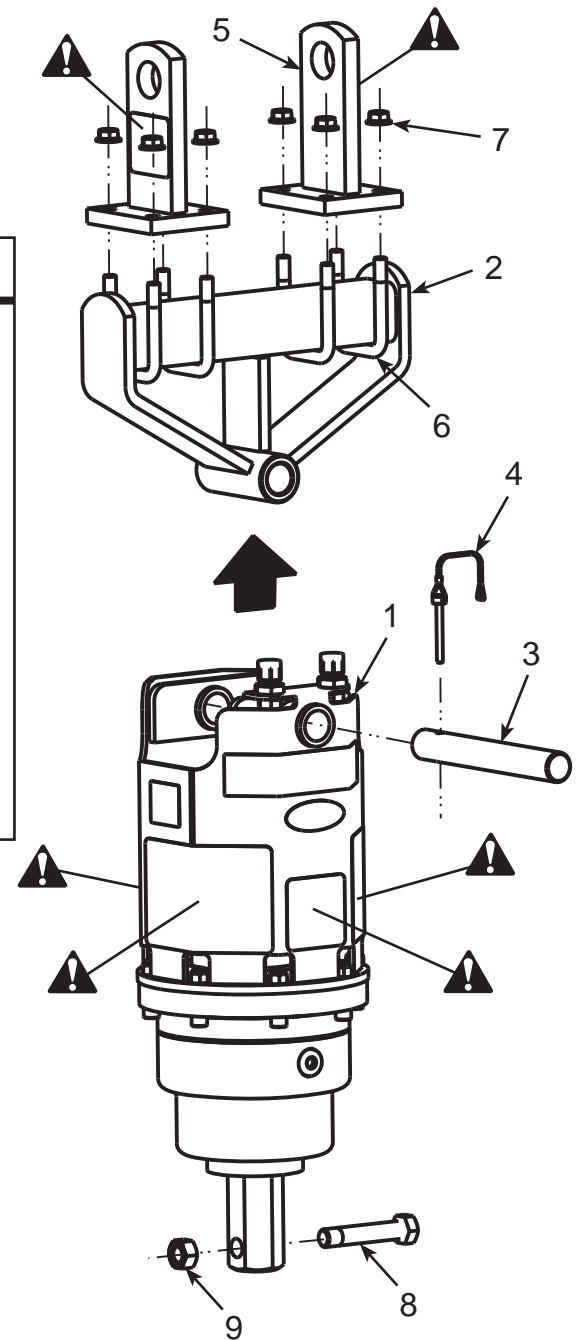
Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

Assembly & Installation

Mini-Excavator Mount

Drive unit and auger exploded views and part lists are detailed on separate pages in this manual.

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	----	Drive Unit	1
2	10219	Knuckle Sub-Assembly	1
3	10193	Pin (1-1/4" x 9-1/2")	1
4	20012	Lock Pin	1
5	----	Ear Assembly	2
6	10220	U-Bolt (1/2"-13 x 3-3/4")	4
7	6196	Nut (1/2"-13)	8
8	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
9	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	



 = Safety Sign Location

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

STEP 1: Attach drive unit (1) to the knuckle sub-assembly (2) using pin (3). Secure pin (3) with lock pin (4).

STEP 2: Remove bucket from dipperstick, and curl cylinder pin connections. The dipperstick pin will be used to attach the knuckle assembly to the dipperstick. The curl cylinder pin will not be required for drive unit installation.

STEP 3: Space the two ear assemblies (5) to the width of the dipperstick, and secure them to the knuckle sub-assembly (2) using u-bolts (6) and nuts (7). **The ear assemblies should be spaced evenly from the center of the knuckle sub-assembly and the safety signs should be facing out.** Nuts (7) must be torqued to 75 ft.-lbs. Nuts (7) should be checked and re-torqued after the first hour of use.

STEP 4: Attach knuckle assembly/drive unit to the dipperstick using the dipperstick pin removed from the bucket in STEP 2. Secure the bucket pin per vehicle manufacturer's recommendations.

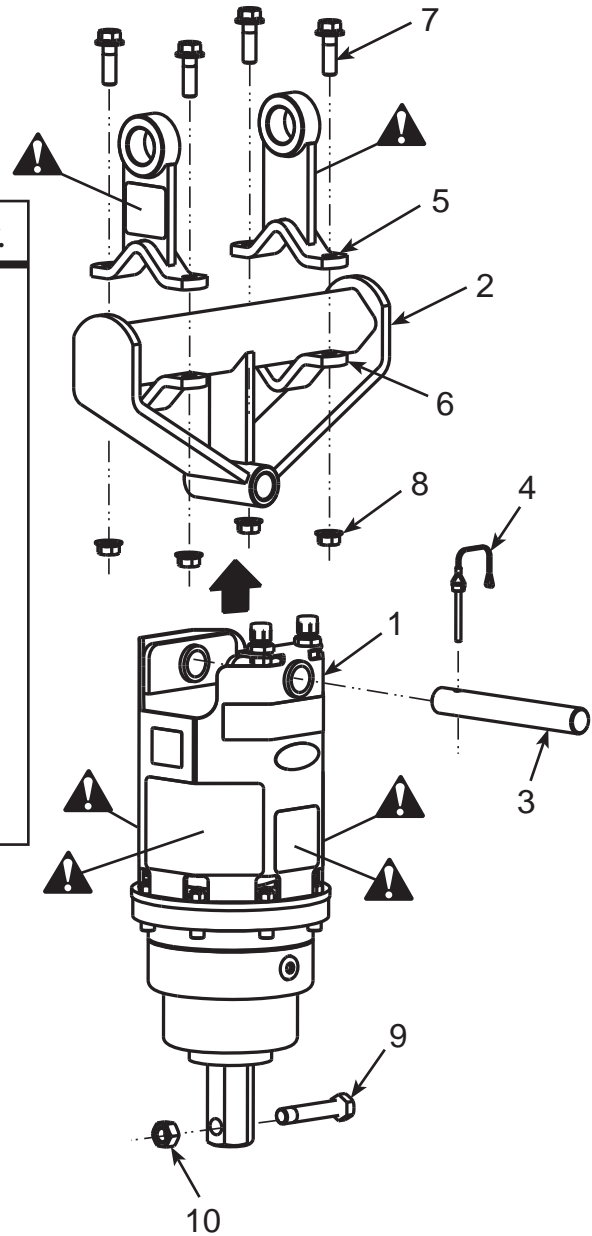
Proceed to STEP 5 on page 18.

Assembly & Installation

TLB & Excavator Mount

Drive unit and auger exploded views and part lists are detailed on separate pages in this manual.

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	----	Drive Unit	1
2	10247	Knuckle Sub-Assembly	1
3	10193	Pin (1-1/4" x 9-1/2")	1
4	20012	Lock Pin	1
5	----	Ear Assembly	2
6	10242	Tube-Clamp	2
7	10243	Bolt (5/8"-11 x 2", Gr. 5)	4
8	3092	Nut (5/8"-11)	4
9	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	1
10	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	1



 = Safety Sign Location

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

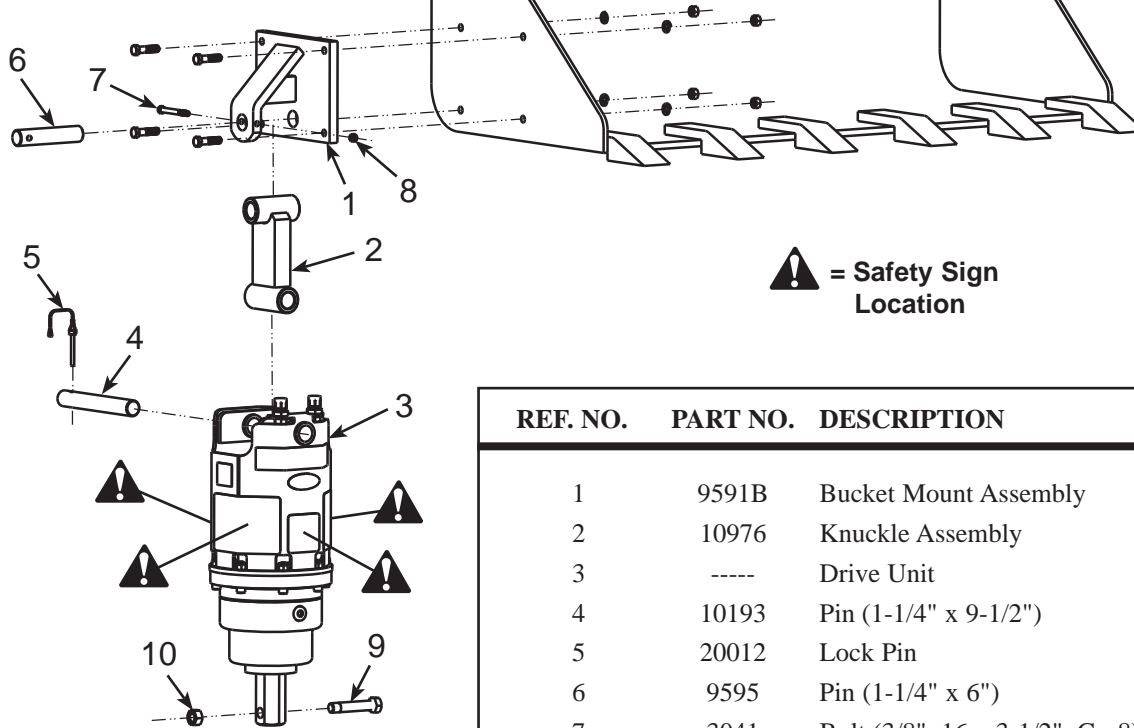
- STEP 1: Attach drive unit (1) to the knuckle sub-assembly (2) using pin (3). Secure pin (3) with lock pin (4).
- STEP 2: Remove bucket from dipperstick, and curl cylinder pin connections. The dipperstick pin will be used to attach the knuckle assembly to the dipperstick. The curl cylinder pin will not be required for drive unit installation.
- STEP 3: Space the two ear assemblies (5) to the width of the dipperstick, and secure them to the knuckle sub-assembly (2) using tube-clamps (6), bolts (7), and nuts (8). **The ear assemblies should be spaced evenly from the center of the knuckle sub-assembly and the safety signs should be facing out.** Nuts (8) must be torqued to 50 ft.-lbs. Nuts (8) should be checked and re-torqued after the first hour of use.
- STEP 4: Attach knuckle assembly/drive unit to the dipperstick using the dipperstick pin removed from the bucket in STEP 2. Secure the bucket pin per vehicle manufacturer's recommendations.

Proceed to STEP 5 on page 18.

Assembly & Installation

Drive unit and auger exploded views and part lists are detailed on separate pages in this manual.

Bolt-on Bucket Mount



= Safety Sign Location

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	9591B	Bucket Mount Assembly	1
2	10976	Knuckle Assembly	1
3	----	Drive Unit	1
4	10193	Pin (1-1/4" x 9-1/2")	1
5	20012	Lock Pin	1
6	9595	Pin (1-1/4" x 6")	1
7	3041	Bolt (3/8"-16 x 3-1/2", Gr. 8)	1
8	2805	Self-locking Nut (3/8"-16)	1
9	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)	
10	10041	Nut (3/4"-10) - 2" Hex	1
	10042	Nut (7/8"-9) - 2-9/16" Round	

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

NOTE

Consideration must be given to the installation location of the bolt-on bucket mount kit. The drive unit should be able to swing during normal operation without interference from the bucket. The bucket must be constructed with sufficient strength to safely handle the loads generated during drilling. Position the drive unit to allow space for the hydraulic hose connections and routing of hoses.

- STEP 1: Drill four holes in the loader bucket to accommodate bucket mount assembly (1).
- STEP 2: Bolt bucket mount assembly (1) to the left or right outside vertical surface of the bucket. (See figure above.) Hardware to attach the mount assembly is not included in the kit. You will need the following:
 4 bolts (1/2" diameter, Grade 5 or greater)
 4 lock washers (1/2")
 4 nuts (1/2")
- STEP 3: Attach knuckle assembly (2) to the drive unit (3) using pin (4). Secure pin (4) with lock pin (5).
- STEP 4: Attach knuckle assembly/drive unit to mount assembly (1) using pin (6). Secure pin (6) with bolt (7) and nut (8).

Assembly & Installation

(continued)

WARNING

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

STEP 5: Grease the inside of the auger collar liberally and attach the auger with the retaining bolt and nut that came attached to the drive unit spindle. This is a **special thread length** bolt - use genuine Danuser replacement parts only. For hex spindle, use Danuser PN 10038 (3/4"-10 x 4", Gr. 8, 3/4" of thread) **special** retaining bolt and nut PN 10041. NEVER use a bolt longer than 4". For round spindle, use Danuser PN 10039 (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread) **special** retaining bolt and nut PN 10042. NEVER use a bolt longer than 4-1/4".

NOTE Each time an auger or extension is attached to the drive unit, the inside of the collar should be coated liberally with grease.

STEP 6: The hydraulic fittings on the top of the drive unit are #10 JIC male. Install 1/2" Danuser Hose Kit if your unit delivers less than 20 GPM. Install 3/4" Danuser Hose Kit if your unit delivers 20 GPM or more. Danuser Hose Kits include abrasion sleeves. Since the motor is reversible, hose connections to motor fittings are interchangeable.

NOTE The hydraulic hoses should be equipped with a 45-degree fitting on the drive unit end.

NOTE All hoses and fittings used to connect the earth auger should be thoroughly cleaned before use. Care should be taken to see that no thread sealer or metal chips are forced to the inside of the joints when connections are being tightened.

STEP 7: If you did not purchase quick couplers with your unit, you must obtain and install the proper hydraulic quick couplers for your particular vehicle.

NOTE Fittings must be compatible with the fittings on your vehicle. Be sure the threads match on the hydraulic quick couplers you are using.

STEP 8: After you have tightened the drive unit connections, run the hoses through the hose holder on the quick attach plate and plug them into your auxiliary hydraulic outlets.

WARNING

Before connecting or 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.

STEP 9: Test the vehicle to make sure you have enough hose length to perform the full range of the loader arms' operating heights.

NOTE Hose routing is the responsibility of the operator. Pinched and/or stretched hoses are not covered under the warranty.

STEP 10: Check the hydraulic system for leaks.

WARNING

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, gangrene, blood poisoning, even death may result. Obtain medical attention immediately.

Operation

DANGER

This earth auger is designed for one-man operation from the vehicle seat. It is the responsibility of the operator to see that no one is within twenty-five feet (25') of the earth auger when it is started or in use. Do not operate the earth auger with another person near or in contact with any part of the drive unit or auger. Serious personal injury or death may result if any attempt is made to assist drilling operation by hand.

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

WARNING

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

DANGER

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

DANGER

Contact with underground gas lines or electrical cables may result in serious injury or death from explosion or electrical shock. Before operating, call 811 or the local number to locate underground utilities. Do not dig near underground utility lines.

WARNING

Differences in diameter and length of auger when combined with various heights of loader arms can allow the auger to come into contact with skid-steer or operator when earth auger is outside of cradle.

Before operating, check clearances between skid-steer and auger, as well as operator and auger, across the full range of loader arms' operating heights.

WARNING

Keep earth auger in cradle when not drilling. To reduce the risk of personal injury, never transport with the drive unit out of the cradle or while the auger is rotating.

WARNING

Before you operate the earth auger, check over all pins, bolts, and connections to be sure all are securely in place. Make sure the earth auger is securely latched to the vehicle.

STEP 1: Contact local utility companies to make certain there are no buried gas lines, electrical cables, etc., in the work area. Clear area of objects that could wrap around the auger or might be thrown. Check for ditches, stumps, holes, or other obstacles that could cause the vehicle to roll.

STEP 2: Layout and mark where you want to drill your holes.

STEP 3: Lower the auger point slowly to the ground with the auger not powered.

NOTE

Skid-steer mounted earth augers should not come in contact with the cradle during drilling maneuvers. Drill with the quick attach plate in the horizontal position.

STEP 4: With the auger point lowered to the ground and before engaging the auger, move the vehicle slowly left, right, forward, or backward as needed until the auger appears vertical to the ground.

STEP 5: Actuate the hydraulics to start the auger's rotation in the clockwise direction and increase the speed as required so dirt is conveyed from the hole.

NOTE

The hydraulic actuation lever connected to the earth auger will have three positions: clockwise rotation, stop (neutral), and counter-clockwise rotation. The clockwise and counter-clockwise positions may be changed by switching the hose connections.

DANGER

Never position the auger point by hand or with any tool when the vehicle is running. Never position the auger point by putting your hands on the auger or the drive unit.

Operation

(continued)

DANGER

To prevent injury, keep an area of at least twenty-five feet (25') around the auger clear of bystanders and all other people.

DANGER

Do not shovel dirt away from a rotating auger, as the shovel can be caught and thrown by the auger.

WARNING

Replace a broken, damaged, or missing auger retaining bolt **ONLY** with an authorized factory replacement. An auger retaining bolt that is too long increases the possibility of personal injury. The auger retaining bolt must be of the proper size and grade to function properly.

STEP 6: The hydraulic flow rate or pressure should not exceed the earth auger's specified maximums. The hydraulic minimums must be met to deliver satisfactory performance. Use only enough down pressure to assure positive penetration of the auger into the ground. Ease up on down pressure if auger rotation slows down drastically or stalls. Excessive down pressure will cause the auger to frequently stall. See Hydraulic Requirements section for filtration, pressure, and flow rate specifications.

NOTE If you have difficulty penetrating hard ground, refer to the Troubleshooting section.

STEP 7: When the auger has been lowered about 24 inches into the ground, raise the auger almost out of the hole to clear the dirt, then drill deeper and raise the auger again. Repeat this procedure until the desired hole depth is reached.

NOTE The earth auger should be raised and lowered by changing the elevation and not the tilt of the quick attach plate.

STEP 8: When the auger has reached the full depth required, allow the auger to dwell momentarily at this depth at a slower speed to assist in cleaning out the hole.

STEP 9: Deactivate the earth auger, and raise it from the hole.

NOTE For "heavy" soil conditions, allow the auger to turn at slow speed while raising it to the top of the hole.

STEP 10: Move away from the hole, then remove loose dirt from the auger by momentarily actuating the earth auger and spinning it at a faster speed than used for drilling.

STEP 11: If necessary, repeat STEPS 8 and 9 to obtain a cleaner hole.

NOTE 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. Do not attempt to pull the auger out of the ground. Instead, reverse the auger rotation (counter-clockwise), and slowly raise the auger. Once unstuck, continue operation.

NOTE If the auger becomes lodged under rocks, roots, or other large obstructions, do not attempt to pull the auger out of the ground. If this happens, reverse the auger rotation (counter-clockwise), and slowly raise the auger. Once unstuck, continue operation.

NOTE Since the earth auger uses a Grade 8 retaining bolt, all vehicles must be protected with relief valves or some other means of protection against excessive pressures. Failure of the retaining bolt is a possible indication of excessive pressure.

Replacement of the retaining bolt should be as follows:

- a) Shut off the vehicle engine, and remove the vehicle key.
- b) Install a new Danuser retaining bolt. This is a **special thread length** bolt - use genuine Danuser replacement parts only. For hex spindle, use Danuser PN 10038 (3/4"-10 x 4", Gr. 8, 3/4" of thread) **special** retaining bolt and nut PN 10041. NEVER use a bolt longer than 4". For round spindle, use Danuser PN 10039 (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread) **special** retaining bolt and nut PN 10042. NEVER use a bolt longer than 4-1/4".
- c) Tighten the retaining bolt and nut securely.

STEP 12: Deactivate the auger and place the drive unit in the cradle when moving between holes.

NOTE Frequently check the condition of the auger teeth and point, and replace them when wear is detected. Always keep spare parts on hand for replacements to avoid damage to the auger head and auger flighting.

Removal & Storage

DANGER

Never allow anyone under the attachment at any time.

WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.

CAUTION

Because of the weight of some components, and because some components are difficult to balance, two people are required for safe assembly and installation of this equipment.

Before storage, the earth auger should be thoroughly cleaned, washing off all dirt and grime. Make sure the hydraulic system is properly sealed against contaminants entering the unit. Always store the earth auger in a dry, covered location.

STEP 1: Lower the earth auger onto a flat, level surface in an area where children do not play.

STEP 2: Disconnect the hydraulic hoses from the vehicle's auxiliary hydraulics.

WARNING

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.

NOTE

Connect the quick couplers together to prevent contaminants from entering the earth auger's hydraulic system.

STEP 3: Follow your vehicle operator's manual for removing an attachment. Securely block and support the attachment.

STEP 4: Tighten any loose nuts, bolts, and hydraulic components.

STEP 5: Replace any damaged or missing safety signs.

Troubleshooting

Problem	Possible Cause	Solution
Slow speed	Low flow	Check with flow meter, and if low, investigate the cause
	Fittings or connections are too small or incompatible	Replace with proper fittings
	Line restrictions	Clear lines
	Dirty oil or oil filter	Change oil and oil filter according to vehicle manufacturer's recommendation
	Hydraulic pump worn or damaged	See your dealer for repairs
Auger will not drill	Worn teeth or point	Replace with new ones
	Ground too hard and dry	Order hardfaced or carbide teeth and point
Lacks drilling power	Low system pressure (PSI)	Check with pressure gauge, and if low, investigate the cause
Oil leaks	Fittings loose or damaged	Tighten or replace fittings
	Hoses loose or damaged	Tighten or replace hoses
	Hydraulic motor seals worn or damaged	See your dealer for repairs
Oil over heating	Low quantity of hydraulic oil	Fill reservoir to proper level and/or increase reservoir storage capacity
	Improper oil	Replace with proper oil
	Dirty oil or oil filter	Change oil and oil filter according to vehicle manufacturer's recommendation
	Fittings loose or damaged	Tighten or replace fittings
	Hoses loose or damaged	Tighten or replace hoses
	Improper hose size	Check hose diameter and length requirements
Hydraulic hose failure	Hydraulic relief pressure setting too high	Adjust vehicle hydraulic relief pressure setting to within drive unit specifications
	Hoses worn and damaged	Replace hoses
	Hose rating too low for hydraulic system pressure	Replace with hoses with working pressure rated higher than vehicle hydraulic pressure
	Hoses pinched	Reroute hoses

For additional assistance, please call your dealer or contact Danuser direct:

Tel: (573) 642-2246

Fax: (573) 642-2240

E-mail: sales@danuser.com

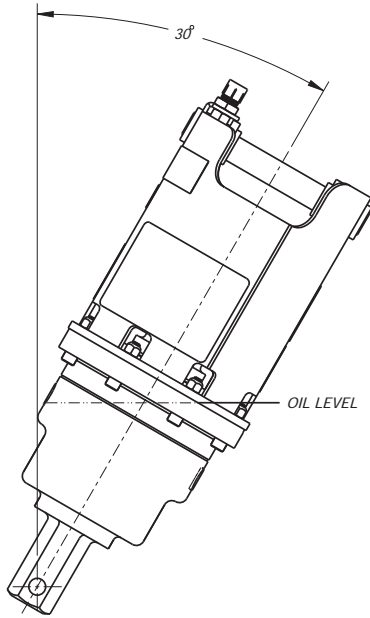
Maintenance & Lubrication

⚠ DANGER

Never allow anyone under the attachment at any time.

⚠ WARNING

Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the earth auger. Do not allow long hair, loose fitting clothing, or jewelry to be around moving and/or rotating parts.



Proper servicing and maintenance are key to the long life of any attachment. Careful inspection and routine maintenance helps avoid costly downtime and repair. Do not use the earth auger with any damaged parts.

⚠ WARNING

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, gangrene, blood poisoning, even death may result. Obtain medical attention immediately.

⚠ WARNING







Do not modify the attachment. Modifications may weaken the integrity of the attachment and may impair the safety, function, life, and performance of the earth auger.

⚠ CAUTION

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

Maintenance	Interval
Inspect the attachment for any damage, worn parts, or cracked welds. Repair or replace as necessary.	Before each use
Check for damaged or missing safety signs. Replace as necessary.	Before each use
Coat the inside diameter of the auger or extension collar with grease.	Each time an auger or extension is attached
Check all fasteners. Ensure they are tight and secure. (See Torque Values Chart.) Replace as necessary.	Daily
Check all hydraulic components for leaks or wear. Repair or replace as necessary.	Daily
Check planetary gear oil level to assure proper lubrication is maintained. Check by removing the front fill plug - with the drive unit angled approximately 30 degrees from vertical.	Daily
Check for clean hydraulic oil. At all times, keep dirt and other contaminants from entering the hydraulic system during connecting and disconnecting the hydraulic system. Always use dust caps and plugs on all quick disconnects when not in use.	Daily
Change planetary gear reduction oil after first 500 hours of operation or 6 months, then every 2000 hours or 12 months, whichever comes first. Use heavy duty extreme pressure lubricant API-GL-5 85W-140 for filling the planetary gear reduction. Approximate oil capacity is .90 quarts (.85 liters).	After 1st 500 hours, then every 2000 hours or yearly

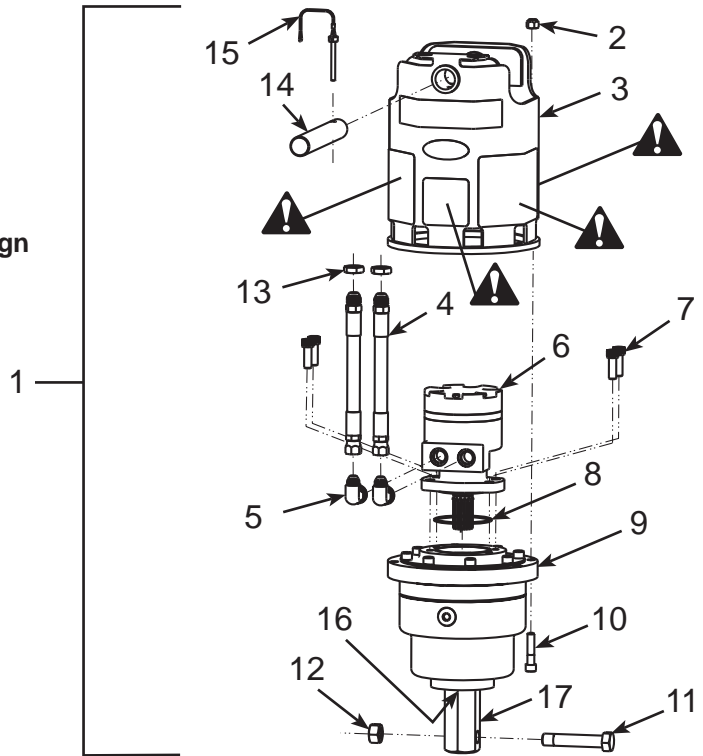
Torque Values Chart

Torque Values Chart													
Bolt Size (inches)	Bolt Head Identification						Bolt Size (Metric)	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8			 Class 5.8		 Class 8.8		 Class 10.9	
in-tpi	Nm	ft.-lbs.	Nm	ft.-lbs.	Nm	ft.-lbs.	mm x pitch	Nm	ft.-lbs.	Nm	ft.-lbs.	Nm	ft.-lbs.
1/4"-20	7.4	5.6	11	8	16	12	M5 x 0.8	4	3	6	5	9	7
1/4"-28	8.5	6	13	10	18	14	M6 x 1	7	5	11	8	15	11
5/16"-18	15	11	24	17	33	25	M8 x 1.25	17	12	26	19	36	27
5/16"-24	17	13	26	19	37	27	M8 x 1	18	13	28	21	39	29
3/8"-16	27	20	42	31	59	44	M10 x 1.5	33	24	52	39	72	53
3/8"-24	31	22	47	35	67	49	M10 x 0.75	39	29	61	45	85	62
7/16"-14	43	32	67	49	95	70	M12 x 1.75	58	42	91	67	125	93
7/16"-20	49	36	75	55	105	78	M12 x 1.5	60	44	95	70	130	97
1/2"-13	66	49	105	76	145	105	M12 x 1	90	66	105	77	145	105
1/2"-20	75	55	115	85	165	120	M14 x 2	92	68	145	105	200	150
9/16"-12	95	70	150	110	210	155	M14 x 1.5	99	73	155	115	215	160
9/16"-18	105	79	165	120	235	170	M16 x 2	145	105	225	165	315	230
5/8"-11	130	97	205	150	285	210	M16 x 1.5	155	115	240	180	335	245
5/8"-18	150	110	230	170	325	240	M18 x 2.5	195	145	310	230	405	300
3/4"-10	235	170	360	265	510	375	M18 x 1.5	220	165	350	260	485	355
3/4"-16	260	190	405	295	570	420	M20 x 2.5	280	205	440	325	610	450
7/8"-9	225	165	585	430	820	605	M20 x 1.5	310	230	650	480	900	665
7/8"-14	250	185	640	475	905	670	M24 x 3	480	355	760	560	1050	780
1"-8	340	250	875	645	1230	910	M24 x 2	525	390	830	610	1150	845
1"-12	370	275	955	705	1350	995	M30 x 3.5	960	705	1510	1120	2100	1550
1-1/8"-7	480	355	1080	795	1750	1290	M30 x 2	1060	785	1680	1240	2320	1710
1-1/8"-12	540	395	1210	890	1960	1440	M36 x 3.5	1730	1270	2650	1950	3660	2700
1-1/4"-7	680	500	1520	1120	2460	1820	M36 x 2	1880	1380	2960	2190	4100	3220
1-1/4"-12	750	555	1680	1240	2730	2010	<p>KEY: in-tpi = nominal thread diameter in inches-threads per inch Nm = Newton-meter ft.-lbs. = foot pounds mm x pitch = nominal thread diameter in millimeters by thread pitch</p>						
1-3/8"-6	890	655	1990	1470	3230	2380							
1-3/8"-12	1010	745	2270	1670	3680	2710							
1-1/2"-6	1180	870	2640	1950	4290	3160							
1-1/2"-12	1330	980	2970	2190	4820	3560							

Torque tolerance +0%, -15% of torque values. Unless otherwise specified, use torque values listed above.

Drive Unit Parts

 = Safety Sign Location



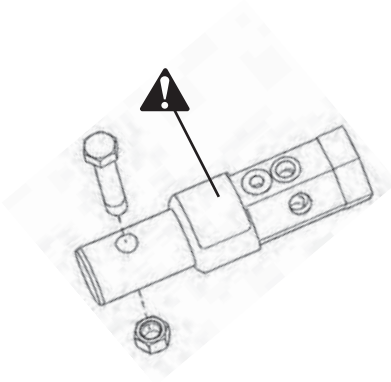
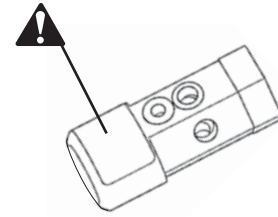
REF. NO.	PART NO.	DESCRIPTION	QTY.	MODELS
1	10180 (H) 20180 (R)	Drive Unit	1	EP6 Hex or Rd.
	10181 (H) 20181 (R)	Drive Unit	1	EP10 Hex or Rd.
	10182 (H) 20182 (R)	Drive Unit	1	EP15 Hex or Rd.
	20001 (H) 20184 (R)	Drive Unit	1	EP20 Hex or Rd.
2	10197	Nut (7/16"-14)	8	EP6, EP10, EP15, EP20
3	20186	Housing Assembly	1	EP6, EP10, EP15, EP20
4	20190	Hose Assembly	2	EP6, EP10, EP15, EP20
5	20034	#10 O-ring #8 JIC Elbow	2	EP6, EP10, EP15, EP20
6	10184	Hydraulic Motor	1	EP6
	10185	Hydraulic Motor	1	EP10
	10186	Hydraulic Motor	1	EP15
	10964	Hydraulic Motor	1	EP20
7	10482	Socket Head Bolt (M12 x 1.75 x 35mm)	4	EP6, EP10, EP15, EP20
8	10979	O-ring	1	EP6, EP10, EP15, EP20
9	10183	Planetary Gear Reduction	1	EP6, EP10, EP15, EP20 Hex
	20183	Planetary Gear Reduction	1	EP6, EP10, EP15, EP20 Rd.
10	10196	Socket Head Bolt (7/16"-14 x 2")	8	EP6, EP10, EP15, EP20
11	10038	Special Retaining Bolt - 2" Hex (3/4"-10 x 4", Gr. 8, 3/4" of thread)	1	EP6, EP10, EP15, EP20 Hex
	10039	Special Retaining Bolt - 2-9/16" Rd. (7/8"-9 x 4-1/4", Gr. 8, 3/4" of thread)		EP6, EP10, EP15, EP20 Rd.
12	10041	Nut (3/4"-10) - 2" Hex	1	EP6, EP10, EP15, EP20 Hex
	10042	Nut (7/8"-9) - 2-9/16" Round		EP6, EP10, EP15, EP20 Rd.
13	20191	Nut (7/8"-14)	2	EP6, EP10, EP15, EP20
14	10193	Pin (1-1/4" x 9-1/2")	1	EP6, EP10, EP15, EP20
15	20012	Lock Pin	1	EP6, EP10, EP15, EP20
16	10980	Output Seal	1	EP6, EP10, EP15, EP20
17	10996	Output Spindle - 2" Hex	1	EP6, EP10, EP15, EP20 Hex
	10997	Output Spindle - 2-9/16" Round		EP6, EP10, EP15, EP20 Rd.

Augers & Accessories

 = Safety Sign Location

AUGER COLLAR

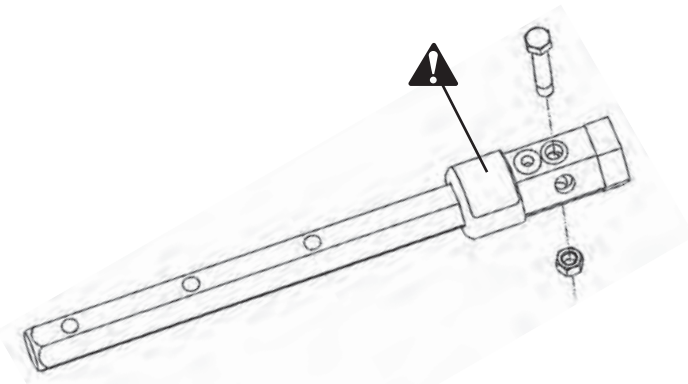
DESCRIPTION	PART NO.
2" Hex	10328
2-9/16" Rd.	10329



AUGER ADAPTERS

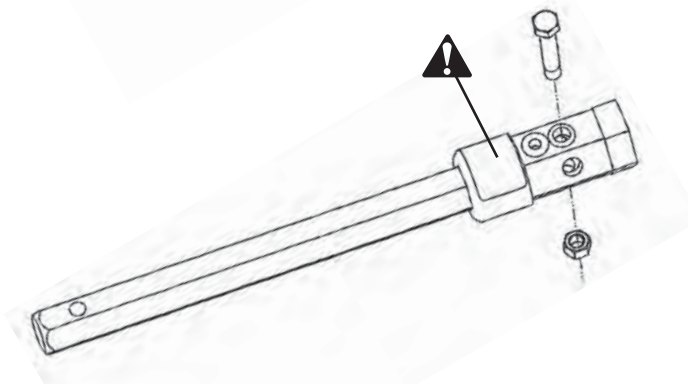
DRIVE UNIT		AUGER COLLAR	PART NO.
2" Hex	to	2-9/16" Rd.	10921
2" Hex	to	2" Rd.	10922
2-9/16" Rd.	to	2" Hex	10923
2-9/16" Rd.	to	2" Rd.	10924
2" Hex	to	2-9/16" Rd.	*20211
2-9/16" Rd.	to	2-9/16" Rd.	*20212
2" Hex	to	2" Rd.	*20214
2-9/16" Rd.	to	2" Rd.	*20215

*Allows attachment of augers with 1/2" diameter bolt.



VARIABLE LENGTH EXTENSIONS

LENGTH	2" HEX	2-9/16" RD.
12"	----	10903
24"	10900	10904
48"	10901	10905
72"	10902	10906

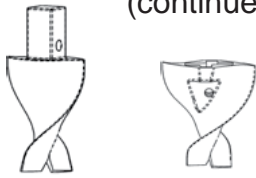


FIXED LENGTH EXTENSIONS

LENGTH	2" HEX	2-9/16" RD.
12"	10910	10914
24"	10911	10915
48"	10912	10916
72"	10913	10917

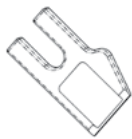
Augers & Accessories

(continued)



FISHTAIL POINT	
Dirt	10331
Hardfaced	10332
Chunky Carbide	10335
Nut	10412
Bolt	10413
4" diameter auger below	
Dirt	10333
Hardfaced	10334
Chunky Carbide	10336
Nut	10412
Bolt	10416

TEETH BOLT & NUT	
Carriage Bolt	10410
Nut	10411



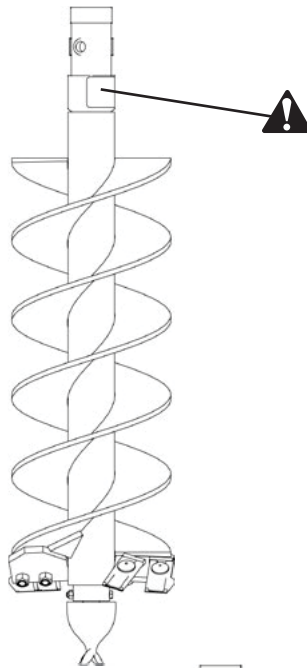
GAGE TOOTH	
Dirt	10340
Hardfaced	10341



WISDOM TOOTH	
Dirt	10337
Hardfaced	10338
Carbide	10339



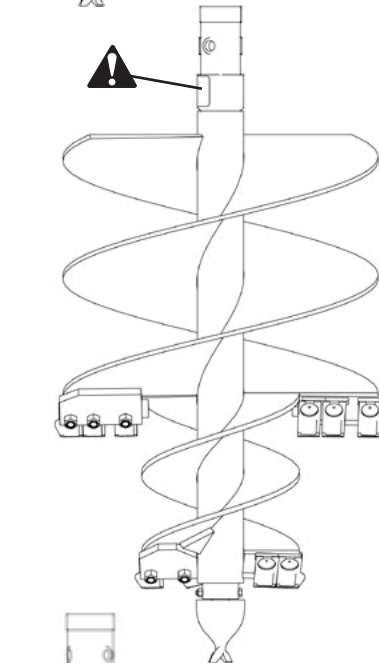
CHISEL TOOTH	
Dirt	10342
Hardfaced	10343
Carbide	10344



"FAB" AUGERS - 4' LENGTH

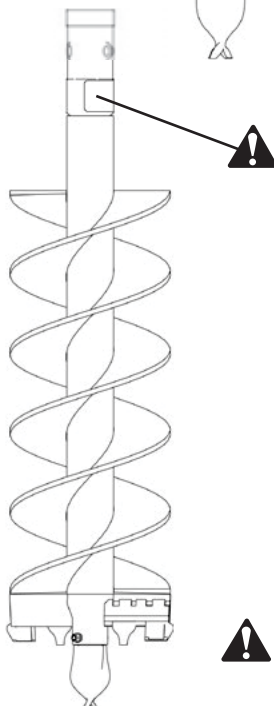
DIA.	NO. OF TEETH	2" HEX	2-9/16" RD.
4"	0	10600	10601
6"	2	10603	10604
8"	2	10606	10607
9"	3	10609	10610
10"	3	10612	10613
12"	4	10615	10616
15"	5	10618	10619
16"	5	10621	10622
18"	6	10624	10625
20"	6	10627	10628
24"	8	10630	10631
30"	9	10633	10634
36"	11	10636	10637

Please call Danuser for 3', 5', or 6' requests.



"TREE" AUGERS - 4' LENGTH

DIA.	NO. OF TEETH	2" HEX	2-9/16" RD.
18"-9"	7	10639	10640
24"-12"	10	10642	10643
30"-15"	11	10645	10646
36"-18"	13	10648	10649



"CAST" AUGERS - 4' LENGTH

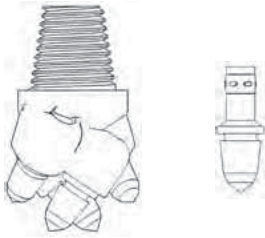
DIA.	NO. OF TEETH	2" HEX	2-9/16" RD.
6"	2	10657	10658
8"	4	10660	10661
9"	4	10663	10664
10"	4	10666	10667
12"	4	10669	10670
15"	6	10672	10673
16"	6	10675	10676
18"	6	10678	10679
20"	6	10681	10682
24"	8	10684	10685
30"	10	10687	10688
36"	12	10690	10691

Please call Danuser for 3', 5', or 6' requests.

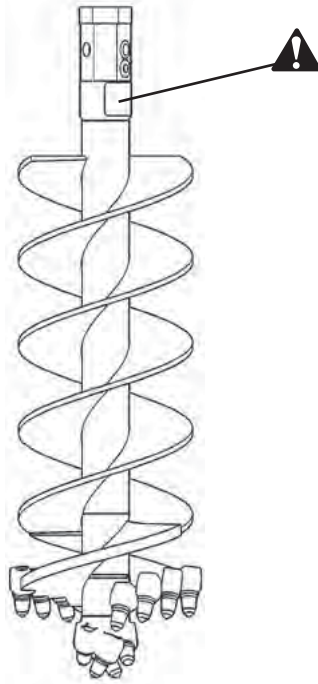
= Safety Sign Location

Augers & Accessories

(continued)

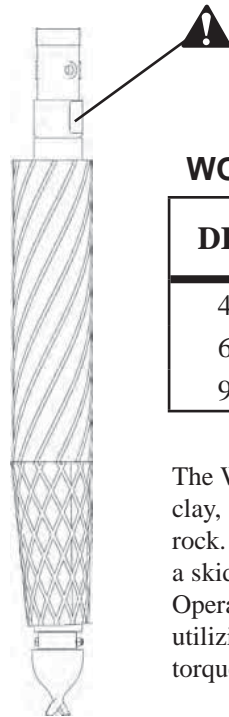


"BULLET" ROCK	
Pilot	10758
Tooth	10759
Tooth Holder	10760



"BULLET" ROCK AUGERS 4' LENGTH

DIA.	NO. OF TEETH	2" HEX	2-9/16" RD.
4.5"	4	10700	10701
6"	6	10703	10704
7"	8	10706	10707
8"	8	10709	10710
9"	8	10712	10713
10"	10	10715	10716
12"	12	10718	10719
15"	15	10740	10741
18"	18	10727	10728
24"	22	10730	10731
30"	24	10733	10734
36"	30	10736	10737



= Safety Sign Location

WOBBLE AUGERS - 4' LENGTH

DIA.	NO. OF TEETH	2" HEX	2-9/16" RD.
4"	N/A	20600	20601
6"	N/A	20603	20604
9"	N/A	20606	20607

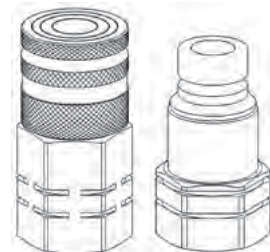
The Wobble Auger pushes through dirt, sand, clay, asphalt, compacted rock, and embedded rock. The 9" Wobble Auger should be used on a skid-steer with an Operating Load or Rated Operating Capacity of 2250 lbs. or greater, utilizing an auger drive with 2000 ft. lbs. of torque or greater.

See patent at danuser.com/patents.

HOSE KITS & COUPLERS

1/2" Hose Kit with flat face couplers	10050
3/4" Hose Kit with flat face couplers	10051
1/2" Hose Kit (includes fittings NOT couplers)	10043
3/4" Hose Kit (includes fittings NOT couplers)	10044
3/4" Front-End Loader Hose Kit, 25' long with flat face couplers and Pioneer couplers. Mounting bracket included for bolting or welding.	21350
Male Hydraulic Coupler	10048
Female Hydraulic Coupler	10049

FLAT FACE ISO COUPLERS



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Warranty

DANUSER

Model # _____

LIMITED WARRANTY

Serial # _____

Danuser LLC ("Danuser") warrants its products, under normal use and maintenance, to be free from defects in material and workmanship for period(s) specified below from the purchase date from an authorized Danuser Dealer. Start of the warranty period is determined by purchase date given on your returned WARRANTY REGISTRATION FORM. Proof of purchase may be required. This Limited Warranty is extended only to the original purchaser of Danuser products.

EP Drive Units - 3 Years Mountings - 1 Year Augers - 1 Year

Lifetime Warranty Covering EP Drive Unit Output Pull Out

Wear Items Not Covered Under Warranty - Hydraulic Hoses, Seals, Auger Teeth, and Auger Point

1. During the applicable warranty period, Danuser, at its option, will repair or replace any part determined by Danuser to be defective. Such repair or replacement shall take place at Danuser's factory or a location designated by Danuser. Under no circumstances shall Danuser be obligated for the cost of any repair or replacement by anyone other than Danuser without its express written consent.
2. Parts may not be returned without written authorization from Danuser.
3. Some purchased components, including but not limited to hydraulic motors, planetary gears, and augers, are subject to the inspection and warranty of the respective manufacturer. Thus, delays in a warranty determination can be expected while Danuser awaits their decision.
4. This warranty is void if any attempt is made to make field repairs to hydraulic motors or planetary gears. To qualify for warranty inspection, the complete drive unit must be returned in its original "failed" condition.
5. To make a claim under this warranty, first contact your authorized Danuser Dealer. The Danuser Dealer shall complete the Warranty Claim Form and obtain written authorization from Danuser to return parts. All warranty claims must include detailed information regarding make and model of vehicle on which the Danuser product was mounted, hours of use, description of events that led up to the failure, and any other information helpful in reviewing the warranty claim. All warranty returns must be prepaid. Shipments arriving at our factory on a freight collect basis will be refused by our receiving department. The freight charge will be credited if the parts are determined by Danuser to be defective, and the associated freight costs in returning those parts will be prepaid by Danuser. **NOTE:** Hydraulic motors must arrive with all ports sealed from dirt and moisture. If a motor arrives with open ports, the warranty is void and no inspection will be made.
6. Products or parts thereof which, as determined by Danuser's examination, show wear from normal use, have been improperly operated, damaged by accident or negligence, field repaired, altered or modified are not considered defective in material and workmanship and are not covered by this warranty. This warranty does not apply to parts subject to normal wear ("Wear Items") or to damage caused by the failure to perform recommended maintenance or to replace worn parts. This warranty shall not obligate Danuser to bear any cost of labor for field repair, replacement, testing, or adjustment nor for damage caused by accident, abuse, misuse, or environmental elements.
7. Any parts or labor required to repair or replace parts not covered under this warranty will be charged to the customer. Parts repaired or replaced by Danuser are then covered by this warranty only for the remainder of the original warranty as if such parts were original parts.
8. Danuser reserves the right to change its specifications and designs at any time.

This warranty is exclusive and in lieu of all other express warranties, if any, including the implied warranties of merchantability and fitness for a particular purpose. It shall not extend beyond the duration of the expressed warranty provided herein and the remedy for violations of any implied warranty shall be limited to repair or replacement of the defective part pursuant to the terms contained herein. No employee, dealer, salesman, or representative is authorized to change this warranty in any way or grant any other warranty. Danuser shall not be liable for any consequential, incidental, or punitive damages, losses, or expenses, including those resulting from or caused by any defects.

Danuser LLC
500 E. 3rd St.
P.O. Box 368
Fulton, MO 65251

Tel: (573) 642-2246
Fax: (573) 642-2240
E-mail: sales@danuser.com
Website: www.danuser.com

Form No. 3387