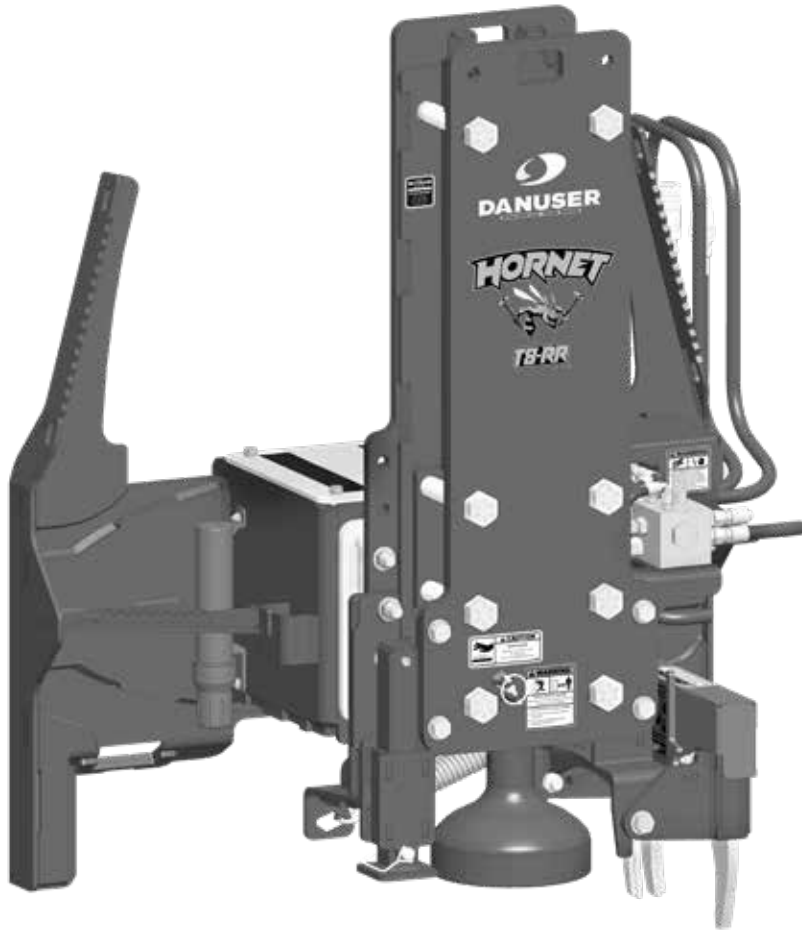


HORNET

**T7
T8-RR**



! 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 #: 9MHORNETT7T82460690

Operator's Manual

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



Dear Owner/Operator,

Thank you for purchasing this Danuser Hornet. We appreciate your business.

The Hornet is designed to drive posts. With the hydraulic grapple option, one person can pick up, load, and drive posts. The tilt option allows up to a 20° tilt left or right.

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 Hornet, read and understand this manual thoroughly. If there is anything you do not understand, immediately contact your dealer, or contact our factory direct.

Tel: (573) 642-2246
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 Machine Company, LLC
500 E. 3rd St.
P.O. Box 368
Fulton, MO 65251

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

Danuser provides this manual "as is" without warranty of any kind, either expressed or implied. Danuser assumes no responsibility for errors or omissions. Danuser assumes no liability for damages resulting from the use of the information contained herein. Danuser reserves the right to revise and improve its products as it sees fit. This manual describes the state of this product at the time of its publication and may not reflect the product in the future.

Danuser is a registered trademark.

Foreword

Please read this manual thoroughly!

Before you assemble, install, operate, maintain, service, remove, or move your Danuser Hornet, 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. 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 Hornet.





| <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 equipments. Failure to comply may lead to premature equipment failure. |

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Hornet

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 Danuser Hornet. If there is anything in this manual you do not understand, contact your dealer or Danuser. The safe use of this attachment is strictly up to you, the operator. If this attachment 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 Manual
- Is instructed in safe and proper use
- The Hornet is designed to be operated from the vehicle seat. Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Hornet.
- 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 Hornet.
- Please remember it is also 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. Danuser 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, gloves, and hearing protection are recommended during assembly, installation, operation, maintenance, service, removal, or movement of the attachment.
- Exposure to silica dust and other dust hazards can cause serious or fatal respiratory disease. Use appropriate respiratory protection.
- When the use of hand tools is required to perform any part of assembly, installation, operation, maintenance, or service of the attachment, 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 Hornet.
- 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 Hornet.
- 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.

Safety

(continued)

- Do not allow riders on the equipment at any time. There is no safe place for any riders.
- 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 drive posts or operate near underground utility lines.
- Stay away from power lines when transporting, raising, or operating the attachment. Electrocutation can occur without direct contact.
- The Hornet must be securely latched to the vehicle. Ensure both locking handles are in the locked position with pins fully seated. An improperly latched Hornet can fall without warning.
- Before you operate the attachment, check over pins and connections to be sure all are securely in place.
- Make sure all guards are in place and secure before operating equipment.
- 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.
- Keep clear of the Hornet while in operation. Never position, align, or support the post by hand or with any tool when the Hornet is in operation.
- Prolonged driving of a post can generate sufficient heat to ignite combustible posts. If this occurs, stop post driving operations and immediately extinguish.
- Driving tool can become hot while operating and remain hot after shutdown. Do not touch. Allow to cool before servicing.
- Do not exceed the vehicle's rated operating load. Use sufficient counterweights. Move the vehicle slowly when the attachment is raised.
- Carry the load low. 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 Hornet on steep hillsides. When operating the Hornet 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 Hornet. 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.
- 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 servicing or adjusting attachment, relieve all stored energy.
- Release power cell nitrogen gas pressure and hydraulic oil pressure before disassembling power cell.

Safety

(continued)

- 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.
- 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 Hornet.
- When making repairs or servicing the Hornet, use only parts that meet original equipment manufacturer's standards and requirements.
- Always use care when operating the Hornet. Most accidents occur because of neglect or carelessness.

Safety

Nitrogen Cylinder

Nitrogen is odorless, tasteless, and nonirritating. Although it is nontoxic and largely inert, it can act as a simple asphyxiant by displacing the oxygen in air to levels below that required to support life. Inhalation of nitrogen in excessive amounts can cause dizziness, nausea, vomiting, loss of consciousness, and death. The nitrogen cylinder is a potential hazard due to the energy it contains at high pressure. Improper handling can result in a high-pressure energy release. The nitrogen cylinder should be handled only by someone familiar with the hazards of compressed gases.

- Follow all national, state, and local regulations pertaining to the storage, use, and disposal of compressed nitrogen gas.
- Personal protection equipment including safety glasses, safety shoes, and gloves is recommended when handling nitrogen cylinder.
- Do not remove product label from nitrogen cylinder.
- Nitrogen cylinder protective cap must be installed at all times when cylinder is not in use.
- Do not interchange protective caps between cylinders.
- Never lift nitrogen cylinder by its protective cap or valve.
- When moving nitrogen cylinder, never drop, drag, roll, slide, or carry nitrogen cylinder in a horizontal position as the cylinder valve may be broken off.
- Subjecting nitrogen cylinder to mechanical shocks may cause damage to valve.
- Do not use nitrogen cylinder as a roller to move material or other equipment.
- Never allow any part of the nitrogen cylinder to be exposed to temperatures exceeding 125°F.
- Never permit nitrogen cylinder to become part of an electrical circuit.
- Never strike an arc on, allow sparks to contact, or flames to contact nitrogen cylinder.
- Do not discharge the contents from the nitrogen cylinder directly towards a person.
- Never use a damaged or leaking nitrogen cylinder. If cylinder is leaking, move to a well-ventilated area if it can be done safely. Contact a qualified supplier of compressed gases for repairs.
- If the protective cap becomes stuck, use an adjustable strap wrench to loosen. Never stick anything into the protective cap holes in an attempt to loosen the cap. Doing so may result in damage to valve.

Safety

(continued)

- Never use a wrench to open or close the nitrogen cylinder valve. If the valve is difficult to operate, discontinue use and contact a qualified supplier of compressed gases for repairs.
- Do not attempt to tighten or loosen nitrogen cylinder valve into or out of the cylinder.
- Never adjust or tamper with bonnet nut on nitrogen cylinder valve.
- The nitrogen cylinder is equipped with a pressure relief device. Do not tamper or modify this pressure relief device.
- Servicing of nitrogen cylinder pressure relief device is only to be performed by a qualified supplier of compressed gases.
- Do not obstruct nitrogen cylinder pressure relief device. Dirt, paint, corrosion, or other materials can prevent device from functioning properly.
- Always close nitrogen cylinder valve completely and install protective cap when not in use.
- Secure nitrogen cylinder when in storage, transit, or use.
- When transporting nitrogen cylinder, use an open or well-ventilated vehicle.
- Store nitrogen cylinder upright, with protective cap installed, and secure to a wall or vertical support by means of restraining straps or chains.
- Store nitrogen cylinder in a dry, cool, well-ventilated, secure area protected from the weather.
- Never expose nitrogen cylinder to corrosive materials such as ice melting compounds.
- Protect nitrogen cylinder from wet or damp ground.
- Never attempt to mix different gases in nitrogen cylinder or use nitrogen cylinder to store a different gas.
- Refilling of nitrogen cylinder is only to be performed by a qualified supplier of compressed gases.

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

DANGER

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

WARNING

This product can expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Decals & Safety Signs

Hornet Skid-Steer Mount

The Hornet 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: Unit, right side



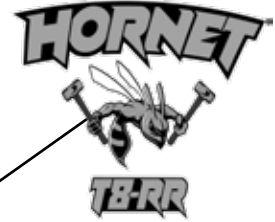
PART NO. CA65
Location: Unit, right side



PART NO. DANUSER107
Location: Unit, front



PART NO. 216040 - T7
PART NO. 216053 -T8-RR
Location: Unit, front



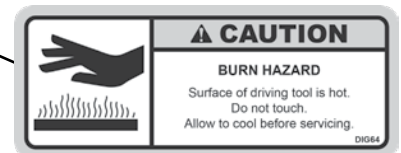
PART NO. DIG13
Location: Unit, right side



PART NO. DIG5
Locations: Manifold cover; Tilt, diverter cover



PART NO. DIG64
Location: Unit, front



PART NO. DIG65
Location: Unit, right side



PART NO. DIG61
Location: Unit, front



PART NO. 236003
Location: Nitrogen cylinder



WARNING

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

Decals & Safety Signs

(continued)

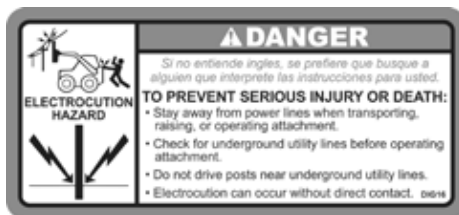
PART NO. DIG14
Location: Unit, rear



PART NO. DIG63
Location: Unit, rear



PART NO. DIG16
Location: Unit, rear



PART NO. DIG22
Location: Grapple cover, top



PART NO. DIG26
Locations: Grapple cover, right; Grapple cover, left



PART NO. PHDC6
Location: Grapple cylinder, top



PART NO. 196047
Location: Unit, rear



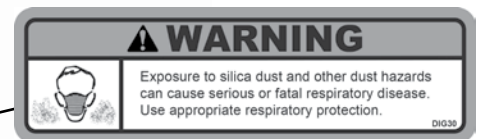
PART NO. DQR01
Location: Unit, rear



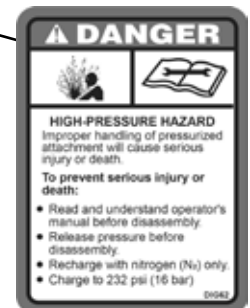
PART NO. DIG60
Location: Unit, rear



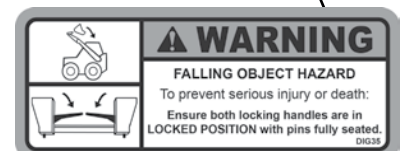
PART NO. DIG30
Location: Unit, rear (only provided with concrete breaking tools)



PART NO. DIG62
Location: Unit, left side



PART NO. DIG35
Location: Quick attach plate, rear right



PART NO. 206035
Location: Tilt quick attach plate, rear center



PART NO. DIG25
Location: Tilt quick attach plate, rear right



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

Decals & Safety Signs

Hornet Backhoe & Excavator Mount

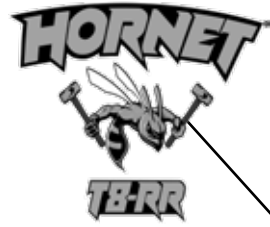
The Hornet comes equipped with all safety signs in place. Their locations are shown in this section. Read and follow their instructions and ensure their care:

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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).

PART NO. 216040 - T7
PART NO. 216053 - T8-RR
Location: Unit, front



PART NO. DANUSER107
Location: Unit, front



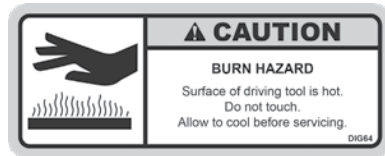
PART NO. DIG62
Location: Unit, left side



PART NO. DIG5
Location: Intermediate, front



PART NO. DIG64
Location: Unit, front



PART NO. DIG22
Location: Grapple cover, top



PART NO. DIG61
Location: Unit, front



PART NO. PHDC6
Location: Grapple cylinder, top



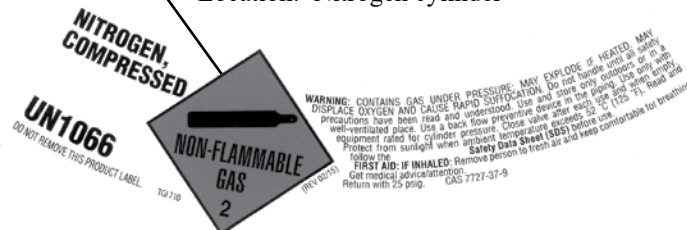
PART NO. DIG26
Locations: Grapple cover, right; Grapple cover, left



PART NO. 236003
Location: Nitrogen cylinder



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



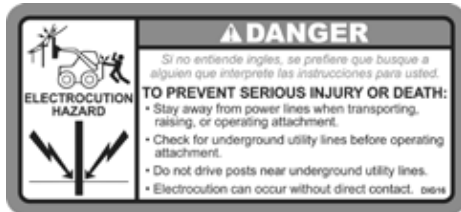
Decals & Safety Signs

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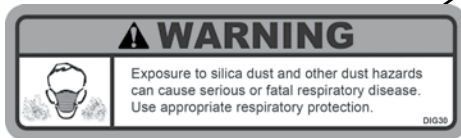
PART NO. DIG63
Location: Unit, rear



PART NO. DIG16
Location: Unit, rear



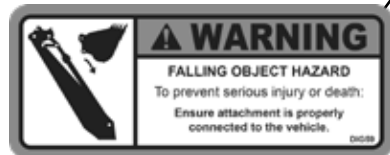
PART NO. DIG30
Location: Unit, rear (only provided with concrete breaking tools)



PART NO. 206034
Locations: Intermediate, back; Tilt, stop plate

GREASE

PART NO. DIG59
Location: Intermediate, right side



PART NO. DIG60
Location: Unit, rear



PART NO. 196047
Location: Unit, rear



PART NO. DQR01
Location: Unit, rear



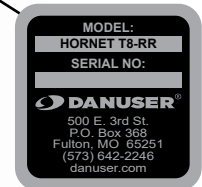
PART NO. CA65
Location: Unit, right side



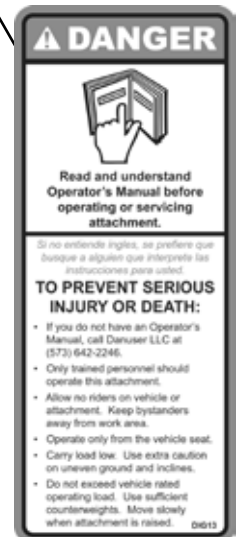
PART NO. DIG14
Location: Unit, rear



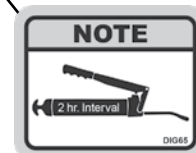
Model No. & Serial No.
Location: Unit, right side



PART NO. DIG13
Location: Unit, right side



PART NO. DIG65
Location: Unit, right side

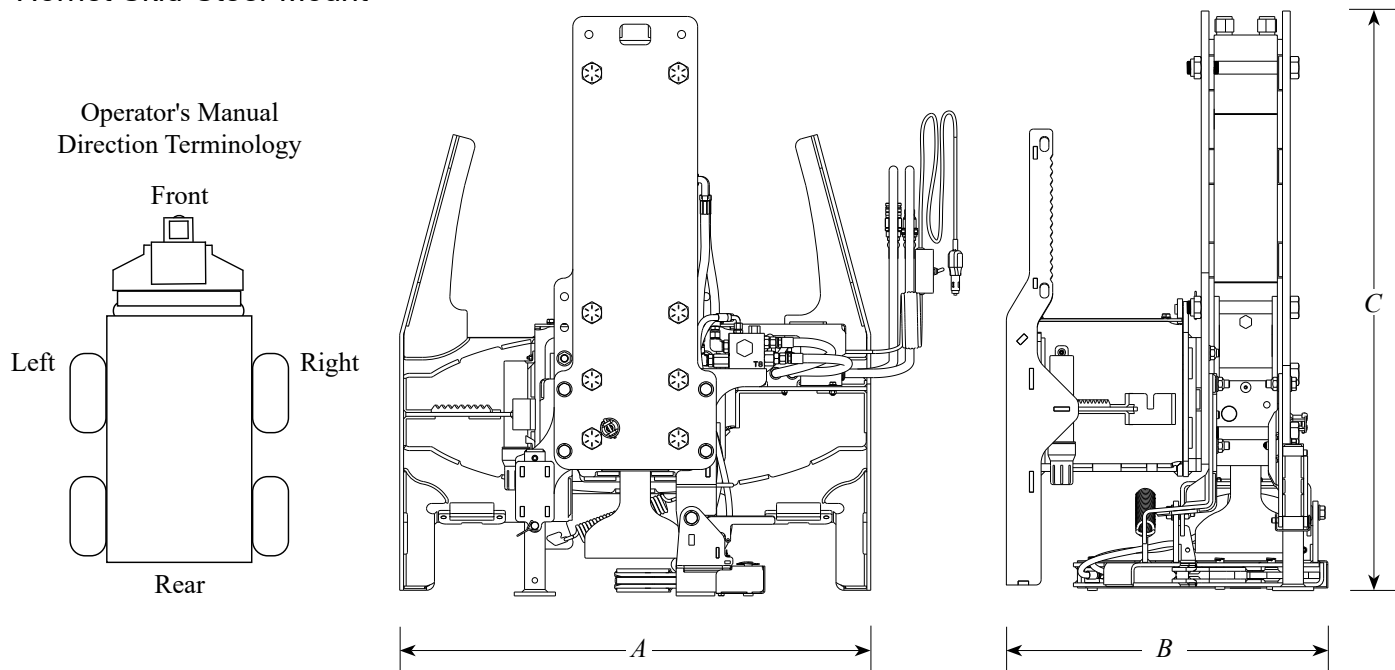


WARNING

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

Specifications

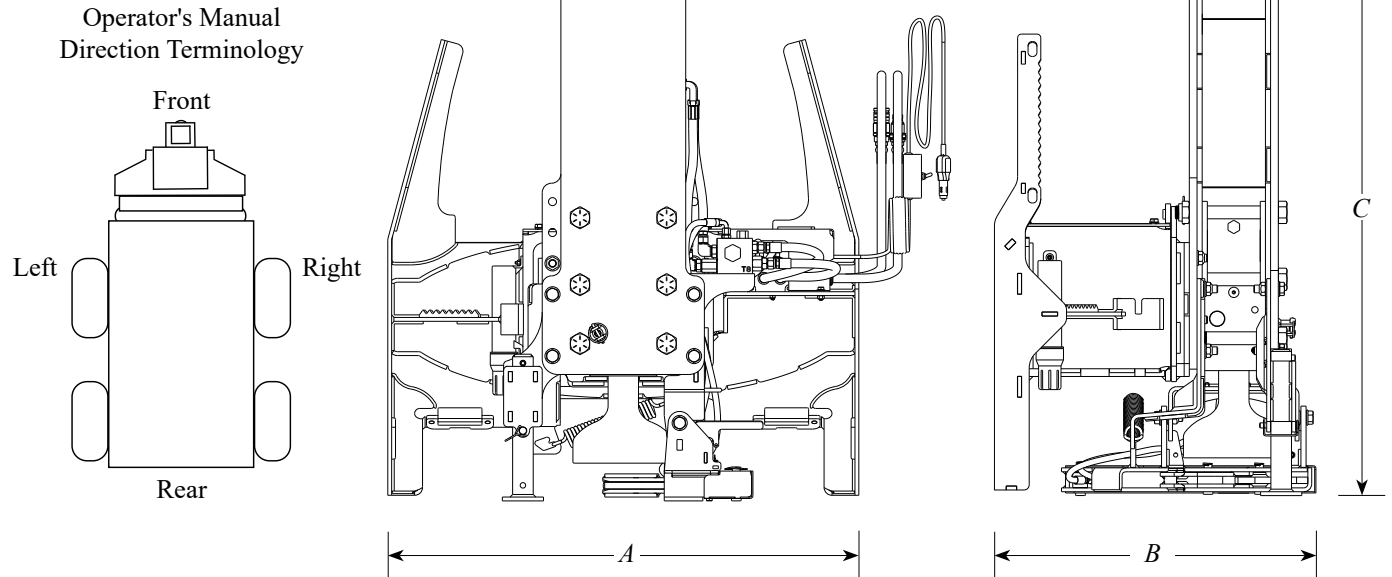
Hornet Skid-Steer Mount



| Hornet | Model T7 | Model T7 w/ Grapple | Model T7 w/ Tilt | Model T7 w/ Grapple & Tilt |
|-------------------------------------------------|--------------------------------------------------------|------------------------|--------------------------------------------------|-------------------------------|
| Overall Width (A) | 45.75" | | | |
| Overall Length (B) | 27" | 29.2" | 28.8" | 31" |
| Overall Height (C) | 46" | 48.8" | 46" | 48.8" |
| Base Weight | 1,241 lb. | 1,361 lb. | 1,376 lb. | 1,486 lb. |
| Optional Weight Kit | Up to 616 lb., 14 weight plates (44 lb. each) | | Up to 484 lb., 11 weight plates (44 lb. each) | |
| Max. Strikes per Minute | 500-900 | | | |
| Hydraulic Requirements | 2,000-3,500 PSI 10-30 GPM | | | |
| Driving Tool Shaft Diameter | 2.7" | | | |
| Driving Tool Inside Diameter (Max Post Size) | Domed: 7.27" Flat: 7.27" | | | |
| Energy Class | 750 ft.-lb. | | | |
| Mount | Skid-Steer Quick Attach (not for front-end loaders) | | | |

Specifications

(continued)

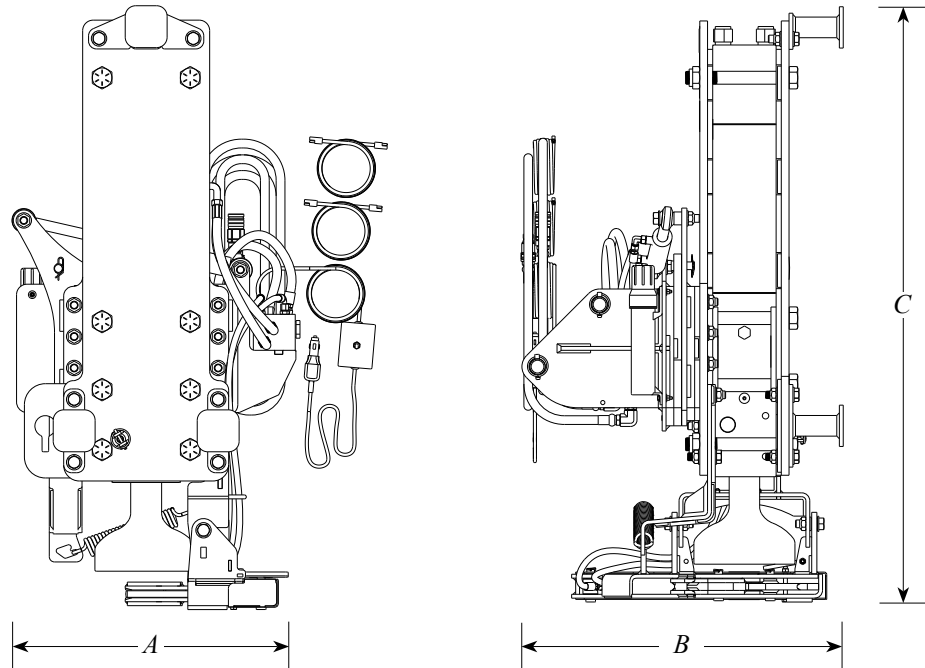
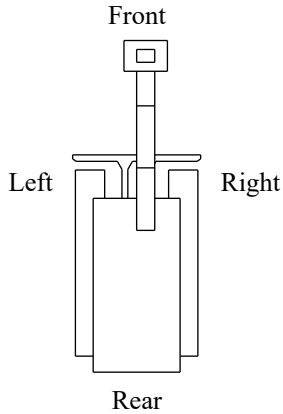


| Hornet | Model T8-RR | Model T8-RR w/ Grapple | Model T8-RR w/ Tilt | Model T8-RR w/ Grapple & Tilt |
|-------------------------------------------------|-----------------------------------------------------------|---------------------------|--------------------------------------------------|----------------------------------|
| Overall Width (A) | 45.75" | | | |
| Overall Length (B) | 27.4" | 29.4" | 29.2" | 31.2" |
| Overall Height (C) | 52.8" | 56.3" | 52.8" | 56.3" |
| Base Weight | 1,454 lb. | 1,584 lb. | 1,559 lb. | 1,679 lb. |
| Optional Weight Kit | Up to 616 lb., 14 weight plates (44 lb. each) | | Up to 484 lb., 11 weight plates (44 lb. each) | |
| Max. Strikes per Minute | 400-800 | | | |
| Hydraulic Requirements | 2,200-3,500 PSI 13-30 GPM | | | |
| Driving Tool Shaft Diameter | 3.0" | | | |
| Driving Tool Inside Diameter (Max Post Size) | Domed: 8.27" Flat: 8.27" Railroad Tie (Flat): 12.3" | | | |
| Energy Class | 1,150 ft.-lb. | | | |
| Mount | Skid-Steer Quick Attach (not for front-end loaders) | | | |

Specifications

Hornet Backhoe & Excavator Mount

Operator's Manual
Direction Terminology



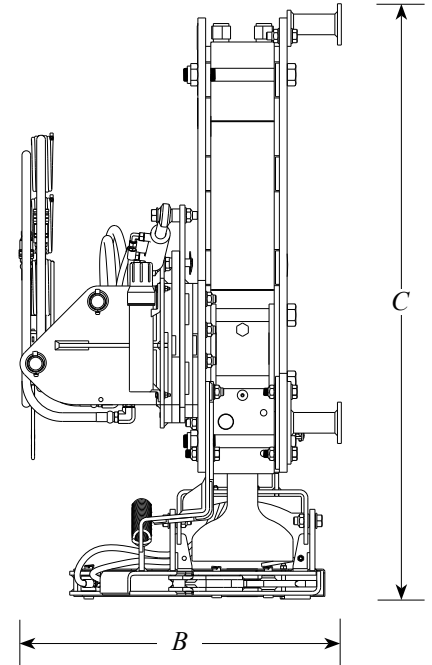
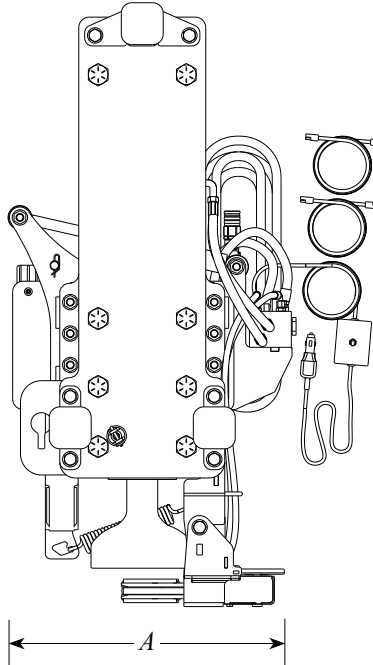
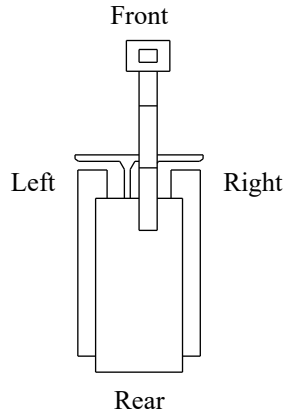
| Hornet | Model T7 | Model T7 w/ Grapple | Model T7 w/ Tilt | Model T7 w/ Grapple & Tilt |
|-------------------------------------------------|------------------------------|------------------------|---------------------|-------------------------------|
| Overall Width (A) | 27" | | | |
| Overall Length (B) | 29" | 29" | 31" | 31" |
| Overall Height (C) | 46.5" | 50.3" | 46.5" | 50.3" |
| Base Weight | 926 lb. | 1,051 lb. | 1,061 lb. | 1,186 lb. |
| Max. Strikes per Minute | 500-900 | | | |
| Hydraulic Requirements | 2,000-3,500 PSI 10-30 GPM | | | |
| Driving Tool Shaft Diameter | 2.7" | | | |
| Driving Tool Inside Diameter (Max Post Size) | Domed: 7.27" Flat: 7.27" | | | |
| Excavator Weight* | 9,000 lb. and over | | | |
| Energy Class | 750 ft.-lb. | | | |
| Mount | Backhoe & Excavator | | | |

*Do not exceed the rated operating capacity of your vehicle. The addition of a Hornet and its mount adds up to 1,600 lb. of additional weight. Verify that the vehicle has sufficient lifting capacity in each of the different vehicle positions. On Hornets with a grapple, the post weight will need to be considered as additional weight for lifting capacity considerations.

Specifications

(continued)

Operator's Manual
Direction Terminology



| Hornet | Model T8-RR | Model T8-RR w/ Grapple | Model T8-RR w/ Tilt | Model T8-RR w/ Grapple & Tilt |
|-------------------------------------------------|-----------------------------------------------------------|---------------------------|------------------------|----------------------------------|
| Overall Width (A) | 27" | | | |
| Overall Length (B) | 29.5" | 29.5" | 31.2" | 31.2" |
| Overall Height (C) | 53.5" | 57.7" | 53.5" | 57.7" |
| Base Weight | 1,119 lb. | 1,244 lb. | 1,254 lb. | 1,379 lb. |
| Max. Strikes per Minute | 400-800 | | | |
| Hydraulic Requirements | 2,200-3,500 PSI 13-30 GPM | | | |
| Driving Tool Shaft Diameter | 3.0" | | | |
| Driving Tool Inside Diameter (Max Post Size) | Domed: 8.27" Flat: 8.27" Railroad Tie (Flat): 12.3" | | | |
| Excavator Weight* | 13,500 lb. and over | | | |
| Energy Class | 1,150 ft.-lb. | | | |
| Mount | Backhoe & Excavator | | | |

*Do not exceed the rated operating capacity of your vehicle. The addition of a Hornet and its mount adds up to 1,600 lb. of additional weight. Verify that the vehicle has sufficient lifting capacity in each of the different vehicle positions. On Hornets with a grapple, the post weight will need to be considered as additional weight for lifting capacity considerations.

Hydraulic Requirements

Filtration Requirements:

- A filter of, at least, 10 micron filtration is required.

NOTE

The life of the hydraulic componentry 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 hydraulic componentry failure that is not covered by warranty.

Pressure and Flow Requirements:

- The Hornet T7 is designed to operate from 10-30 GPM and 2,000-3,500 PSI.
- The Hornet T8-RR is designed to operate from 13-30 GPM and 2,200-3,500 PSI.

Hydraulic Fluid Selection Requirements:

- Premium grade petroleum-based fluids will provide the best performance.
- Fluids that contain anti-wear agents, rust inhibitors, anti-foaming agents, and oxidation inhibitors are recommended.
- The power cell is to be charged with nitrogen (N₂) with a minimum purity of 99.98%.
- The nitrogen charge pressure is to be 232 PSI (16 bar).
- For detailed instruction on how to charge the power cell, see *Service* section, *Recharging Nitrogen*.

Nitrogen Requirements

Power Cell Grease Requirements

- The life of the equipment is heavily dependent upon the type of grease used and the frequency of greasing.
- Hydraulic breaker grease will provide the best performance.
- Greases that contain molybdenum disulfide, graphite, and/or copper are recommended.
- The following requirements must be met:
 - Dropping point must exceed 480°F
 - Minimum working temperature must be less than ambient temperature
 - Maximum working temperature must exceed 300°F
 - Grade NLGI 2
 - Water resistant

Assembly & Installation

Hornet Skid-Steer Mount

WARNING

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

Prepare the Vehicle

Read and understand the manual for your vehicle before assembling or installing the Hornet. The vehicle must be equipped with a skid-steer quick attach mount and auxiliary hydraulics. The use of the Hornet may require the addition of counterweights to ensure the combined weight of the attachment and load does not exceed the rated capacity of your vehicle.

WARNING

Do not exceed the vehicle's rated operating load. If necessary, use sufficient counterweights.

The use of a helper is recommended when assembling and installing the Hornet.

Recommended Tools

- 9/16" wrench
- Band cutter
- Grease gun

STEP 1: Place the pallet containing the Hornet on level ground.

STEP 2: Using a 9/16" wrench, remove the bolts securing the Hornet to the pallet. With the band cutter, remove banding from nitrogen cylinder, wiring harness (for tilt models), and box containing the post pulling chain and nitrogen gas charging kit. Attach the post pulling chain to the post pulling bracket. Store nitrogen cylinder and charging kit in an accessible location, not attached to the Hornet.

WARNING

The nitrogen cylinder is a potential hazard due to the energy it contains at high pressure. Improper handling can result in a high pressure energy release. The nitrogen cylinder should be handled by someone familiar with the hazards of compressed gas.

- Do not store nitrogen cylinder on or in Hornet.
- Never lift nitrogen cylinder by its protective cap or valve.
- When moving nitrogen cylinder, never drop, drag, roll, slide, or carry nitrogen cylinder in a horizontal position as the cylinder valve may be broken off.
- Subjecting nitrogen cylinder to mechanical shocks may cause damage to valve.
- Never allow any part of the nitrogen cylinder to be exposed to temperatures exceeding 125°F.
- Store nitrogen cylinder upright, with protective cap installed, and secure to a wall or vertical support by means of restraining straps or chains.
- Store nitrogen cylinder in a dry, cool, well-ventilated, secure area protected from the weather.
- Never expose nitrogen cylinder to corrosive materials such as ice melting compounds.
- Protect nitrogen cylinder from wet or damp ground.

Assembly & Installation

(continued)

⚠ WARNING

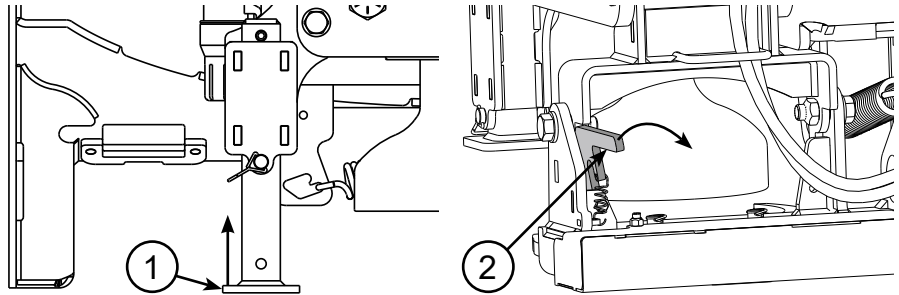
Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, service, removal, or movement of the Hornet.

STEP 3: Park the vehicle on level ground, and install the Hornet by following your vehicle operator's manual for installing an attachment.

⚠ WARNING

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

STEP 4: If equipped with grapple, raise the Hornet slightly, pin the parking stand (1) into the up position, and disengage the grapple lock (2). The grapple lock can be disengaged by rotating the yellow grapple lock handle clockwise while pressing down on the grapple cover. The grapple lock handle should rest against the grapple case when not in use.



STEP 5: Have the helper remove the klik pin as well as the small retention pin on the front of the unit.



STEP 6: Have the helper remove the large retention pin from the right side of the Hornet by using the smaller retention pin to push the larger retention pin out until it can be grasped and pulled by hand.



STEP 7: If attached to the pallet, remove the driving tool. Place the driving tool on an elevated platform such as a trailer bed.

Assembly & Installation

(continued)

DANGER

Never allow anyone under the attachment at any time.

STEP 8: Move the vehicle to the elevated platform and have the helper orient the driving tool so that the retention pin slot is facing the vehicle. When using the Hornet equipped with a grapple, blocking may be necessary.



WARNING

Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or hydraulic lines burst.

STEP 9: Pull the vehicle forward until the driving tool is aligned with the bushing on the bottom of the driver. Once the tool is aligned, slowly lower the driver onto the tool. Pay careful attention to the tilt angle of the driver.

STEP 10: Lower the driver until the retention pin slot can be seen through the retention pin hole.



STEP 11: Have the helper reinstall the large retention pin with the groove oriented to the right of the Hornet. (When the large retention pin is properly installed, the ends of the pin will be flush with the power cell on both sides.)



STEP 12: Have the helper reinstall the small retention pin and secure with klik pin.

STEP 13: Using a grease gun, grease zerk on the right-hand side of the power cell. If equipped with tilt, grease the three (3) zerks on the top front side of the weight box. For more information, see *Maintenance & Lubrication*.

Assembly & Installation

(continued)

STEP 14: Using the band cutter, remove zip-ties from hydraulic lines.

STEP 15: Connect the hydraulic hoses to the vehicle's auxiliary hydraulics.

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.

NOTE Ensure quick couplers are clean prior to connection

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

If the Hornet is equipped with tilt, follow Steps 16-18.

STEP 16: Connect the wiring harness to the diverter valve, and route the wires along the hydraulic hoses to the vehicle. Secure wires with zip-ties.

STEP 17: Route the control portion of the wiring harness along the loader arm of the vehicle and into the cab. Secure wires with zip-ties. Mount the switch out of the way of other controls.

NOTE Keep wiring a safe distance from hot components such as heater or exhaust.

STEP 18: Connect the wiring harness to a 12-volt auxiliary power outlet. If necessary, consult your dealer.

Assembly & Installation

(continued)

⚠ WARNING

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

⚠ CAUTION

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

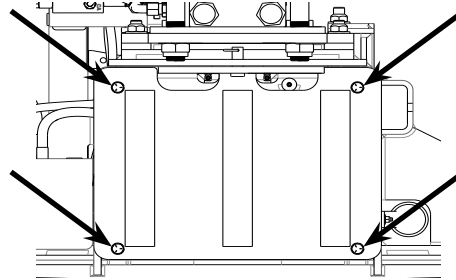
Installation of Additional Weight Kit

For reduced vibration, and more efficient driving, additional weight can be added by installing an additional weight kit, PN 200076 or PN 214201 (for tilt models).

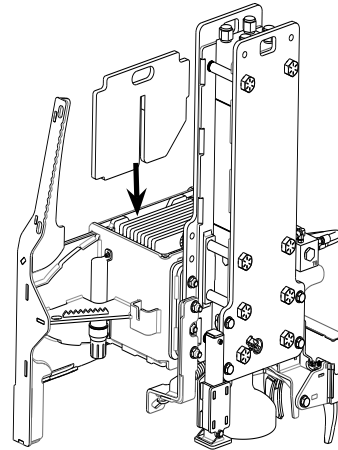
Recommended Tools

- 3/4" wrench

STEP 1: With the driver on a level surface, use a 3/4" wrench to remove the four (4) cover plate bolts and lock washers. Remove the cover plate.



STEP 2: Starting at the front of the weight box, insert ballast plates as shown.



STEP 3: Reinstall the cover plate and secure with the four (4) bolts and lock washers.

Assembly & Installation

Hornet Backhoe &
Excavator Mount

WARNING

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

Prepare the Vehicle

Read and understand the manual for your vehicle before assembling or installing the Hornet. The vehicle must be equipped with auxiliary hydraulics. The use of the Hornet may require the addition of counterweights to ensure the combined weight of the attachment and load does not exceed the rated capacity of your vehicle.

WARNING

Do not exceed the vehicle's rated operating load. If necessary, use sufficient counterweights.

The use of a helper is recommended when assembling and installing the Hornet.

Recommended Tools

- 9/16" wrench
- Band cutter
- Grease gun

STEP 1: Place the pallet containing the Hornet on level ground. With the band cutter, remove banding from nitrogen cylinder, wiring harness (for tilt models), and box containing the post pulling chain and nitrogen gas charging kit. Attach the post pulling chain to the post pulling bracket. Store nitrogen cylinder and charging kit in an accessible location, not attached to the Hornet.

WARNING

The nitrogen cylinder is a potential hazard due to the energy it contains at high pressure. Improper handling can result in a high pressure energy release. The nitrogen cylinder should be handled by someone familiar with the hazards of compressed gas.

- Do not store nitrogen cylinder on or in Hornet.
- Never lift nitrogen cylinder by its protective cap or valve.
- When moving nitrogen cylinder, never drop, drag, roll, slide, or carry nitrogen cylinder in a horizontal position as the cylinder valve may be broken off.
- Subjecting nitrogen cylinder to mechanical shocks may cause damage to valve.
- Never allow any part of the nitrogen cylinder to be exposed to temperatures exceeding 125°F.
- Store nitrogen cylinder upright, with protective cap installed, and secure to a wall or vertical support by means of restraining straps or chains.
- Store nitrogen cylinder in a dry, cool, well-ventilated, secure area protected from the weather.
- Never expose nitrogen cylinder to corrosive materials such as ice melting compounds.
- Protect nitrogen cylinder from wet or damp ground.

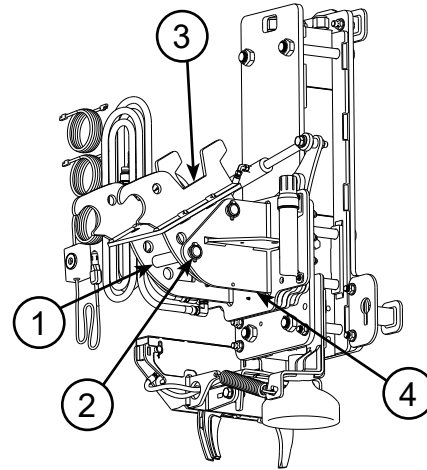
Assembly & Installation

(continued)

⚠ WARNING

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 Hornet.

STEP 2: Before removing the Hornet from the pallet, attach the vehicle mount. Remove the two vehicle mount pins (1) by removing the klik pins (2) from one side. Insert the vehicle mount (3) into the intermediate mount (4). Reinstall the two vehicle mount pins (1), one in the top set of holes and the other in the bottom middle set of holes in the mount. Reinstall the two klik pins (2).



STEP 3: With the Hornet still secured to the pallet, park the vehicle on level ground, and install the Hornet by following your vehicle operator's manual for installing an attachment.

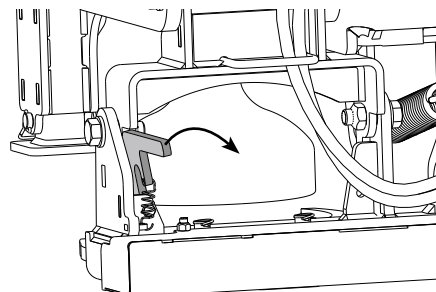
⚠ WARNING

The Hornet must be securely latched to the vehicle. Ensure quick attach latching method is properly secured. An improperly latched Hornet can fall without warning.

STEP 4: With the driver secured to the vehicle, use a 9/16" wrench to remove the bolts securing the Hornet to the pallet. Using the band cutter, remove the bands attaching the Hornet to the pallet.

STEP 5: Lift the driver off the pallet and test the range of motion. Watch for potential contact between the driver and the vehicle or vehicle's arm. If necessary, adjust the mounting location to improve the range of motion or to avoid contact between the vehicle and the Hornet. To adjust the mount, lay the driver down on the ground with its weight fully supported. Referencing the image from Step 2, remove the lower klik pin (2) and vehicle mount pin (1), and rotate the mount up or down as required. Reinstall the vehicle mount pin (1) and klik pin (2). Re-test the range of motion.

STEP 6: If equipped with grapple, raise the Hornet slightly and disengage the grapple lock. The grapple lock can be disengaged by rotating the yellow grapple lock handle clockwise while pressing down on the grapple cover. The grapple lock handle should rest against the grapple case when not in use.



Assembly & Installation

(continued)

STEP 7: Have the helper remove the klik pin as well as the small retention pin on the front of the unit.



STEP 8: Have the helper remove the large retention pin from the right side of the Hornet by using the smaller retention pin to push the larger retention pin out until it can be grasped and pulled by hand.



STEP 9: If attached to the pallet, remove the driving tool. Place the driving tool on an elevated platform such as a trailer bed.

STEP 10: Move the vehicle to the elevated platform and have the helper orient the driving tool so that the retention pin slot is facing the vehicle. When using the Hornet equipped with a grapple, blocking may be necessary.



⚠ WARNING

Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or hydraulic lines burst.

STEP 11: Pull the vehicle forward until the driving tool is aligned with the bushing on the bottom of the driver. Once the tool is aligned, slowly lower the driver onto the tool. Pay careful attention to the tilt angle of the driver.

⚠ DANGER

Never allow anyone under the attachment at any time.

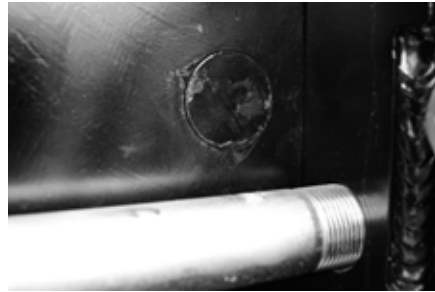
Assembly & Installation

(continued)

STEP 12: Lower the driver until the retention pin slot can be seen through the retention pin hole.



STEP 13: Have the helper reinstall the large retention pin with the groove oriented to the right of the Hornet. (When the large retention pin is properly installed, the ends of the pin will be flush with the power cell on both sides.)



STEP 14: Have the helper reinstall the small retention pin and secure with klik pin.

STEP 15: Using a grease gun, grease zerk on the right-hand side of the power cell. If equipped with tilt, grease the three (3) zerks on the back of the intermediate mount. For more information, see *Maintenance & Lubrication*.

STEP 16: Using the band cutter, remove zip-ties from the hydraulic lines.

STEP 17: Connect the hydraulic hoses to the vehicle's auxiliary hydraulics.

⚠ 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.

NOTE Ensure quick couplers are clean prior to connection.

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

If the Hornet is equipped with tilt, follow Steps 18-20.

STEP 18: Connect the wiring harness to the diverter valve, and route the wires along the hydraulic hoses to the vehicle. Secure wires with zip-ties.

Assembly & Installation

(continued)

STEP 19: Route the control portion of the wiring harness along the loader arm of the vehicle and into the cab. Secure wires with zip-ties. Mount the switch out of the way of other controls.

| |
|-------------|
| NOTE |
|-------------|

Keep wiring a safe distance from hot components such as heater or exhaust.

STEP 20: Connect the wiring harness to a 12-volt auxiliary power outlet. If necessary, consult your dealer.

Assembly & Installation

Changing Driving Tool

⚠ WARNING

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

The use of a helper is recommended when installing and changing driving tools.

If a tilt option is installed, make sure the lock pin is inserted.

NOTE

Only use Danuser driving tools with the Hornet. Using a non-Danuser driving tool could cause serious damage to the power cell and will void the warranty.

Recommended Tools

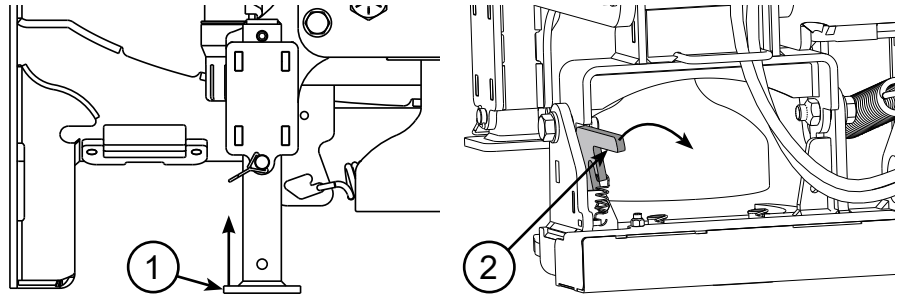
- Grease gun

STEP 1: Park the vehicle on level ground, and install the Hornet by following your vehicle operator's manual for installing an attachment. Do not connect the hydraulic hoses to the vehicle.

⚠ WARNING

The Hornet must be securely latched to the vehicle. Ensure quick attach latching method is properly secured. An improperly latched Hornet can fall without warning.

STEP 2: If equipped with grapple, raise the Hornet slightly, pin the parking stand (1) into the up position (skid-steer mounted Hornet), and disengage the grapple lock (2). The grapple lock can be disengaged by rotating the yellow grapple lock handle clockwise while pressing down on the grapple cover. The grapple lock handle should rest against the grapple case when not in use.



STEP 3: Move the Hornet to an elevated platform, such as a trailer bed, lowering the Hornet onto the platform until the driving tool is supported. When using a Hornet equipped with a grapple, blocking may be necessary.



⚠ WARNING

Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or hydraulic lines burst.

Assembly & Installation

(continued)

⚠ WARNING

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 Hornet.

⚠ DANGER

Never allow anyone under the attachment at any time.

STEP 4: Have the helper remove the klik pin as well as the small retention pin on the front of the unit.



STEP 5: Have the helper remove the large retention pin from the right side of the Hornet. Use the smaller retention pin to push the larger retention pin out until it can be grasped and pulled by hand. If the driving tool is properly supported, the large retention pin should slide out with ease.



STEP 6: Using the vehicle, raise the Hornet off the driving tool.



STEP 7: Back the vehicle away from the platform.

STEP 8: Have the helper set the new driving tool on the platform with the retention pin slot facing the vehicle.

STEP 9: Pull the vehicle forward until the driving tool is aligned with the bushing on the bottom of the driver. Once the tool is aligned, slowly lower the driver onto the tool. Pay careful attention to the tilt angle of the driver.

Assembly & Installation

(continued)

STEP 10: Lower the driver until the retention pin slot can be seen through the retention pin hole.



STEP 11: Have the helper reinstall the large retention pin with the groove oriented to the right of the Hornet. (When the large retention pin is properly installed, the ends of the pin will be flush with the power cell on both sides.)



STEP 12: Have the helper reinstall the small retention pin and secure with klik pin.

STEP 13: Using a grease gun, grease the zerk on the right-hand side of the power cell. For more information, see *Maintenance & Lubrication*.

Operation

Hornet Non-Grapple
Skid-Steer Mount

! DANGER

The Hornet is designed to be operated from the vehicle seat. Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Hornet.

! DANGER

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

! WARNING

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

! WARNING

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

! WARNING

Never place yourself between the vehicle and the attachment. Never allow anyone under the attachment at any time.

! WARNING

Carry the load low. 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.

! 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 drive near underground utility lines.

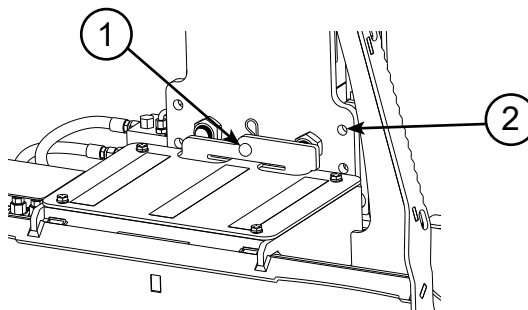
! DANGER

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

! WARNING

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

STEP 1: If the Hornet is equipped with tilt, remove the tilt lock pin (1) and store in the designated location (2).



STEP 2: If using the post pulling chain as a plumb bob and/or depth gauge, attach the post pulling chain to the post pulling bracket.

NOTE

To use post pulling chain as a depth gauge, adjust the length of the chain in the post pulling bracket so that the hook end touches the ground as the post reaches the desired depth.

Operation

(continued)

WARNING

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

STEP 3: Without the grapple, the Hornet 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 thirty inches (30") from the top of the post.

DANGER

When using a second person, do not activate the auxiliary hydraulics until the second person is clear from the work area.

STEP 4: After the post is in position, move the vehicle with the arms raised, and position the Hornet directly over the top of the post.

DANGER

Never allow anyone under the attachment at any time.

STEP 5: Lower the Hornet onto the top of the post, ensuring the post is inside the lower portion of the driving tool. Continue lowering the Hornet until the driving tool has moved up inside the power cell, and the weight of the Hornet is supported by the post.

DANGER

After the post is in position, the second person must move away from the Hornet and vehicle.

STEP 6: After the second person has cleared the area, place the loader arms in the float position. If the vehicle is not equipped with float, the loader arms should be lowered, applying down force to the post.

If the Hornet is equipped with tilt, follow Steps 7-9. If not, skip to Step 10.

STEP 7: Activate the electrical control switch.

STEP 8: Tilt the Hornet to a vertical position. Activate the auxiliary hydraulics in the forward direction to tilt the Hornet clockwise up to 20 degrees (20°). Activating the auxiliary hydraulics in reverse will tilt the Hornet counterclockwise up to 20 degrees (20°).

STEP 9: Deactivate the electrical control switch.

STEP 10: Move the vehicle slowly left, right, forward, or backward as needed until the post is vertical to the ground.

STEP 11: The Hornet 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.

NOTE

Maintain pressure on top of the post at all times while driving to prevent dry firing. Repeated dry firing of the Hornet will cause severe damage to the attachment and void all warranties.

STEP 12: Drive the post to the desired depth, and deactivate the auxiliary hydraulics. Raise the Hornet until the post is cleared, and move to the next post.

Operation

Hornet w/ Grapple
Skid-Steer Mount

! DANGER

The Hornet is designed to be operated from the vehicle seat. Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Hornet.

! DANGER

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

! WARNING

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

! WARNING

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

! WARNING

Never place yourself between the vehicle and the attachment. Never allow anyone under the attachment at any time.

! WARNING

Carry the load low. 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.

! 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 drive near underground utility lines.

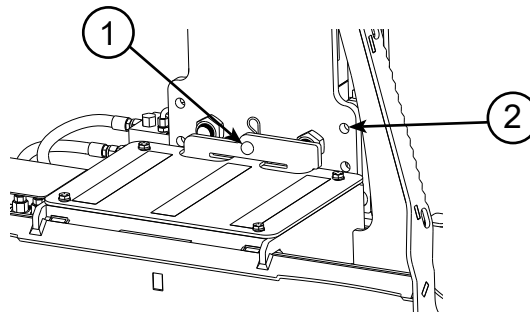
! DANGER

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

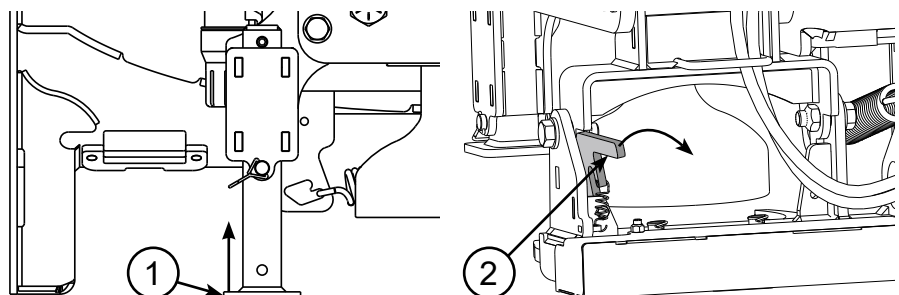
! WARNING

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

STEP 1: If the Hornet is equipped with tilt, remove the tilt lock pin (1) and store in the designated location (2).



STEP 2: Raise the Hornet slightly, pin the parking stand (1) into the up position, and disengage the grapple lock (2). The grapple lock can be disengaged by rotating the yellow grapple lock handle clockwise while pressing down on the grapple cover. The grapple lock handle should rest against the grapple case when not in use.



Operation

(continued)

WARNING

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

STEP 3: If using the post pulling chain as a plumb bob and/or depth gauge, attach the post pulling chain to the post pulling bracket.

NOTE

To use the post pulling chain as a depth gauge, adjust the length of the chain in the post pulling bracket so that the hook end touches the ground as the post reaches the desired depth.

STEP 4: Position the Hornet approximately two feet (2') off the ground with the Hornet tilted slightly forward so the grapple jaws are visible.

STEP 5: Drive the vehicle forward and position the grapple jaws around the post approximately one to two inches (1-2") from the top of the post.

NOTE

If the grapple jaws are positioned too far down the post, the top of the post will contact the outside edge of the driving tool. This will keep the post from properly feeding into the driving tool and could cause damage to the top of the post.

STEP 6: Activate the auxiliary hydraulics in the reverse direction for two (2) seconds or until the grapple jaws are firmly clamped around the post.

STEP 7: Raise the loader arms until the bottom of the post is above the ground.

STEP 8: Position the post in the desired location and lower the Hornet until the post is inside the lower portion of the driving tool.

STEP 9: Intermittently activate auxiliary hydraulics in the forward direction to release the grapple jaws from the post. The grapple will rotate up and away from the post.

STEP 10: Lower the Hornet onto the top of the post, ensuring the post is inside the lower portion of the driving tool. Continue lowering the Hornet until the driving tool has moved up inside the power cell, and the weight of the Hornet is supported by the post.

STEP 11: Place the loader arms in the float position. If the vehicle is not equipped with float, the loader arms should be lowered, applying down force to the post.

If the Hornet is equipped with tilt, follow Steps 12-14. If not, skip to Step 15.

STEP 12: Activate the electrical control switch.

STEP 13: Tilt the Hornet to a vertical position. Activate the auxiliary hydraulics in the forward direction to tilt the Hornet clockwise up to 20 degrees (20°). Activating the auxiliary hydraulics in reverse will tilt the Hornet counterclockwise up to 20 degrees (20°).

STEP 14: Deactivate the electrical control switch.

STEP 15: Move the vehicle slowly left, right, forward, or backward as needed until the post is vertical to the ground.

STEP 16: The Hornet 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.

NOTE

Maintain pressure on top of the post at all times while driving to prevent dry firing. Repeated dry firing of the Hornet will cause severe damage to the attachment and void all warranties.

STEP 17: Drive the post to the desired depth, and deactivate the auxiliary hydraulics. Raise the Hornet until the post is cleared, and move to the next post.

Operation

Hornet Non-Grapple
Backhoe & Excavator
Mount

! DANGER

The Hornet is designed to be operated from the vehicle seat. Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Hornet.

! DANGER

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

! WARNING

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

! WARNING

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

! WARNING

Never place yourself between the vehicle and the attachment. Never allow anyone under the attachment at any time.

! WARNING

Carry the load low. 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.

! 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 drive near underground utility lines.

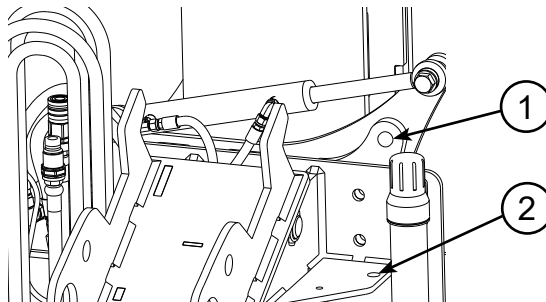
! DANGER

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

! WARNING

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

STEP 1: If the Hornet is equipped with tilt, remove the tilt lock pin (1) and store in the designated location (2).



STEP 2: If using the post pulling chain as a plumb bob and/or depth gauge, attach the post pulling chain to the post pulling bracket.

NOTE

To use post pulling chain as a depth gauge, adjust the length of the chain in the post pulling bracket so that the hook end touches the ground as the post reaches the desired depth.

Operation

(continued)

WARNING

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

STEP 3: Without the grapple, the Hornet 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 thirty inches (30") from the top of the post.

DANGER

When using a second person, do not activate the auxiliary hydraulics until the second person is clear from the work area.

STEP 4: After the post is in position, move the vehicle in position. It is recommended that the vehicle's blade faces the post. With the blade lowered, raise the Hornet and place directly over the top of the post.

DANGER

Never allow anyone under the attachment at any time.

WARNING

Do not exceed the vehicle's rated operating load. If necessary, use sufficient counterweights.

STEP 5: Lower the Hornet onto the top of the post, ensuring the post is inside the lower portion of the driving tool. Continue lowering the Hornet until the driving tool has moved up inside the power cell, and the weight of the Hornet is supported by the post.

DANGER

After the post is in position, the second person must move away from the Hornet and vehicle.

STEP 6: After the second person has cleared the area, the vehicle's arm should be lowered, applying down force to the post.

If the Hornet is equipped with tilt, follow Steps 7-9. If not, skip to Step 10.

STEP 7: Activate the electrical control switch.

STEP 8: Tilt the Hornet to a vertical position. Activate the auxiliary hydraulics in the forward direction to tilt the Hornet clockwise up to 20 degrees (20°). Activating the auxiliary hydraulics in reverse will tilt the Hornet counterclockwise up to 20 degrees (20°).

STEP 9: Deactivate the electrical control switch.

STEP 10: Move the vehicle slowly left, right, forward, or backward as needed until the post is vertical to the ground.

Operation

(continued)

Operation

Hornet w/ Grapple
Backhoe & Excavator
Mount

! DANGER

The Hornet is designed to be operated from the vehicle seat. Keep bystanders away from the work area. Do not operate with another person in contact with any part of the Hornet.

! DANGER

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

! WARNING

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

STEP 11: The Hornet can now be activated by turning the auxiliary hydraulics to the forward position. The vehicle's arm should be lowered as the post is driven into the ground.

NOTE

Maintain pressure on top of the post at all times while driving to prevent dry firing. Repeated dry firing of the Hornet will cause severe damage to the attachment and void all warranties.

STEP 12: Drive the post to the desired depth, and deactivate the auxiliary hydraulics. Raise the Hornet until the post is cleared, and move to the next post.

! WARNING

Carry the load low. 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.

! 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 drive near underground utility lines.

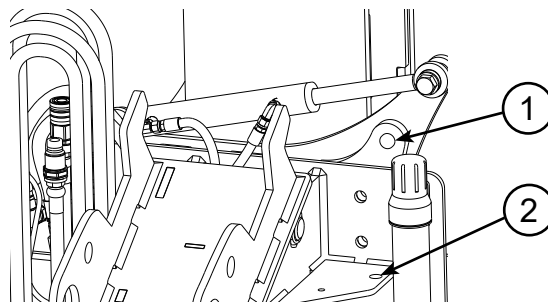
! DANGER

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

! WARNING

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

STEP 1: If the Hornet is equipped with tilt, remove the tilt lock pin (1) and store in the designated location (2).



Operation

(continued)

⚠ WARNING

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

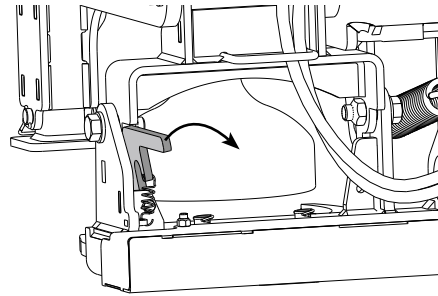
⚠ WARNING

Never place yourself between the vehicle and the attachment. Never allow anyone under the attachment at any time.

⚠ WARNING

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

STEP 2: Raise the Hornet slightly and disengage the grapple lock. The grapple lock can be disengaged by rotating the yellow grapple lock handle clockwise while pressing down on the grapple cover. The grapple lock handle should rest against the grapple case when not in use.



STEP 3: If using the post pulling chain as a plumb bob and/or depth gauge, attach the post pulling chain to the post pulling bracket.

NOTE

To use the post pulling chain as a depth gauge, adjust the length of the chain in the post pulling bracket so that the hook end touches the ground as the post reaches the desired depth.

STEP 4: With the Hornet positioned over the top of the vehicle's blade and the blade lowered, position the Hornet approximately two feet (2') off the ground. Tilt the Hornet slightly forward so the grapple jaws are visible.

STEP 5: Move the vehicle and/or its arm to position the grapple jaws around the post approximately one to two inches (1-2") from the top of the post.

⚠ WARNING

Do not exceed the vehicle's rated operating load. If necessary, use sufficient counterweights.

NOTE

If the grapple jaws are positioned too far down the post, the top of the post will contact the outside edge of the driving tool. This will keep the post from properly feeding into the driving tool and could cause damage to the top of the post.

STEP 6: Activate the auxiliary hydraulics in the reverse direction for two (2) seconds or until the grapple jaws are firmly clamped around the post.

STEP 7: Raise the vehicle's arm until the bottom of the post is above the ground.

STEP 8: Position the post in the desired location and lower the Hornet until the post is inside the lower portion of the driving tool.

STEP 9: Intermittently activate auxiliary hydraulics in the forward direction to release the grapple jaws from the post. The grapple will rotate up and away from the post.

STEP 10: Lower the Hornet onto the top of the post, ensuring the post is inside the lower portion of the driving tool. Continue lowering the Hornet until the driving tool has moved up inside the power cell, and the weight of the Hornet is supported by the post.

STEP 11: Lower the vehicle's arm to apply down force to the post.

Operation

(continued)

If the Hornet is equipped with tilt, follow Steps 12-14. If not, skip to Step 15.

STEP 12: Activate the electrical control switch.

STEP 13: Tilt the Hornet to a vertical position. Activate the auxiliary hydraulics in the forward direction to tilt the Hornet clockwise up to 20 degrees (20°). Activating the auxiliary hydraulics in reverse will tilt the Hornet counterclockwise up to 20 degrees (20°).

STEP 14: Deactivate the electrical control switch.

STEP 15: Move the vehicle slowly left, right, forward, or backward as needed until the post is vertical to the ground.

STEP 16: The Hornet can now be activated by turning the auxiliary hydraulics to the forward position. The vehicle's arm should be lowered as the post is driven into the ground.

NOTE

Maintain pressure on top of the post at all times while driving to prevent dry firing. Repeated dry firing of the Hornet will cause severe damage to the attachment and void all warranties.

STEP 17: Drive the post to the desired depth, and deactivate the auxiliary hydraulics. Raise the Hornet until the post is cleared, and move to the next post.

Operation

Pulling Posts

The Hornet is capable of pulling posts. To use the post pulling feature on the Hornet, follow the instructions below.

NOTE

Do not use grapple to pull posts, as it may damage the attachment and void all warranties.

STEP 1: Remove the post pulling chain from the Hornet.

STEP 2: Wrap the hook end of the post pulling chain twice around the base of the post, and secure the hook back to the chain.

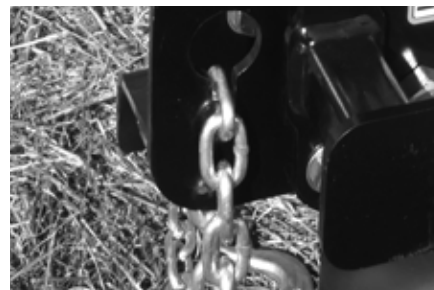
STEP 3: Position the Hornet so that the post pulling bracket is near the post. On excavator models, it is recommended that the tilt lock pin is installed (if applicable), the vehicle's arm is positioned over the blade, the blade is in the down position, and the Hornet is retracted as close to the vehicle as possible to maximize pulling performance.

STEP 4: Lower the Hornet to the ground.

STEP 5: Pull the chain tight. Pass the end of the chain through the post pulling bracket and secure by placing a link in the slot.



Skid-steer mounted Hornet
post pulling bracket



Backhoe & excavator mounted
Hornet post pulling bracket

Operation

(continued)

Removal & Storage

Hornet Skid-Steer Mount

DANGER

Never allow anyone under the attachment at any time.

WARNING

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

STEP 6: Raise the Hornet to remove the post.

WARNING

Reduce lifting force once the post starts to loosen from the ground. Large or deeply set posts that require high pulling force can cause the vehicle to become unstable if the post suddenly breaks loose or the chain slips.

WARNING

Do not exceed the vehicle's rated operating load. If necessary, use sufficient counterweights.

STEP 7: Slowly lower the Hornet to the ground while moving the vehicle, or vehicle's arm, forward, backward, left, or right as needed to guide the post down to the ground to the front and right of the Hornet.

STEP 8: Remove the post pulling chain from the post.

Before storage, the Hornet 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 Hornet in a dry, covered location.

STEP 1: Remove and store the post pulling chain.

STEP 2: If equipped with tilt, install the tilt lock pin in the lock out position.

STEP 3: If equipped with a grapple, lower the parking stand by pulling the square wire lock pin and repositioning it in the top hole of the leg. Rotate the grapple underneath the power unit, then rotate the grapple lock counterclockwise to lock the grapple in the storage position.

NOTE Always store the Hornet with the grapple horizontal.

STEP 4: Lower the Hornet onto a flat, level surface in an area where children do not play.

STEP 5: Disconnect the hydraulic hoses from the vehicle's auxiliary hydraulics.

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.

NOTE Connect the quick couplers together to prevent contaminants from entering the Hornet hydraulic system.

STEP 6: If equipped with tilt, disconnect the tilt wiring harness.

STEP 7: Follow your vehicle operator's manual for removing an attachment.

Removal & Storage

(continued)

⚠ CAUTION

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

Removal & Storage

Hornet Excavator & Backhoe Mount

⚠ DANGER

Never allow anyone under the attachment at any time.

⚠ WARNING

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

⚠ CAUTION

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

STEP 8: Tighten any loose nuts, bolts, and hydraulic components.

STEP 9: Replace any damaged or missing safety signs.

STEP 10: Using a grease gun, grease the zerk on the right-hand side of the power cell. If equipped with tilt, grease the three (3) zerks on the top front of the weight box. For more information, see *Maintenance & Lubrication*.

Before storage, the Hornet 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 Hornet in a dry, covered location.

STEP 1: Remove and store the post pulling chain.

STEP 2: With the Hornet in the horizontal position, lower it onto a flat, level surface in an area where children do not play.

STEP 3: Disconnect the hydraulic hoses from the vehicle's auxiliary hydraulics.

⚠ 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.

NOTE

Connect the quick couplers together to prevent contaminants from entering the Hornet hydraulic system.

STEP 4: If equipped with tilt, disconnect the tilt wiring harness.

STEP 5: Follow your vehicle operator's manual for removing an attachment.

STEP 6: Tighten any loose nuts, bolts, and hydraulic components.

STEP 7: Replace any damaged or missing safety signs.

STEP 8: Using a grease gun, grease the zerk on the right-hand side of the power cell. If equipped with tilt, grease the three (3) zerks on the back of the intermediate mount. For more information, see *Maintenance & Lubrication*.

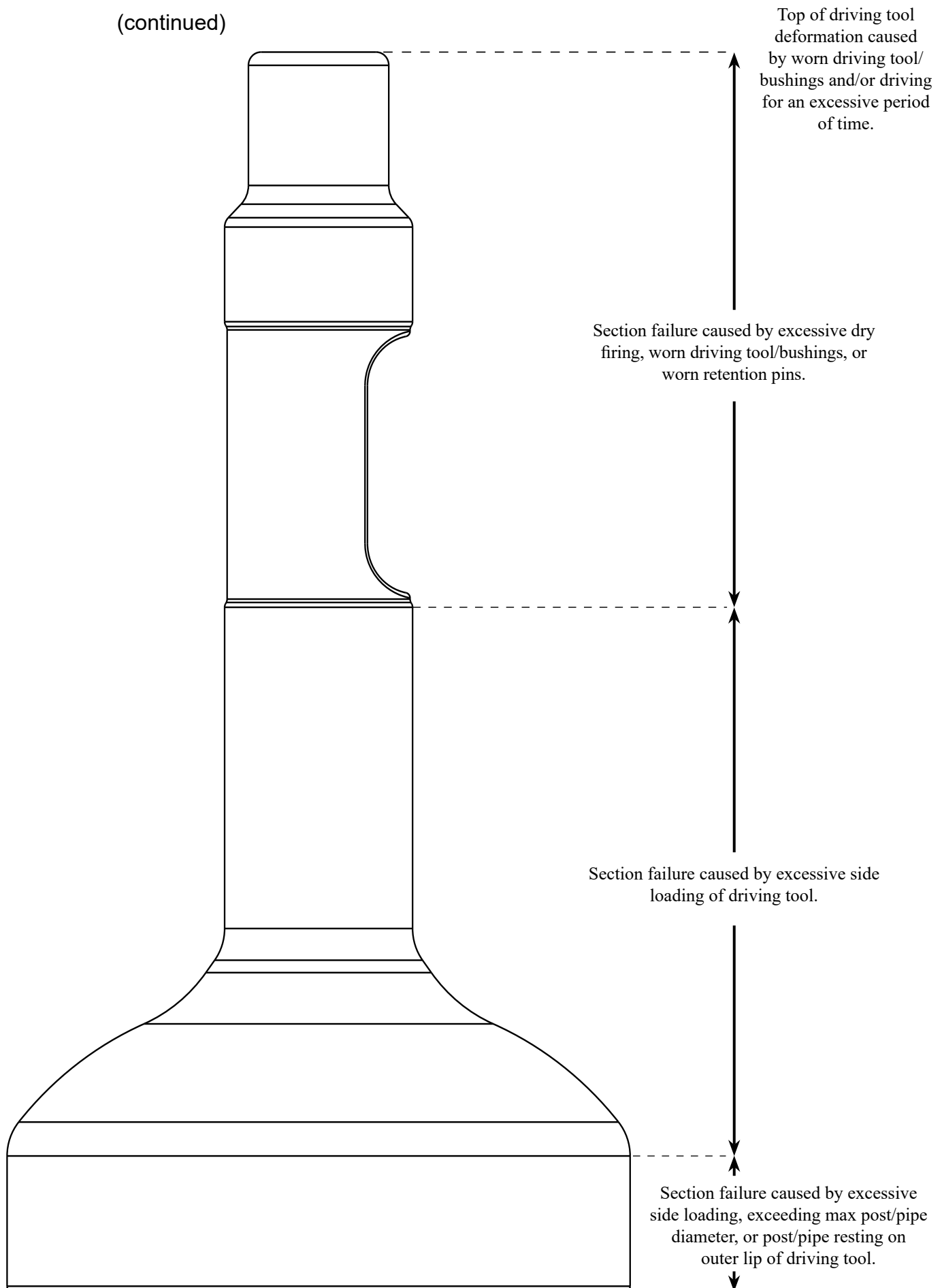
Troubleshooting

| Problem | Possible Cause | Solution |
|---------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Smaller post/pipe not driving straight | Post/pipe not centered in driving tool | Install domed driving tool if applicable. |
| Post splintering | Improper driving tool usage | Install flat driving tool if applicable. |
| | Post is too large to fit inside driving tool | Use proper sized posts. |
| Vehicle battery is dead | Tilt switch was activated too long | Deactivate tilt switch when Hornet is not in use. |
| Retaining pins stuck in power cell | Lack of grease | Drive pins out, inspect for wear (replace if necessary), and follow proper greasing interval. |
| Power cell will not operate | Incorrect hose routing | Refer to <i>Parts</i> for proper hose routing. |
| | Lack of hydraulic pressure | Verify vehicle is producing the minimum hydraulic pressure requirement for the power cell. |
| | Power cell damaged | Contact Danuser. |
| | Hydraulic oil temperature too low | Hydraulic oil temperature should be at least 86°F. |
| Power cell firing, but driving tool is not moving | Broken driving tool | Remove driving tool and inspect. |
| Poor driving performance | Low nitrogen pressure | Check nitrogen pressure. Refer to <i>Service</i> . |
| | Broken driving tool | Remove driving tool and inspect. |
| Operational sound change | Broken driving tool | Remove driving tool and inspect. |
| | Nitrogen pressure not set properly | Check nitrogen pressure. Refer to <i>Service</i> . |
| | Internal damage to the power cell | Contact Danuser. |
| Excessive vibration | Not operating in float mode | Use float mode if applicable. |
| | Not applying enough down force on post | Ensure the driving tool is fully seated on the post. |
| | No additional ballast plates added | Refer to <i>Installation of Additional Weight Kit</i> |
| Oil over heating | High flow activated | Ensure vehicle is not in high flow mode. |
| | Low oil level | Fill reservoir to proper level. |
| | Dirty oil or oil filter | Change oil and filter. |
| Tilt not working | No power to solenoid | Check electrical connections. Ensure switch is activated. |
| | Tilt lock pin in place | Remove tilt lock pin. Refer to <i>Operation</i> . |
| | Solenoid not working | Contact Danuser. |
| | Air in hydraulic system | Cycle hydraulics tilting Hornet fully left and right. |
| | Incorrect hose routing | Refer to <i>Parts</i> for proper hose routing. |
| | Tilt obstruction | Ensure tilt mechanism can move freely. |
| | Cylinder damaged | Contact Danuser. |
| Grapple not working | Air in hydraulic system | Cycle hydraulics until grapple jaws fully close and open. |
| | Incorrect hose routing | Refer to <i>Parts</i> for proper hose routing. |
| | Grapple obstruction | Ensure grapple mechanism can move freely. |
| | Cylinder damaged | Contact Danuser. |
| Power cell hydraulic leak | Internal seals damaged | Contact Danuser. |
| | Loose power cell tie rods/nuts | Tighten in a diagonal sequence as necessary. |
| Broken driving tool | See image on next page for location of failure and possible cause. | |

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

Tel: (573) 642-2246
E-mail: sales@danuser.com

(continued)



Maintenance & Lubrication

DANGER

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

DANGER

Never allow anyone under the attachment at any time.

DANGER

Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or hydraulic lines burst.

WARNING

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

WARNING

Before servicing or adjusting attachment, relieve all stored energy.

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 Hornet 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 Hornet.

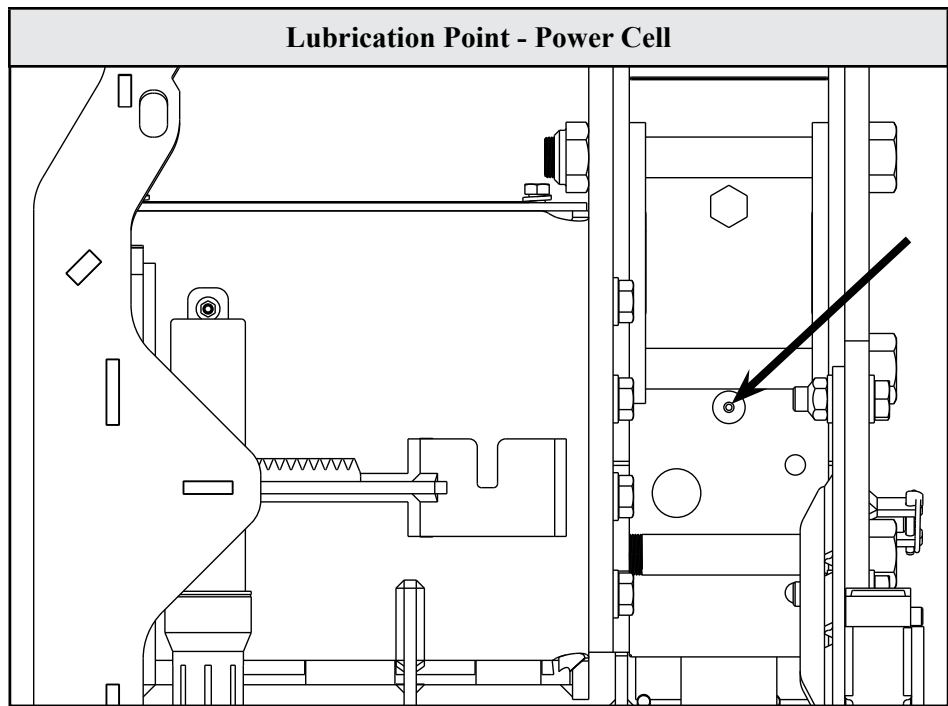
CAUTION

When making repairs or servicing the Hornet, 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 |
| Check all fasteners. Ensure they are tight and secure. (Refer to <i>Torque Values Chart</i> .) Replace as necessary. | Daily |
| Check all hydraulic components for leaks or wear. Repair or replace as necessary. | 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 or connect couplers together when not in use. | Daily |
| Check nitrogen charge pressure. Refer to <i>Service</i> . | Every 50 hours or annually |

Maintenance & Lubrication

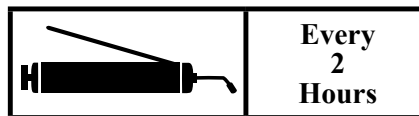
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Power Cell - 1 Zerk

Reference *Power Cell Grease Requirements* section.

Add grease, five to seven (5-7) pumps

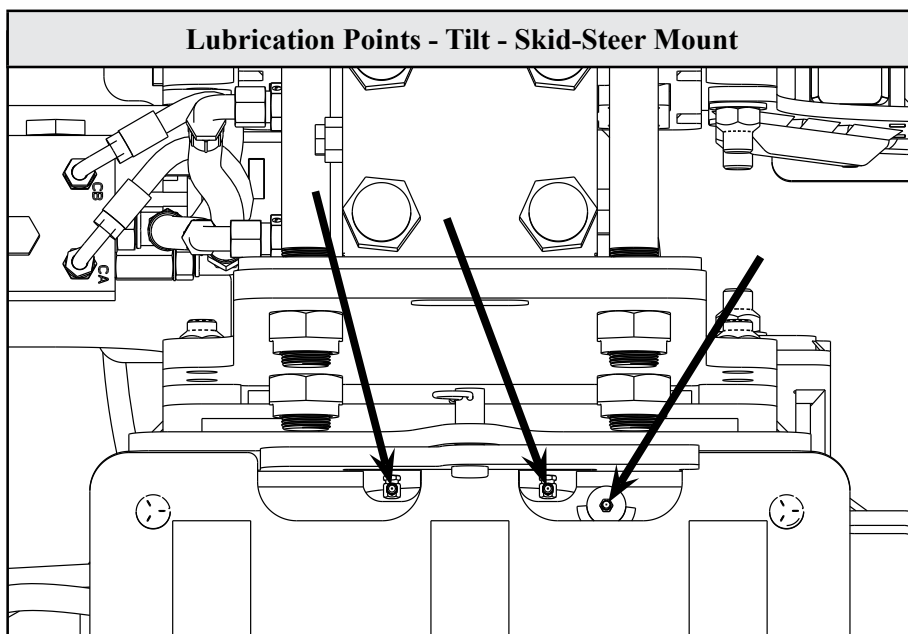


Grease Interval:

- The power cell should be greased every two (2) hours of use. Generally, five to seven (5-7) pumps from a grease gun is sufficient.
- The number of pumps from a grease gun may vary slightly depending on grease selection, working conditions, and rate of bushing/driving tool wear.
- When changing driving tools, the power cell should also be greased.
- Insufficient greasing can cause rapid wear of driving tool, bushings, and/or retention pins.

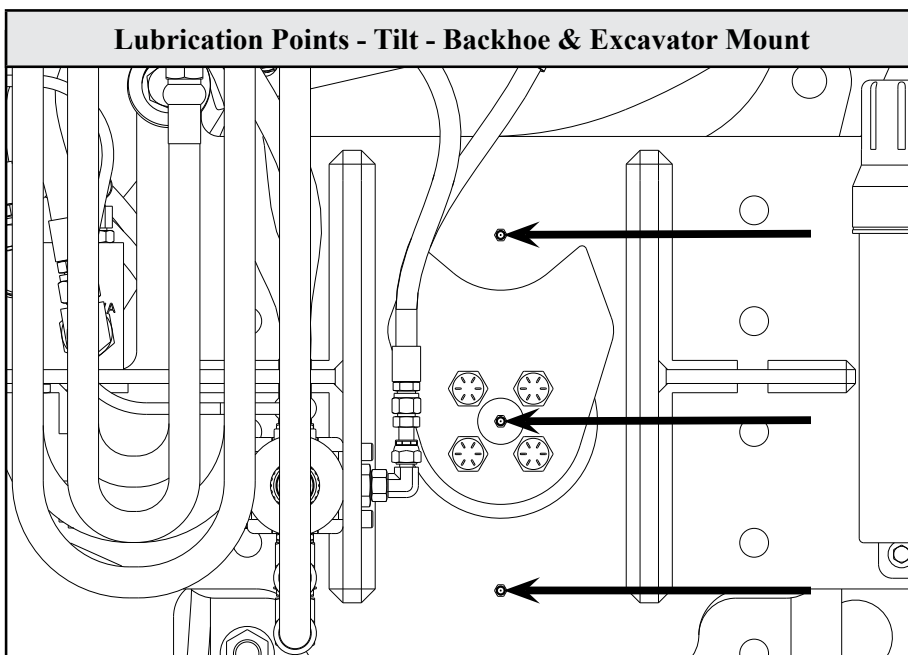
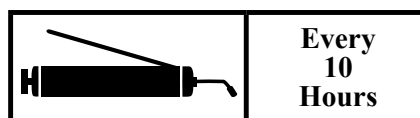
Maintenance & Lubrication

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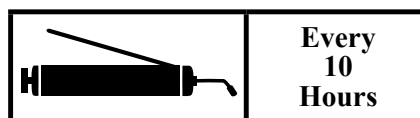
Tilt Plate - 2 Zerks
Tilt Shaft - 1 Zerk

Add multi-purpose grease until grease emerges



Tilt Plate - 2 Zerks
Tilt Shaft - 1 Zerk

Add multi-purpose grease until grease emerges



Service

Power Cell Nitrogen

! DANGER

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

! DANGER

Never allow anyone under the attachment at any time.

! DANGER

Never work under equipment supported by hydraulics. Even with the vehicle shut off, equipment can suddenly drop if controls are actuated or hydraulic lines burst.

! WARNING

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

! WARNING

Before servicing or adjusting attachment, relieve all stored energy.

! WARNING

Nitrogen is odorless, tasteless, and nonirritating. Although it is nontoxic and largely inert, it can act as a simple asphyxiant by displacing the oxygen in air to levels below that required to support life. Inhalation of nitrogen in excessive amounts can cause dizziness, nausea, vomiting, loss of consciousness, and death. The nitrogen cylinder is a potential hazard due to the energy it contains at a high pressure. Improper handling can result in high-pressure energy release. Nitrogen cylinder should be handled only by someone familiar with the hazards of compressed gases.

Pressure Inspection

Recommended Tools

- Nitrogen fill gauge assembly (supplied with unit)
- Adjustable wrench

STEP 1: Using an adjustable wrench, remove the hex cap plug from the top left-hand side of the power cell.

STEP 2: Remove the nitrogen fill gauge assembly from its case, retract the plunger fully, and hand tighten both the pressure adjusting knob and the fill port cap.

STEP 3: Attach the nitrogen fill gauge to the power cell by hand tightening the boss directly behind the plunger.

NOTE

Ensure all fittings are clean prior to connection.

STEP 4: Push the plunger inward.

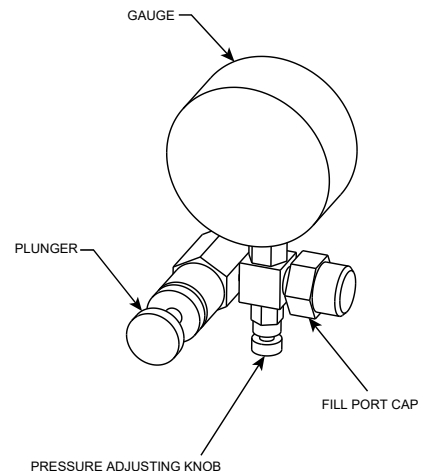
STEP 5: The pressure gauge indicates the power cell internal nitrogen pressure.

NOTE

The pressure should be set at 232 PSI (16 bar). If the pressure is correct, proceed to Step 6. If not, proceed to the *Recharging Nitrogen* section.

STEP 6: Retract the plunger.

STEP 7: Slowly unscrew the pressure adjusting knob until a short burst is heard. If nitrogen continues to be released, the plunger is not retracted all the way, and the unit will need to be recharged.



! WARNING

Do not discharge the contents of the nitrogen fill gauge directly towards a person.

STEP 8: With the plunger retracted, verify the pressure gauge reads zero.

STEP 9: Remove the nitrogen fill gauge assembly from the power cell.

STEP 10: Reinstall the hex cap plug.

Service

(continued)

Recharging Nitrogen

Recommended Tools

- Nitrogen cylinder (supplied with unit)
- Nitrogen fill hose (supplied with unit)
- Nitrogen fill gauge assembly (supplied with unit)
- Adjustable wrench
- Strap, chain, or bungee cord

STEP 1: With the Hornet in a vertical position for skid-steer mounted versions or a horizontal position for backhoe & excavator mounted versions, lower the Hornet onto a flat, level surface.

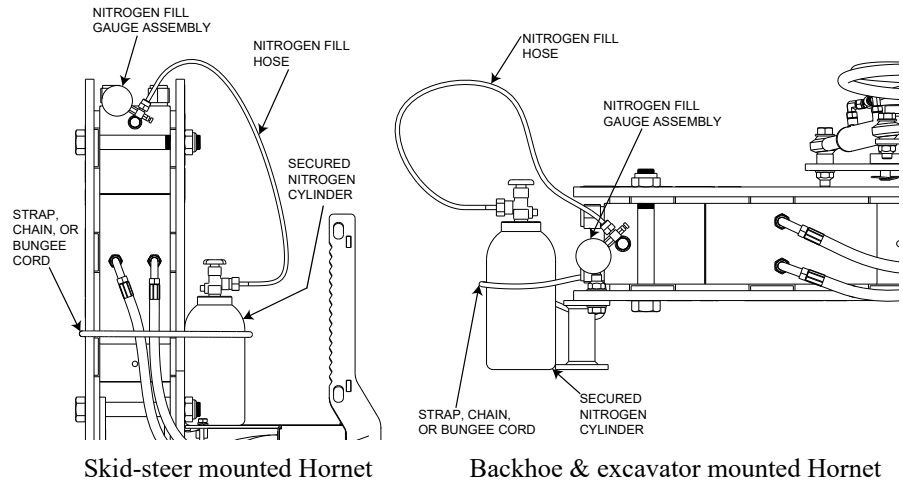
STEP 2: Follow Steps 1-6 from the *Pressure Inspection* section.

STEP 3: Verify that the plunger is retracted and remove the fill port cap.

STEP 4: Using an adjustable wrench, attach the nitrogen fill hose to the fill gauge assembly

NOTE Ensure all fittings are clean prior to connection.

STEP 5: Place the nitrogen cylinder as shown below and secure using a strap, chain, or bungee cord.



⚠ WARNING

- Never lift nitrogen cylinder by its protective cap or valve.
- When moving nitrogen cylinder, never drop, drag, roll, slide, or carry nitrogen cylinder in a horizontal position as the cylinder valve may be broken off.
- Secure nitrogen cylinder when in storage, transit, or use.

STEP 6: Remove the protective cap from the nitrogen cylinder.

⚠ WARNING

If the protective cap becomes stuck, use an adjustable strap wrench to loosen. Never stick anything into the protective cap holes in an attempt to loosen the cap. Doing so may result in damage to the valve.

Service

(continued)

STEP 7: Using an adjustable wrench, attach the other end of the nitrogen fill hose to the nitrogen cylinder valve.

NOTE Ensure all fittings are clean prior to connection.

STEP 8: Push in the plunger on the fill gauge assembly.

STEP 9: With the valve pointed away from any bystanders, **SLOWLY** open the valve on the nitrogen cylinder while carefully watching the pressure gauge. As the pressure approaches 232 PSI (16 bar), close the valve on the cylinder.

WARNING

- **Do not discharge the contents from the nitrogen cylinder directly towards a person.**
- **Never use a wrench to open or close the nitrogen cylinder valve. If the valve is difficult to operate, discontinue use and contact a qualified supplier of compressed gases for repairs.**

NOTE Nitrogen cylinder pressure can be as much as 2,200 PSI. This high pressure will damage the pressure gauge. Do not open the valve fully, and quickly close the valve when the pressure approaches 232 PSI (16 bar).

STEP 10: If the pressure slightly exceeds the target, use the pressure adjusting knob to bleed the pressure back down to the proper value.

STEP 11: With pressure set at the proper value and nitrogen cylinder valve closed, retract the plunger to lock the desired pressure in the power cell.

STEP 12: Slowly unscrew the pressure adjusting knob until a short burst is heard. If nitrogen continues to be released, the plunger is not retracted all the way, and the unit will need to be recharged.

WARNING

Do not discharge the contents of the nitrogen fill gauge directly towards a person.

STEP 13: Remove the nitrogen fill hose from the fill gauge assembly and from the nitrogen cylinder.

STEP 14: Reinstall the protective cap on the nitrogen cylinder.

WARNING

Nitrogen cylinder protective cap must be installed at all times when cylinder is not in use.

(continued)

STEP 15: Remove the nitrogen cylinder from the driver and store in an accessible location not attached to the Hornet.

⚠ WARNING

- **Never lift nitrogen cylinder by its protective cap or valve.**
- **When moving nitrogen cylinder, never drop, drag, roll, slide, or carry nitrogen cylinder in a horizontal position as the cylinder valve may be broken off.**
- **Subjecting nitrogen cylinder to mechanical shocks may cause damage to valve.**
- **Never allow any part of the nitrogen cylinder to be exposed to temperatures exceeding 125°F.**
- **Store nitrogen cylinder upright, with protective cap installed, and secure to a wall or vertical support by means of restraining straps or chains.**
- **Store nitrogen cylinder in a dry, cool, well-ventilated, secure area protected from the weather.**
- **Never expose nitrogen cylinder to corrosive materials such as ice melting compounds.**
- **Protect nitrogen cylinder from wet or damp ground.**

STEP 16: Remove the nitrogen fill gauge from the power cell.

STEP 17: Reinstall the hex cap plug.

Relieving Nitrogen Pressure

Recommended Tools

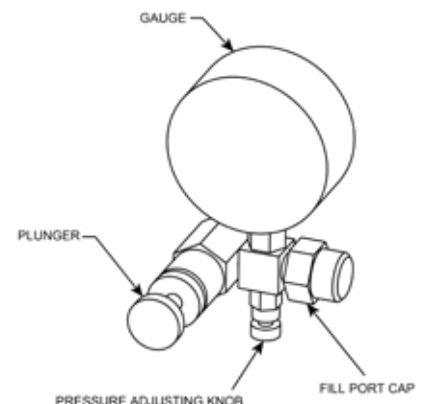
- Nitrogen fill gauge assembly (supplied with unit)
- Adjustable wrench

⚠ DANGER

Release power cell nitrogen gas pressure and hydraulic oil pressure before disassembling power cell.

STEP 1: Using an adjustable wrench, remove the hex cap plug from the top left-hand side of the power cell.

STEP 2: Remove the nitrogen fill gauge assembly from its case, retract the plunger fully, and hand tighten both the pressure adjusting knob and the fill port cap.



Service

(continued)

STEP 3: Attach the nitrogen fill gauge to the power cell by hand tightening the boss directly behind the plunger.

NOTE

Ensure all fittings are clean prior to connection.

STEP 4: Press the plunger inward.

STEP 5: **SLOWLY** open the pressure adjusting knob. The compressed nitrogen will now be released to the atmosphere. Once the pressure gauge reads 0 with the plunger pressed in, the nitrogen chamber is empty.











WARNING

Do not discharge the contents of the nitrogen fill gauge directly towards a person.

STEP 6: Remove the nitrogen fill gauge from the power cell.

STEP 7: Reinstall the hex cap plug.

Torque Values Chart

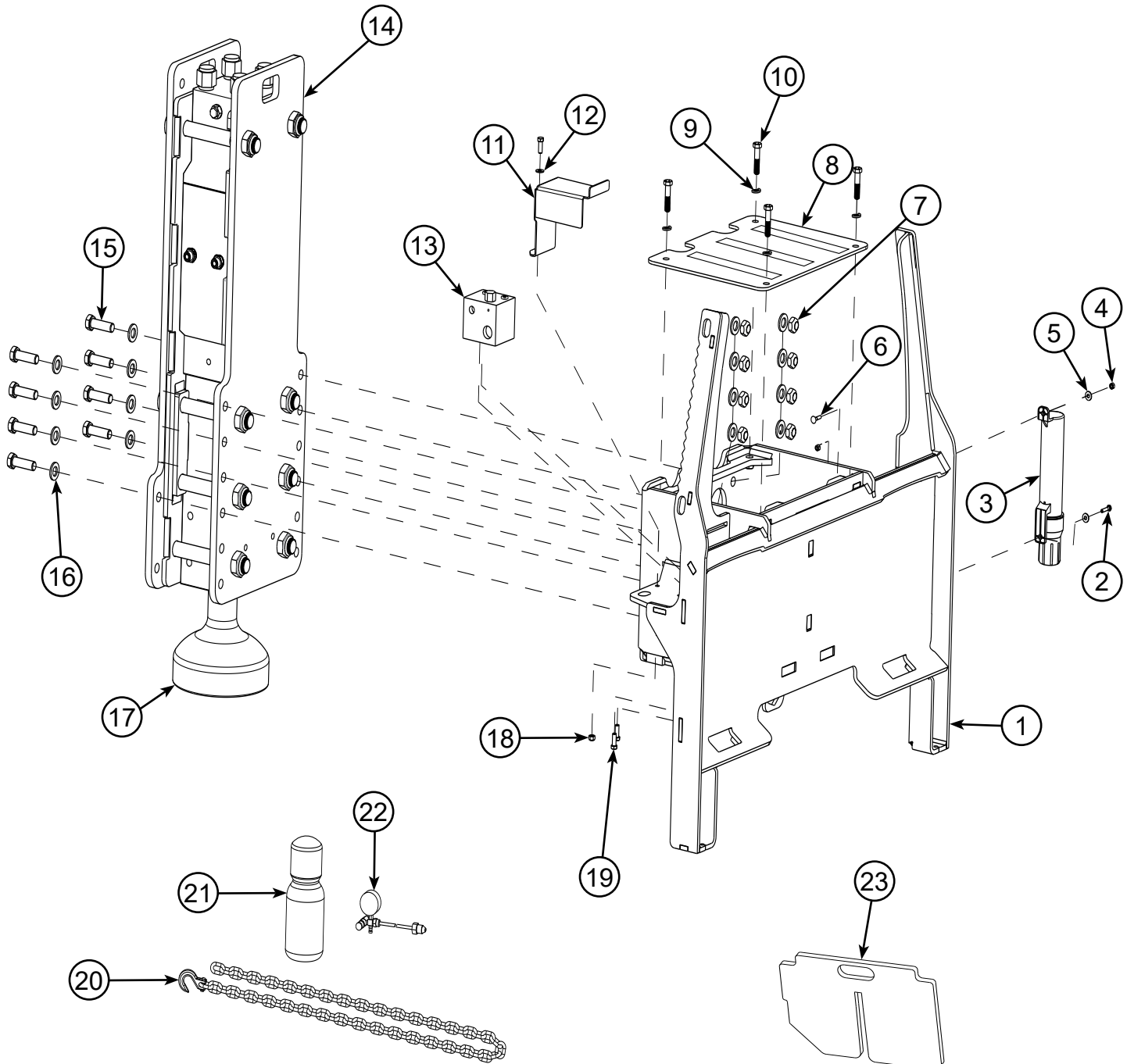
| Torque Values Chart | | | | | | | | | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|---------|------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|---------|
| Bolt Size (inches) | Bolt Head Identification | | | | | | | | Bolt Size (Metric) | Bolt Head Identification | | | | | | | |
| |  |  |  |  | | | | | |  |  |  |  |  |  | | |
| Grade 2 | Grade 5 | Grade 8 | ASTM A574 | | | | | | Class 5.8 | Class 8.8 | | Class 10.9 | | Class 12.9 | | | |
| in-tpi | Nm | ft.-lb. | Nm | ft.-lb. | Nm | ft.-lb. | Nm | ft.-lb. | mm x pitch | Nm | ft.-lb. | Nm | ft.-lb. | Nm | ft.-lb. | Nm | ft.-lb. |
| 1/4"-20 | 7.4 | 5.6 | 11 | 8 | 16 | 12 | 19 | 14 | M5 x 0.8 | 4 | 3 | 6 | 5 | 9 | 7 | 11 | 8 |
| 1/4"-28 | 8.5 | 6 | 13 | 10 | 18 | 14 | 22 | 16 | M6 x 1 | 7 | 5 | 11 | 8 | 15 | 11 | 18 | 13 |
| 5/16"-18 | 15 | 11 | 24 | 17 | 33 | 25 | 39 | 29 | M8 x 1.25 | 17 | 12 | 26 | 19 | 36 | 27 | 42 | 31 |
| 5/16"-24 | 17 | 13 | 26 | 19 | 37 | 27 | 43 | 32 | M8 x 1 | 18 | 13 | 28 | 21 | 39 | 29 | 46 | 34 |
| 3/8"-16 | 27 | 20 | 42 | 31 | 59 | 44 | 69 | 51 | M10 x 1.5 | 33 | 24 | 52 | 39 | 72 | 53 | 84 | 62 |
| 3/8"-24 | 31 | 22 | 47 | 35 | 67 | 49 | 79 | 58 | M10 x 0.75 | 39 | 29 | 61 | 45 | 85 | 62 | 98 | 72 |
| 7/16"-14 | 43 | 32 | 67 | 49 | 95 | 70 | 110 | 81 | M12 x 1.75 | 58 | 42 | 91 | 67 | 125 | 93 | 148 | 109 |
| 7/16"-20 | 49 | 36 | 75 | 55 | 105 | 78 | 123 | 91 | M12 x 1.5 | 60 | 44 | 95 | 70 | 130 | 97 | 153 | 113 |
| 1/2"-13 | 66 | 49 | 105 | 76 | 145 | 105 | 168 | 124 | M12 x 1 | 90 | 66 | 105 | 77 | 145 | 105 | 167 | 123 |
| 1/2"-20 | 75 | 55 | 115 | 85 | 165 | 120 | 190 | 140 | M14 x 2 | 92 | 68 | 145 | 105 | 200 | 150 | 235 | 173 |
| 9/16"-12 | 95 | 70 | 150 | 110 | 210 | 155 | 235 | 173 | M14 x 1.5 | 99 | 73 | 155 | 115 | 215 | 160 | 254 | 187 |
| 9/16"-18 | 105 | 79 | 165 | 120 | 235 | 170 | 262 | 193 | M16 x 2 | 145 | 105 | 225 | 165 | 315 | 230 | 365 | 269 |
| 5/8"-11 | 130 | 97 | 205 | 150 | 285 | 210 | 323 | 238 | M16 x 1.5 | 155 | 115 | 240 | 180 | 335 | 245 | 388 | 286 |
| 5/8"-18 | 150 | 110 | 230 | 170 | 325 | 240 | 366 | 270 | M18 x 2.5 | 195 | 145 | 310 | 230 | 405 | 300 | 504 | 372 |
| 3/4"-10 | 235 | 170 | 360 | 265 | 510 | 375 | 574 | 423 | M18 x 1.5 | 220 | 165 | 350 | 260 | 485 | 355 | 561 | 414 |
| 3/4"-16 | 260 | 190 | 405 | 295 | 570 | 420 | 640 | 472 | M20 x 2.5 | 280 | 205 | 440 | 325 | 610 | 450 | 712 | 525 |
| 7/8"-9 | 225 | 165 | 585 | 430 | 820 | 605 | 925 | 682 | M20 x 1.5 | 310 | 230 | 650 | 480 | 900 | 665 | 1052 | 776 |
| 7/8"-14 | 250 | 185 | 640 | 475 | 905 | 670 | 1020 | 752 | M24 x 3 | 480 | 355 | 760 | 560 | 1050 | 780 | 1231 | 908 |
| 1"-8 | 340 | 250 | 875 | 645 | 1230 | 910 | 1386 | 1022 | M24 x 2 | 525 | 390 | 830 | 610 | 1150 | 845 | 1337 | 986 |
| 1"-12 | 370 | 275 | 955 | 705 | 1350 | 995 | 1555 | 1147 | M30 x 3.5 | 960 | 705 | 1510 | 1120 | 2100 | 1550 | 2447 | 1805 |
| 1-1/8"-7 | 480 | 355 | 1080 | 795 | 1750 | 1290 | 1971 | 1454 | M30 x 2 | 1060 | 785 | 1680 | 1240 | 2320 | 1710 | 2706 | 1996 |
| 1-1/8"-12 | 540 | 395 | 1210 | 890 | 1960 | 1440 | 2202 | 1624 | M36 x 3.5 | 1730 | 1270 | 2650 | 1950 | 3660 | 2700 | 4272 | 3151 |
| 1-1/4"-7 | 680 | 500 | 1520 | 1120 | 2460 | 1820 | 2771 | 2044 | M36 x 2 | 1880 | 1380 | 2960 | 2190 | 4100 | 3220 | 5095 | 3758 |
| 1-1/4"-12 | 750 | 555 | 1680 | 1240 | 2730 | 2010 | 3068 | 2263 | KEY: in-tpi = nominal thread diameter in inches-threads per inch Nm = Newton-meter ft.-lb. = foot pounds mm x pitch = nominal thread diameter in millimeters by thread pitch | | | | | | | | |
| 1-3/8"-6 | 890 | 655 | 1990 | 1470 | 3230 | 2380 | 3638 | 2683 | | | | | | | | | |
| 1-3/8"-12 | 1010 | 745 | 2270 | 1670 | 3680 | 2710 | 4143 | 3056 | | | | | | | | | |
| 1-1/2"-6 | 1180 | 870 | 2640 | 1950 | 4290 | 3160 | 4823 | 3557 | | | | | | | | | |
| 1-1/2"-12 | 1330 | 980 | 2970 | 2190 | 4820 | 3560 | 5426 | 4002 | | | | | | | | | |
| Torque tolerance +0%, -15% of torque values. Unless otherwise specified, use torque values listed above. | | | | | | | | | | | | | | | | | |

Parts

Main Assembly
Skid-Steer Mount

! WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 180054S | Quick Attach Weldment | 1 | All Models |
| 2 | 206046 | Bolt (1/4"-20 x 1.25", Gr. 5) | 1 | All Models |
| 3 | 21258 | Operator's Manual Canister | 1 | All Models |
| 4 | 10195 | Toplock Nut (1/4"-20) | 2 | All Models |
| 5 | 21056 | 1/4" Flat Washer | 2 | All Models |
| 6 | 206094 | Carriage Bolt (1/4"-20 x 1.25", Gr. 5) | 1 | All Models |
| 7 | 10268 | Toplock Nut (3/4"-10) | 8 | All Models |
| 8 | 200066S | Cover Plate | 1 | All Models |
| 9 | 973 | 1/2" Lock Washer | 4 | All Models |
| 10 | 206055 | Bolt (1/2"-13 x 2.25", Gr. 5) | 4 | All Models |
| 11 | 200535S | Manifold Cover | 1 | All Models |
| 12 | 2178 | 3/8" Flat Washer | 1 | All Models |
| 13 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 14 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 15 | 206088 | Bolt (3/4"-10 x 2.5", Gr. 8) | 8 | All Models |
| 16 | 10267 | 3/4" Flat Washer | 16 | All Models |
| 17 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 18 | 10412 | Toplock Nut (3/8"-16) | 1 | All Models |
| 19 | 21157 | Bolt (3/8"-16 x 1", Gr. 2) | 3 | All Models |
| 20 | 216003 | Post Pulling Chain | 1 | All Models |
| 21 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 22 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |
| 23 | *200067 | Ballast Plate (single ballast plate) | 1 | All Models |

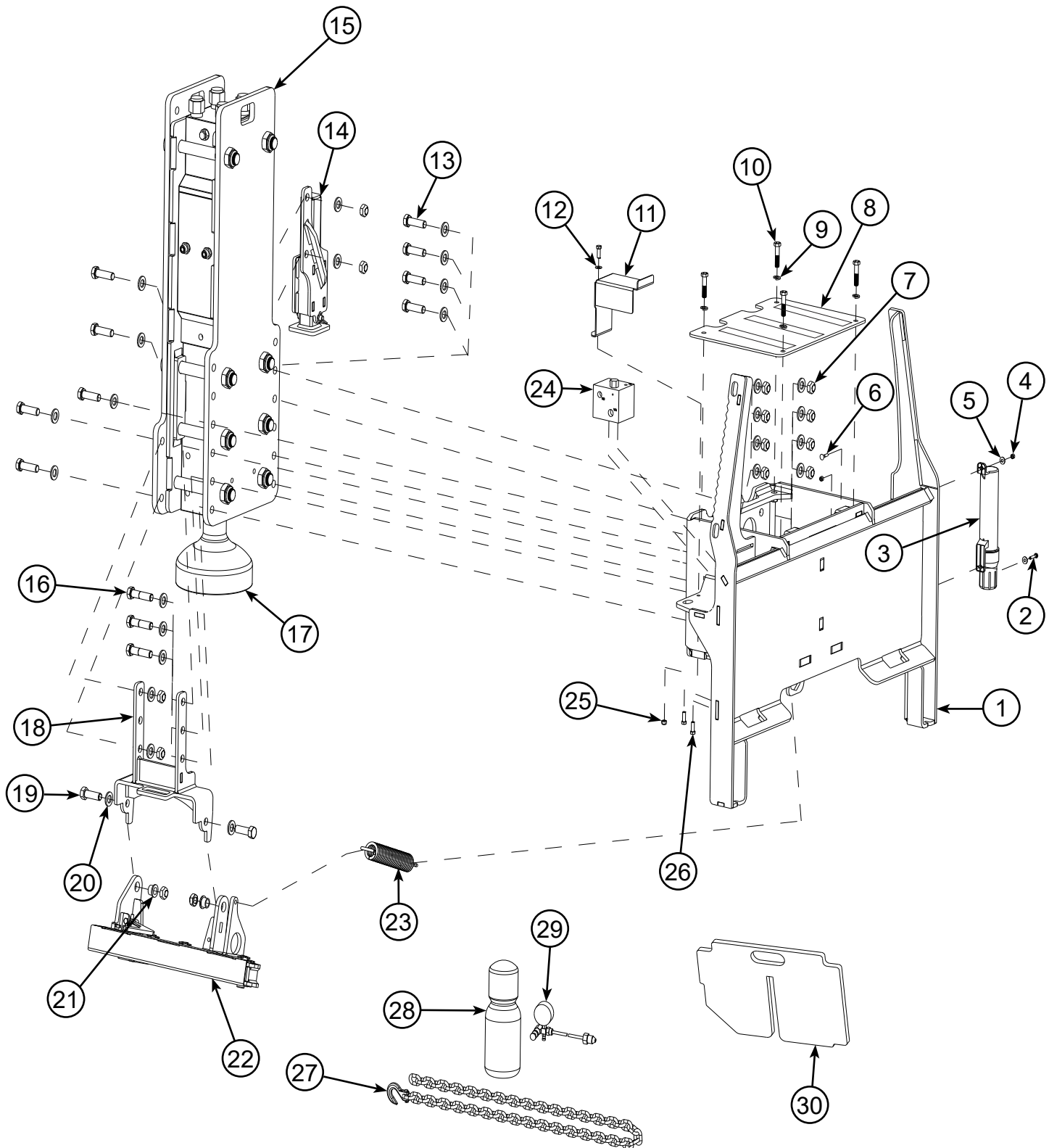
* Not included with base model.

Parts

Main Assembly w/ Grapple
Skid-Steer Mount

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 180054S | Quick Attach Weldment | 1 | All Models |
| 2 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 3 | 21258 | Operator's Manual Canister | 1 | All Models |
| 4 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 5 | 21056 | 1/4" Flat Washer | 2 | All Models |
| 6 | 206094 | Carriage Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 7 | 10268 | Toplock Nut (3/4"–10) | 14 | All Models |
| 8 | 200066S | Cover Plate | 1 | All Models |
| 9 | 973 | 1/2" Lock Washer | 4 | All Models |
| 10 | 206055 | Bolt (1/2"–13 x 2.25", Gr. 5) | 4 | All Models |
| 11 | 200535S | Manifold Cover | 1 | All Models |
| 12 | 2178 | 3/8" Flat Washer | 1 | All Models |
| 13 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 9 | All Models |
| 14 | 210010 | Kick Stand Assembly | 1 | All Models |
| 15 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 16 | 206089 | Bolt (3/4"–10 x 3", Gr. 8) | 3 | All Models |
| 17 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 18 | 200565 | Grapple Mount | 1 | T7 |
| | 200570 | Grapple Mount | 1 | T8-RR |
| 19 | 9037 | Bolt (3/4"–10 x 2.25", Gr. 8) | 2 | All Models |
| 20 | 10267 | 3/4" Flat Washer | 26 | All Models |
| 21 | 206095 | Grapple Bushing | 2 | All Models |
| 22 | 200221 | Grapple Assembly | 1 | T7 |
| | 200220 | Grapple Assembly | 1 | T8-RR |
| 23 | 206090 | Grapple Spring | 1 | All Models |
| 24 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 25 | 10412 | Toplock Nut (3/8"–16) | 1 | All Models |
| 26 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 3 | All Models |
| 27 | 216003 | Post Pulling Chain | 1 | All Models |
| 28 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 29 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |
| 30 | *200067 | Ballast Plate (single ballast plate) | 1 | All Models |

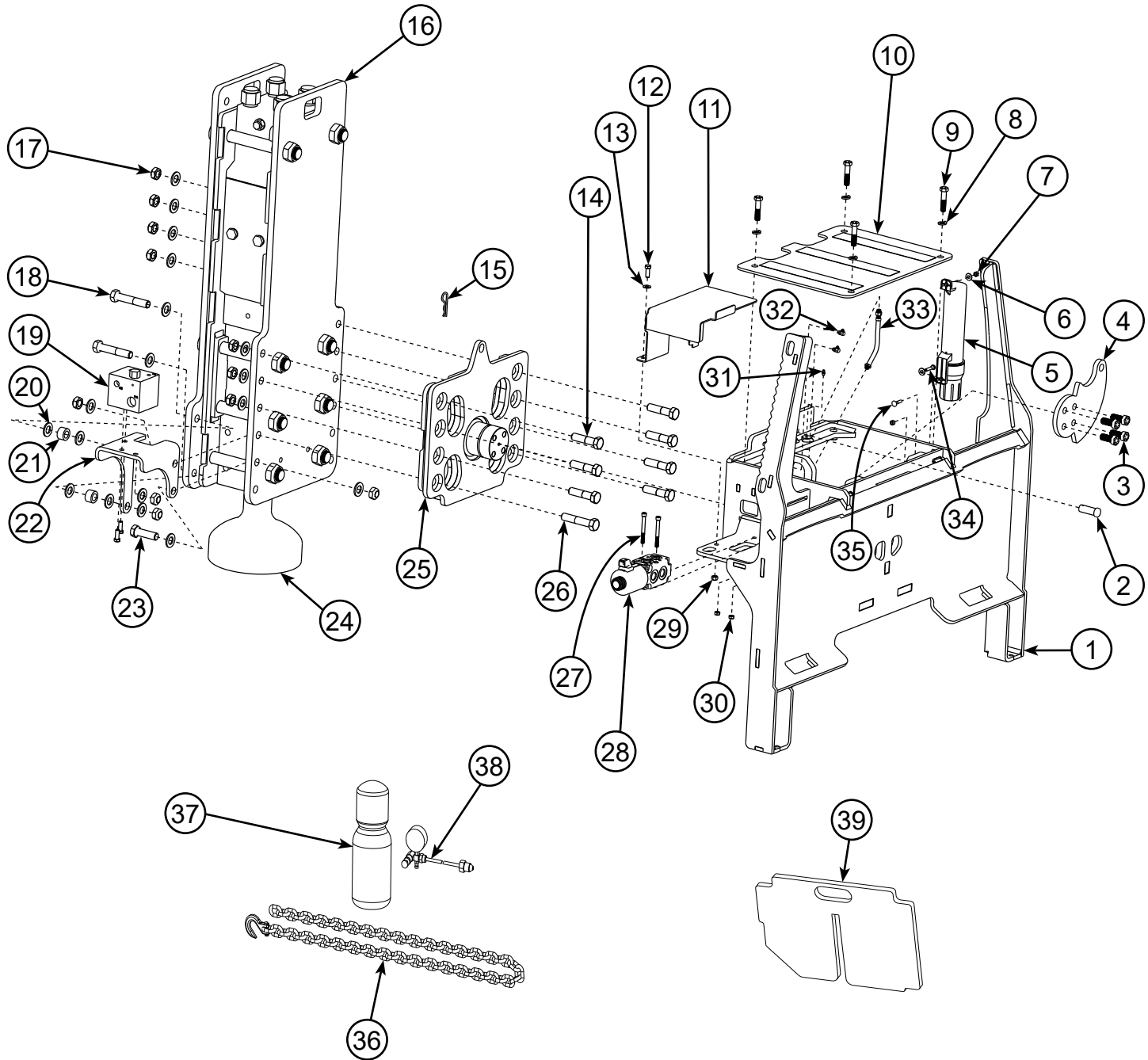
* Not included with base model.

Parts

Main Assembly w/ Tilt
Skid-Steer Mount

! WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 200510S | Tilt Quick Attach Weldment | 1 | All Models |
| 2 | 21134 | Clevis Pin | 1 | All Models |
| 3 | 236018 | Bolt (5/8"–18 x 1.5", Gr. 8) | 4 | All Models |
| 4 | 200517 | Tilt Stop Plate | 1 | All Models |
| 5 | 21258 | Operator's Manual Canister | 1 | All Models |
| 6 | 21056 | 1/4" Flat Washer | 2 | All Models |
| 7 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 8 | 973 | 1/2" Lock Washer | 4 | All Models |
| 9 | 206055 | Bolt (1/2"–13 x 2.25", Gr. 5) | 4 | All Models |
| 10 | 200066S | Cover Plate | 1 | All Models |
| 11 | 230093S | Diverter Cover | 1 | All Models |
| 12 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 3 | All Models |
| 13 | 2178 | 3/8" Flat Washer | 1 | All Models |
| 14 | 206089 | Bolt (3/4"–10 x 3", Gr. 8) | 7 | All Models |
| 15 | 176028 | Hairpin Cotter | 1 | All Models |
| 16 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 17 | 10268 | Toplock Nut (3/4"–10) | 11 | All Models |
| 18 | 216009 | Bolt (3/4"–10 x 4", Gr. 8) | 2 | All Models |
| 19 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 20 | 10267 | 3/4" Flat Washer | 18 | All Models |
| 21 | 210062 | Boss | 1 | All Models |
| 22 | 230092 | Manifold Bracket | 1 | T7 |
| | 200519 | Manifold Bracket | 1 | T8-RR |
| 23 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 1 | All Models |
| 24 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 25 | 230090 | Tilt Plate | 1 | All Models |
| 26 | 216011 | Bolt (3/4"–10 x 3.75", Gr. 8) | 1 | All Models |
| 27 | 21158 | Socket Head Bolt (5/16"–18 x 3") | 2 | All Models |
| 28 | 21128 | Diverter Valve | 1 | All Models |
| 29 | 10412 | Toplock Nut (3/8"–16) | 1 | All Models |
| 30 | 21159 | Toplock Nut (5/16"–18) | 2 | All Models |
| 31 | 35220 | Grease Fitting | 1 | All Models |
| 32 | 246015 | Grease Fitting, 90° | 2 | All Models |
| 33 | 236066 | Grease Whip | 1 | All Models |
| 34 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 35 | 206094 | Carriage Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 36 | 216003 | Post Pulling Chain | 1 | All Models |
| 37 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 38 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |
| 39 | *200067 | Ballast Plate (single ballast plate) | 1 | All Models |

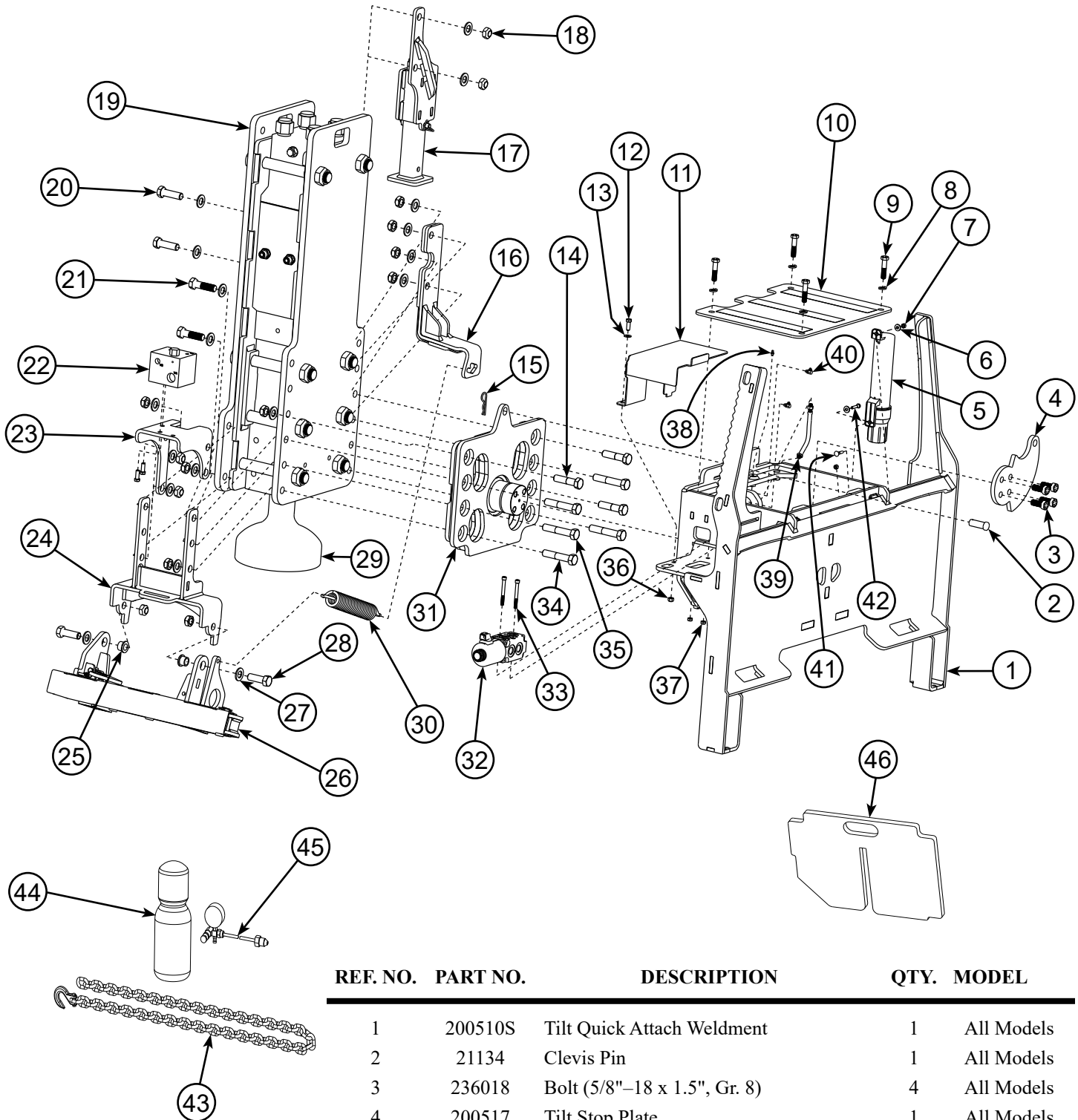
* Not included with base model.

Parts

! WARNING

Main Assembly w/ Grapple
& Tilt Skid-Steer Mount

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| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------|------|------------|
| 1 | 200510S | Tilt Quick Attach Weldment | 1 | All Models |
| 2 | 21134 | Clevis Pin | 1 | All Models |
| 3 | 236018 | Bolt (5/8"-18 x 1.5", Gr. 8) | 4 | All Models |
| 4 | 200517 | Tilt Stop Plate | 1 | All Models |
| 5 | 21258 | Operator's Manual Canister | 1 | All Models |
| 6 | 21056 | 1/4" Flat Washer | 2 | All Models |
| 7 | 10195 | Toplock Nut (1/4"-20) | 2 | All Models |
| 8 | 973 | 1/2" Lock Washer | 4 | All Models |
| 9 | 206055 | Bolt (1/2"-13 x 2.25", Gr. 5) | 4 | All Models |

Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 10 | 200066S | Cover Plate | 1 | All Models |
| 11 | 230093S | Diverter Cover | 1 | All Models |
| 12 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 3 | All Models |
| 13 | 2178 | 3/8" Flat Washer | 1 | All Models |
| 14 | 206089 | Bolt (3/4"–10 x 3", Gr. 8) | 3 | All Models |
| 15 | 176028 | Hairpin Cotter | 1 | All Models |
| 16 | 200580 | Spring Mount Weldment | 1 | All Models |
| 17 | 210010 | Kick Stand Assembly | 1 | All Models |
| 18 | 10268 | Toplock Nut (3/4"–10) | 14 | All Models |
| 19 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 20 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 2 | All Models |
| 21 | 216008 | Bolt (3/4"–10 x 2.75", Gr. 8) | 2 | All Models |
| 22 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 23 | 230092 | Manifold Bracket | 1 | T7 |
| | 200519 | Manifold Bracket | 1 | T8-RR |
| 24 | 200565 | Grapple Mount | 1 | T7 |
| | 200570 | Grapple Mount | 1 | T8-RR |
| 25 | 206095 | Grapple Bushing | 2 | All Models |
| 26 | 200221 | Grapple Assembly | 1 | T7 |
| | 200220 | Grapple Assembly | 1 | T8-RR |
| 27 | 10267 | 3/4" Flat Washer | 18 | All Models |
| 28 | 9037 | Bolt (3/4"–10 x 2.25", Gr. 8) | 2 | All Models |
| 29 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 30 | 206090 | Grapple Spring | 1 | All Models |
| 31 | 230090 | Tilt Plate | 1 | All Models |
| 32 | 21128 | Diverter Valve | 1 | All Models |
| 33 | 21158 | Socket Head Bolt (5/16"–18 x 3") | 2 | All Models |
| 34 | 216011 | Bolt (3/4"–10 x 3.75", Gr. 8) | 1 | All Models |
| 35 | 216009 | Bolt (3/4"–10 x 4", Gr. 8) | 4 | All Models |
| 36 | 10412 | Toplock Nut (3/8"–16) | 1 | All Models |
| 37 | 21159 | Toplock Nut (5/16"–18) | 2 | All Models |
| 38 | 35220 | Grease Fitting | 1 | All Models |
| 39 | 236066 | Grease Whip | 1 | All Models |
| 40 | 246015 | Grease Fitting, 90° | 2 | All Models |
| 41 | 206094 | Carriage Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 42 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 1 | All Models |
| 43 | 216003 | Post Pulling Chain | 1 | All Models |
| 44 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 45 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |
| 46 | *200067 | Ballast Plate (single ballast plate) | 1 | All Models |

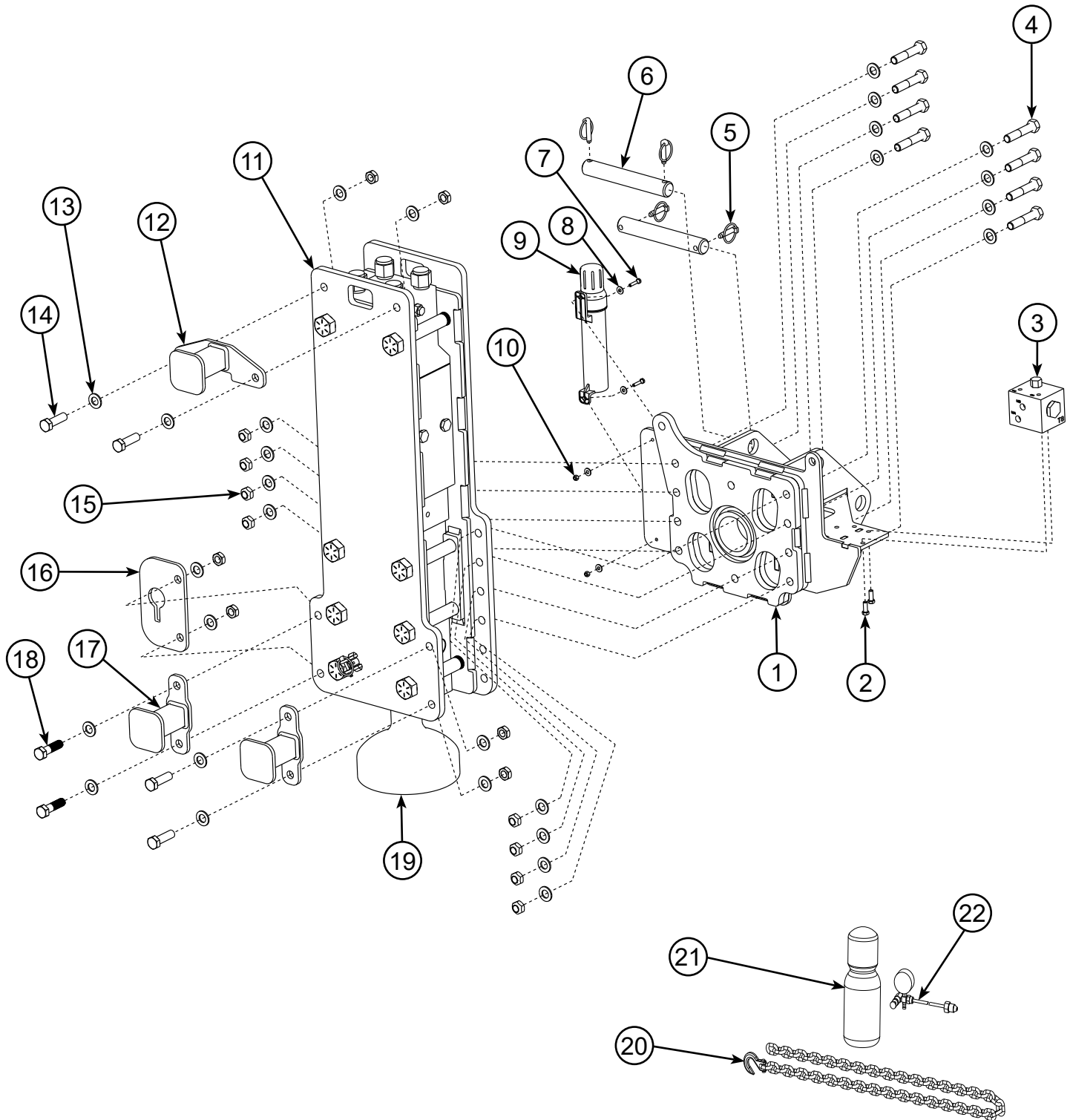
* Not included with base model.

Parts

Main Assembly Backhoe & Excavator Mount

⚠ WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 210045S | Intermediate Weldment | 1 | All Models |
| 2 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 2 | All Models |
| 3 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 4 | 216011 | Bolt (3/4"–10 x 3.75", Gr. 8) | 8 | All Models |
| 5 | 7524 | Klik Pin Assembly | 4 | All Models |
| 6 | 230125 | Pin, 1.5" x 10.25" | 2 | All Models |
| 7 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 2 | All Models |
| 8 | 21056 | 1/4" Flat Washer | 4 | All Models |
| 9 | 21258 | Operator's Manual Canister | 1 | All Models |
| 10 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 11 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 12 | 210060 | Upper Foot | 1 | All Models |
| 13 | 10267 | 3/4" Flat Washer | 28 | All Models |
| 14 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 4 | All Models |
| 15 | 10268 | Toplock Nut (3/4"–10) | 14 | All Models |
| 16 | 210064 | Chain Hook | 1 | All Models |
| 17 | 210055 | Lower Foot | 2 | All Models |
| 18 | 216008 | Bolt (3/4"–10 x 2.75", Gr. 8) | 2 | All Models |
| 19 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 20 | 216003 | Post Pulling Chain | 1 | All Models |
| 21 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 22 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |

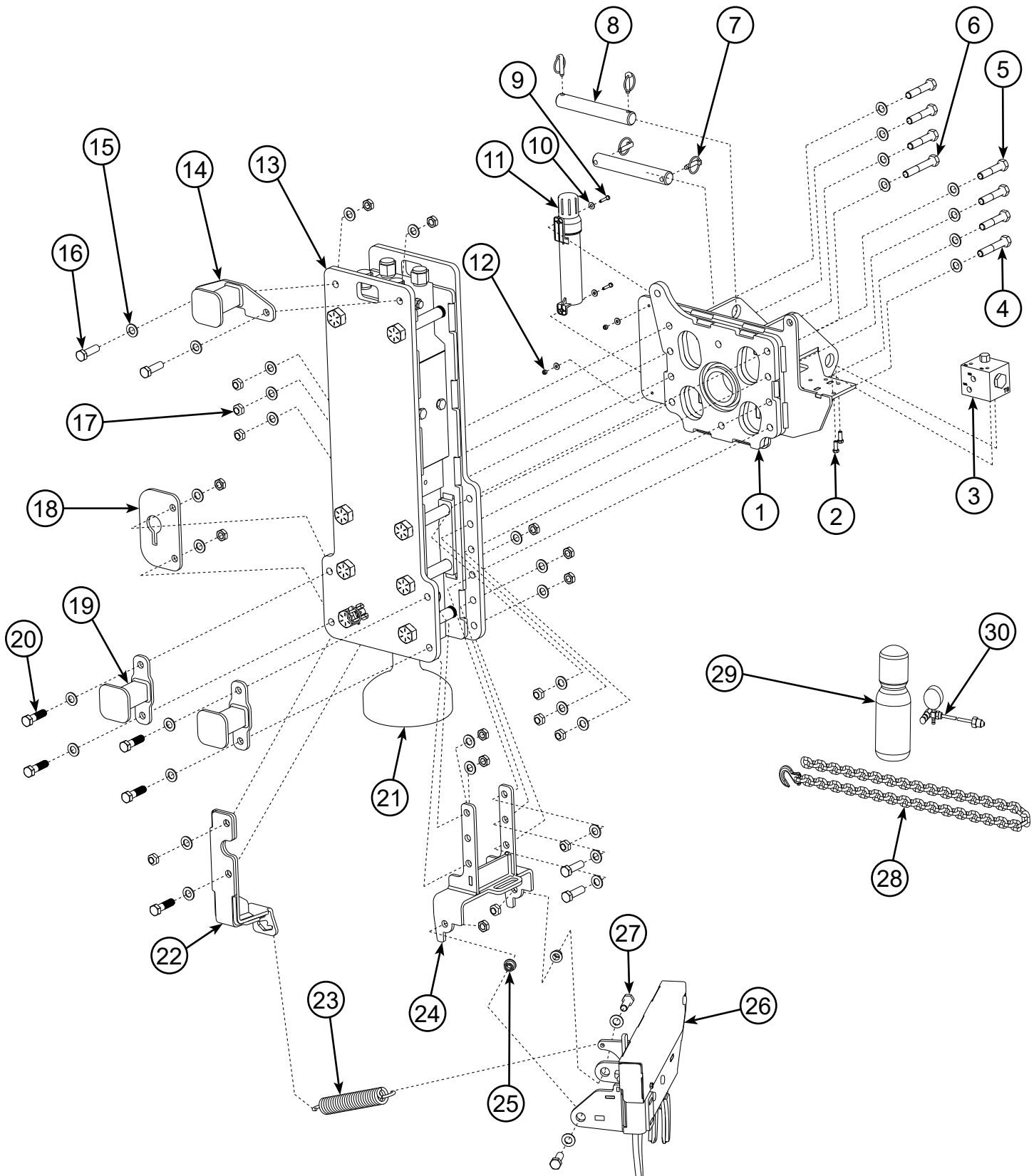
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Parts

Main Assembly w/ Grapple
Backhoe & Excavator
Mount

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 210045S | Intermediate Weldment | 1 | All Models |
| 2 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 2 | All Models |
| 3 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 4 | 186061 | Bolt (3/4"–10 x 4.25", Gr. 8) | 1 | All Models |
| 5 | 216011 | Bolt (3/4"–10 x 3.75", Gr. 8) | 6 | All Models |
| 6 | 216010 | Bolt (3/4"–10 x 4.75", Gr. 8) | 1 | All Models |
| 7 | 7524 | Klik Pin Assembly | 4 | All Models |
| 8 | 230125 | Pin, 1.5" x 10.25" | 2 | All Models |
| 9 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 2 | All Models |
| 10 | 21056 | 1/4" Flat Washer | 4 | All Models |
| 11 | 21258 | Operator's Manual Canister | 1 | All Models |
| 12 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 13 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 14 | 210060 | Upper Foot | 1 | All Models |
| 15 | 10267 | 3/4" Flat Washer | 36 | All Models |
| 16 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 4 | All Models |
| 17 | 10268 | Toplock Nut (3/4"–10) | 19 | All Models |
| 18 | 210064 | Chain Hook | 1 | All Models |
| 19 | 210055 | Lower Foot | 2 | All Models |
| 20 | 216008 | Bolt (3/4"–10 x 2.75", Gr. 8) | 5 | All Models |
| 21 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 22 | 200580 | Spring Mount Weldment | 1 | All Models |
| 23 | 206090 | Grapple Spring | 1 | All Models |
| 24 | 200565 | Grapple Mount | 1 | T7 |
| | 200570 | Grapple Mount | 1 | T8-RR |
| 25 | 206095 | Grapple Bushing | 2 | All Models |
| 26 | 200221 | Grapple Assembly | 1 | T7 |
| | 200220 | Grapple Assembly | 1 | T8-RR |
| 27 | 9037 | Bolt (3/4"–10 x 2.25", Gr. 8) | 2 | All Models |
| 28 | 216003 | Post Pulling Chain | 1 | All Models |
| 29 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 30 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |

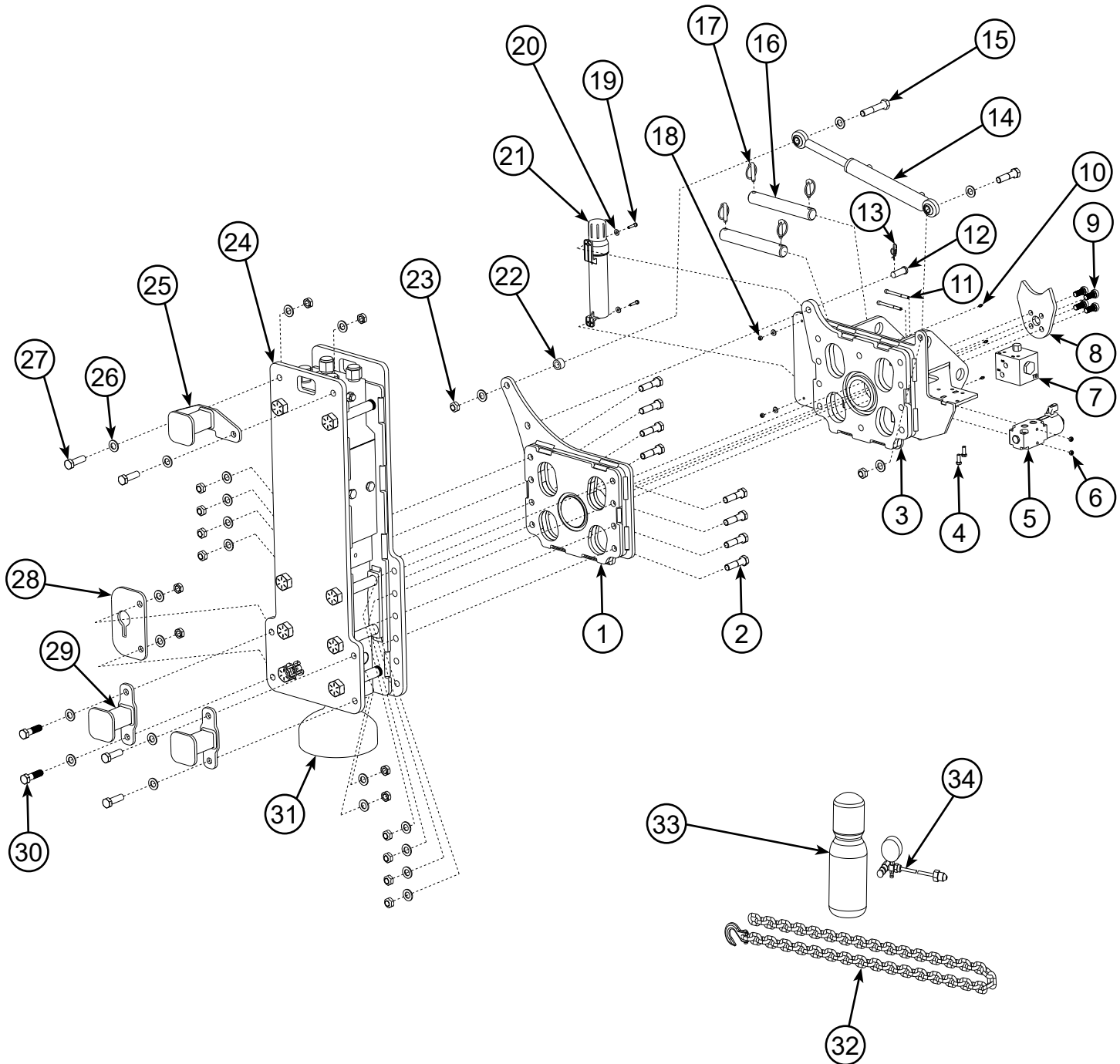
* Not included with base model.

Parts

Main Assembly w/ Tilt
Backhoe & Excavator
Mount

! WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 210065S | Tilt Plate | 1 | All Models |
| 2 | 206089 | Bolt (3/4"–10 x 3", Gr. 8) | 9 | All Models |
| 3 | 210045S | Intermediate Weldment | 1 | All Models |
| 4 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 2 | All Models |
| 5 | 21128 | Diverter Valve | 1 | All Models |
| 6 | 21159 | Toplock Nut (5/16"–18) | 2 | All Models |
| 7 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 8 | 210063S | Tilt Stop Plate | 1 | All Models |
| 9 | 236018 | Bolt (5/8"–18 x 1.5", Gr. 8) | 4 | All Models |
| 10 | 35220 | Grease Fitting | 3 | All Models |
| 11 | 216028 | Socket Head Bolt (5/16"–18 x 3.5") | 2 | All Models |
| 12 | 21134 | Clevis Pin | 1 | All Models |
| 13 | 21078 | Rue Clip | 1 | All Models |
| 14 | 210074 | Tilt Cylinder Weldment | 1 | All Models |
| 15 | 216009 | Bolt (3/4"–10 x 4", Gr. 8) | 1 | All Models |
| 16 | 230125 | Pin, 1.5" x 10.25" | 2 | All Models |
| 17 | 7524 | Klik Pin Assembly | 4 | All Models |
| 18 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 19 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 2 | All Models |
| 20 | 21056 | 1/4" Flat Washer | 4 | All Models |
| 21 | 21258 | Operator's Manual Canister | 1 | All Models |
| 22 | 210062 | Boss | 1 | All Models |
| 23 | 10268 | Toplock Nut (3/4"–10) | 16 | All Models |
| 24 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 25 | 210060 | Upper Foot | 1 | All Models |
| 26 | 10267 | 3/4" Flat Washer | 24 | All Models |
| 27 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 4 | All Models |
| 28 | 210064 | Chain Hook | 1 | All Models |
| 29 | 210055 | Lower Foot | 2 | All Models |
| 30 | 216008 | Bolt (3/4"–10 x 2.75", Gr. 8) | 2 | All Models |
| 31 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 32 | 216003 | Post Pulling Chain | 1 | All Models |
| 33 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 34 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |

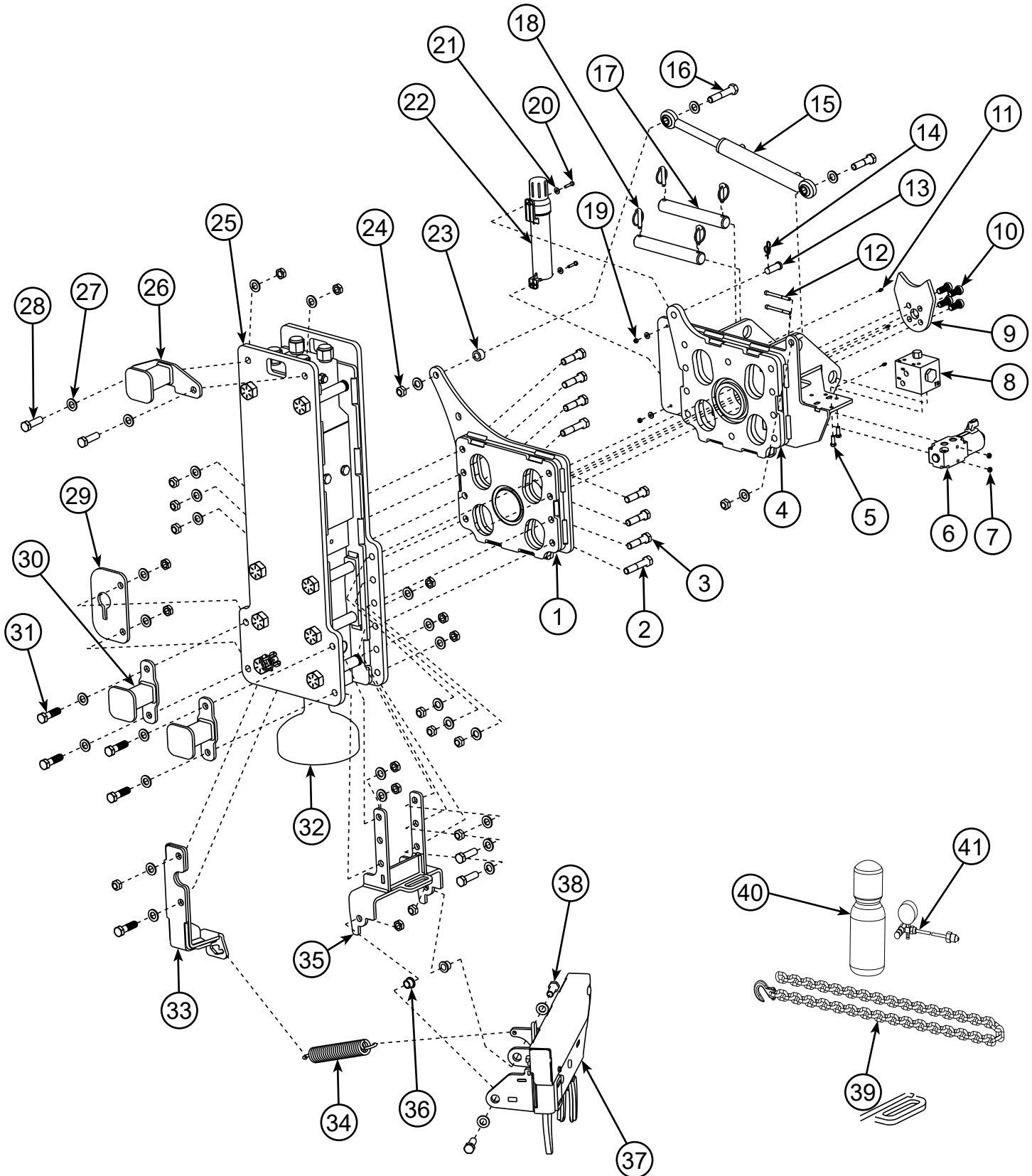
* Not included with base model.

Parts

Main Assembly
w/ Grapple & Tilt Backhoe
& Excavator Mount

! WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------------------------|------|------------|
| 1 | 210065S | Tilt Plate | 1 | All Models |
| 2 | 216011 | Bolt (3/4"–10 x 3.75", Gr. 8) | 2 | All Models |
| 3 | 206089 | Bolt (3/4"–10 x 3", Gr. 8) | 7 | All Models |
| 4 | 210045S | Intermediate Weldment | 1 | All Models |
| 5 | 21157 | Bolt (3/8"–16 x 1", Gr. 2) | 2 | All Models |
| 6 | 21128 | Diverter Valve | 1 | All Models |
| 7 | 21159 | Toplock Nut (5/16"–18) | 2 | All Models |
| 8 | 206012 | Hydraulic Manifold | 1 | T7 |
| | 206013 | Hydraulic Manifold | 1 | T8-RR |
| 9 | 210063S | Tilt Stop Plate | 1 | All Models |
| 10 | 236018 | Bolt (5/8"–18 x 1.5", Gr. 8) | 4 | All Models |
| 11 | 35220 | Grease Fitting | 3 | All Models |
| 12 | 216028 | Socket Head Bolt (5/16"–18 x 3.5") | 2 | All Models |
| 13 | 21134 | Clevis Pin | 1 | All Models |
| 14 | 21078 | Rue Clip | 1 | All Models |
| 15 | 210074 | Tilt Cylinder Weldment | 1 | All Models |
| 16 | 216009 | Bolt (3/4"–10 x 4", Gr. 8) | 1 | All Models |
| 17 | 230125 | Pin, 1.5" x 10.25" | 2 | All Models |
| 18 | 7524 | Klik Pin Assembly | 4 | All Models |
| 19 | 10195 | Toplock Nut (1/4"–20) | 2 | All Models |
| 20 | 206046 | Bolt (1/4"–20 x 1.25", Gr. 5) | 2 | All Models |
| 21 | 21056 | 1/4" Flat Washer | 4 | All Models |
| 22 | 21258 | Operator's Manual Canister | 1 | All Models |
| 23 | 210062 | Boss | 1 | All Models |
| 24 | 10268 | Toplock Nut (3/4"–10) | 21 | All Models |
| 25 | 200080 | Clamp Plate Assembly | 1 | T7 |
| | 180056 | Clamp Plate Assembly | 1 | T8-RR |
| 26 | 210060 | Upper Foot | 1 | All Models |
| 27 | 10267 | 3/4" Flat Washer | 32 | All Models |
| 28 | 206088 | Bolt (3/4"–10 x 2.5", Gr. 8) | 4 | All Models |
| 29 | 210064 | Chain Hook | 1 | All Models |
| 30 | 210055 | Lower Foot | 2 | All Models |
| 31 | 216008 | Bolt (3/4"–10 x 2.75", Gr. 8) | 5 | All Models |
| 32 | *varies | Driving Tool (see <i>Parts: Driving Tools</i>) | | All Models |
| 33 | 200580 | Spring Mount Weldment | 1 | All Models |
| 34 | 206090 | Grapple Spring | 1 | All Models |
| 35 | 200565 | Grapple Mount | 1 | T7 |
| | 200570 | Grapple Mount | 1 | T8-RR |
| 36 | 206095 | Grapple Bushing | 2 | All Models |
| 37 | 200221 | Grapple Assembly | 1 | T7 |
| | 200220 | Grapple Assembly | 1 | T8-RR |
| 38 | 9037 | Bolt (3/4"–10 x 2.25", Gr. 8) | 2 | All Models |
| 39 | 216003 | Post Pulling Chain | 1 | All Models |
| 40 | 206101 | Nitrogen Cylinder | 1 | All Models |
| 41 | 206102 | Nitrogen Gas Charge Kit | 1 | All Models |

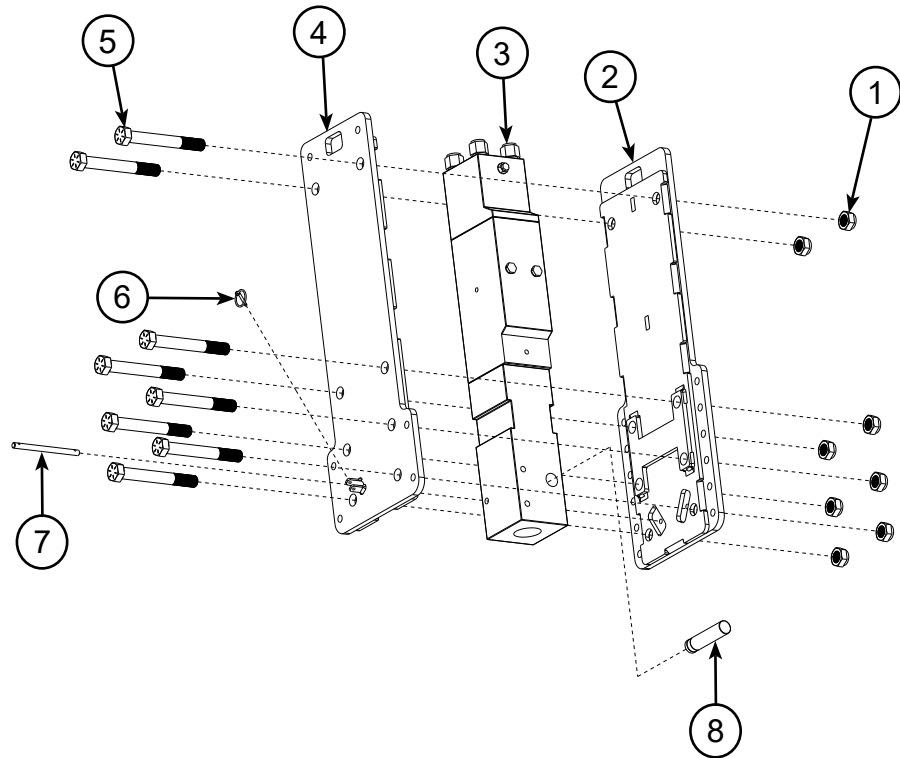
* Not included with base model.

Parts

Clamp Plate Assembly

! WARNING

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| REF NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|---------|----------|--------------------------------|------|------------|
| 1 | 206053 | Toplock Nut (1-1/4"-12) | 8 | All Models |
| 2 | 200090S | Back Clamp Plate | 1 | T7 |
| | 180057S | Back Clamp Plate | 1 | T8-RR |
| 3 | 196068S | Power Cell | 1 | T7 |
| | 196075S | Power Cell | 1 | T8-RR |
| 4 | 200085S | Front Clamp Plate | 1 | T7 |
| | 180080S | Front Clamp Plate | 1 | T8-RR |
| 5 | 206093 | Bolt (1-1/4"-12 x 9.5", Gr. 8) | 8 | T7 |
| | 206052 | Bolt (1-1/4"-12 x 10", Gr. 8) | 8 | T8-RR |
| 6 | 1185 | Klik Pin Assembly | 1 | All Models |
| 7 | 200068 | Driving Tool Lock Pin | 1 | T7 |
| | 200075 | Driving Tool Lock Pin | 1 | T8-RR |
| 8 | 216103 | Driving Tool Retention Pin | 1 | T7 |
| | 216126 | Driving Tool Retention Pin | 1 | T8-RR |

Parts

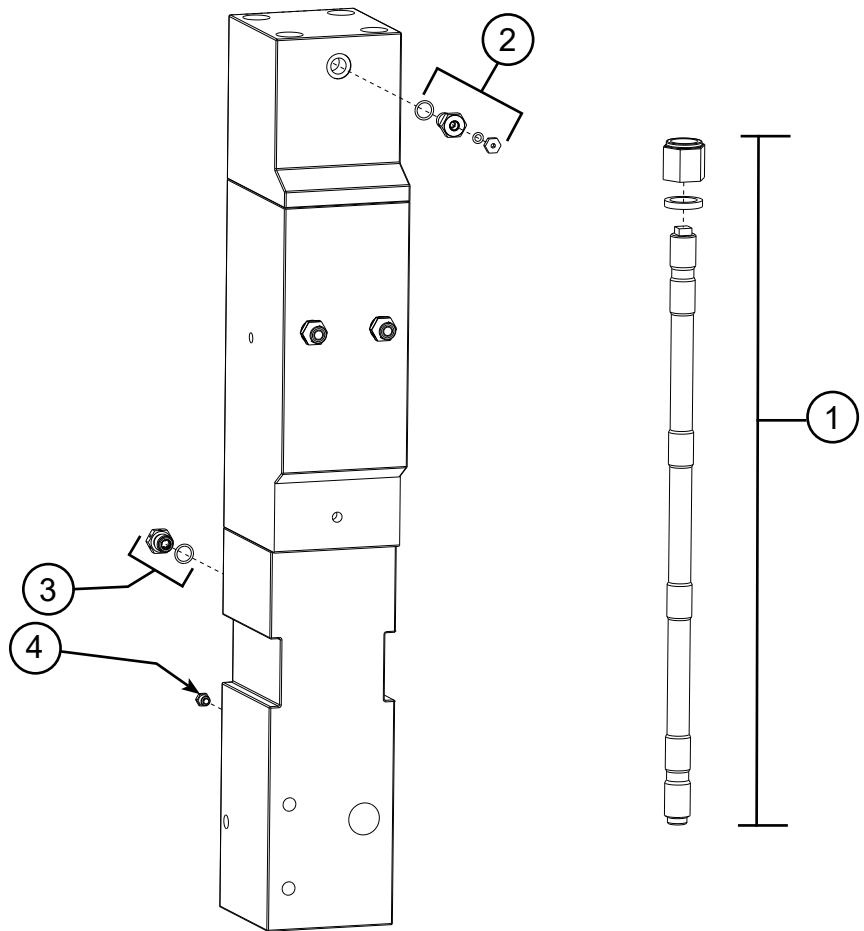
Power Cell

⚠ DANGER

Release power cell nitrogen gas pressure and hydraulic oil pressure before disassembling power cell.

⚠ WARNING

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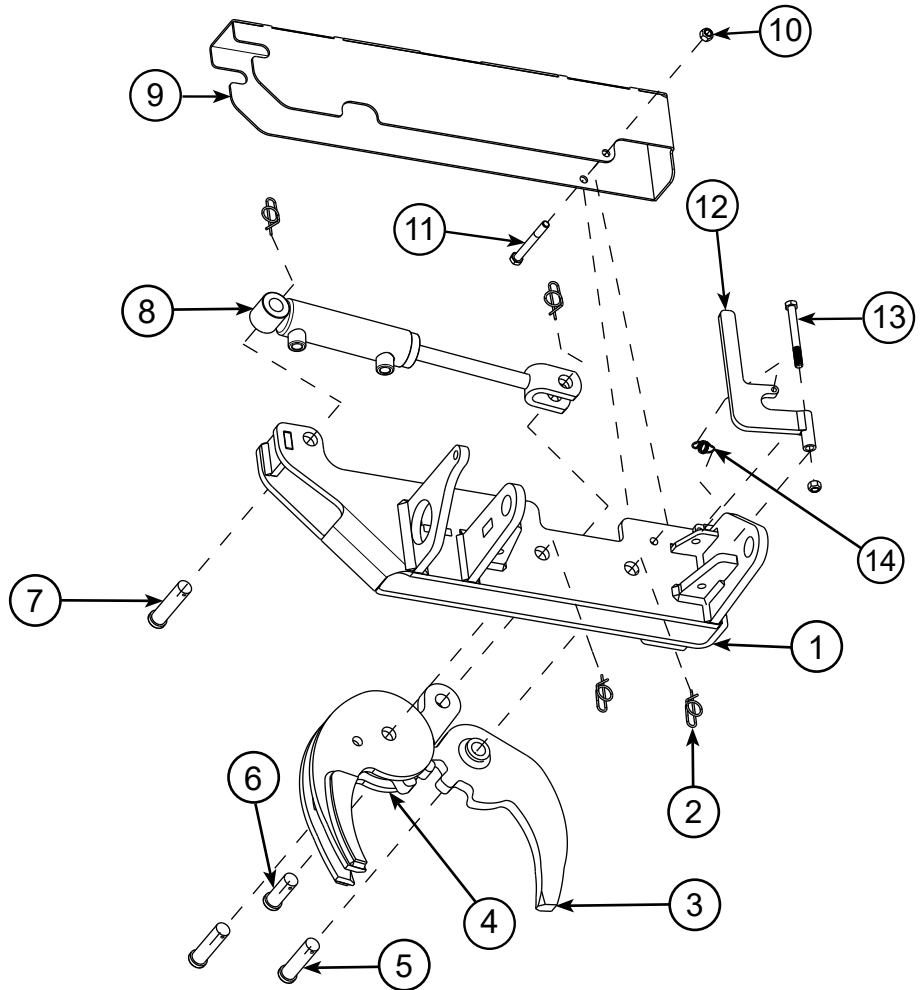
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------|------|------------|
| 1 | 216087 | Thru Bolt Kit | 4 | T7 |
| | 216114 | Thru Bolt Kit | 4 | T8-RR |
| 2 | 216106 | Charging Valve Assembly | 1 | All Models |
| 3 | 216100 | Air Check Valve | 1 | All Models |
| 4 | 216101 | Grease Zerk | 1 | All Models |
| 5 | 216104 | Seal Kit (not pictured) | 1 | T7 |
| | 216127 | Seal Kit (not pictured) | 1 | T8-RR |

Parts

! WARNING

Grapple

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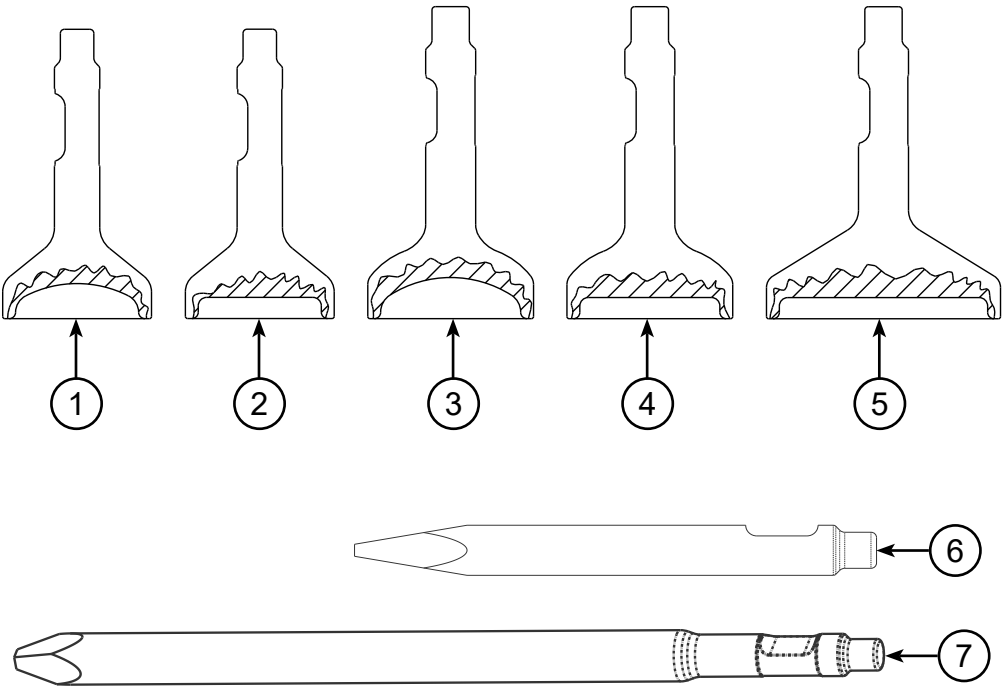
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|-------------------------------|------|------------|
| 1 | 200585 | Grapple Case | 1 | T7 |
| | 200225 | Grapple Case | 1 | T8-RR |
| 2 | 21078 | Rue Clip | 4 | All Models |
| 3 | 200230 | Male Jaw | 1 | All Models |
| 4 | 200232 | Female Jaw | 1 | All Models |
| 5 | 21077 | Clevis Pin | 2 | All Models |
| 6 | 21134 | Clevis Pin | 1 | All Models |
| 7 | 206092 | Clevis Pin | 1 | All Models |
| 8 | 21167 | Hydraulic Cylinder Weldment | 1 | All Models |
| 9 | 200550S | Grapple Cover | 1 | All Models |
| 10 | 10412 | Toplock Nut (3/8"-16) | 2 | All Models |
| 11 | 10413 | Bolt (3/8"-16 x 3.25", Gr. 5) | 1 | All Models |
| 12 | 200545 | Grapple Lock | 1 | All Models |
| 13 | 3041 | Bolt (3/8"-16 x 3.5", Gr. 8) | 1 | All Models |
| 14 | 206091 | Spring | 1 | All Models |

Parts

Driving Tools

⚠️WARNING

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| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|--------------------------------|------|-------|
| 1 | 196067 | Domed Driving Tool | 1 | T7 |
| 2 | 196067F | Flat Driving Tool | 1 | T7 |
| 3 | 196074 | Domed Driving Tool | 1 | T8-RR |
| 4 | 196074F | Flat Driving Tool | 1 | T8-RR |
| 5 | 196074R | Railroad Tie Flat Driving Tool | 1 | T8-RR |
| 6 | 236080 | Concrete Breaker Tool | 1 | T7 |
| | 236082 | Concrete Breaker Tool | 1 | T8-RR |
| 7 | 236090 | Rock Spike | 1 | T8-RR |

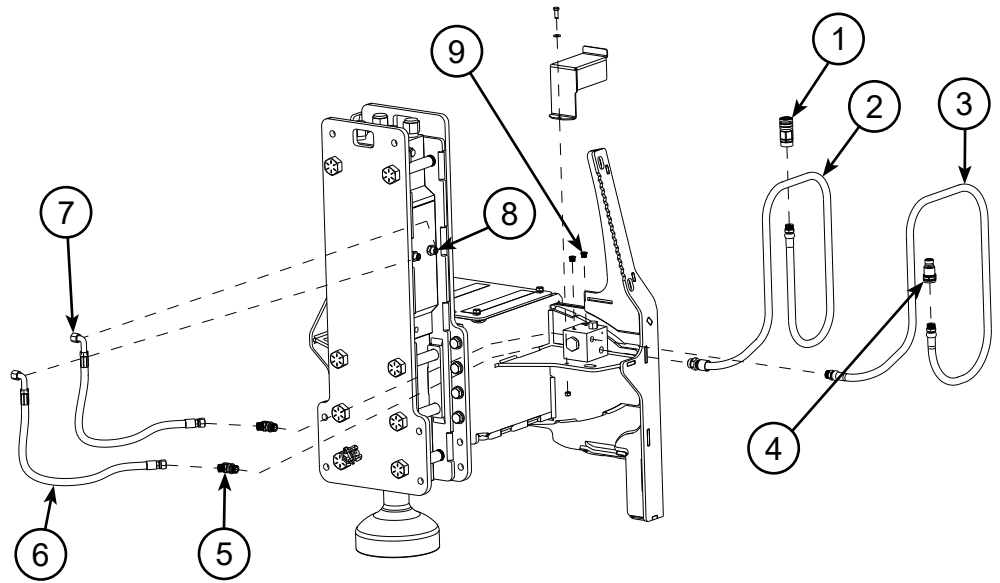
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Parts

Hydraulics
Skid-Steer Mount

⚠ WARNING

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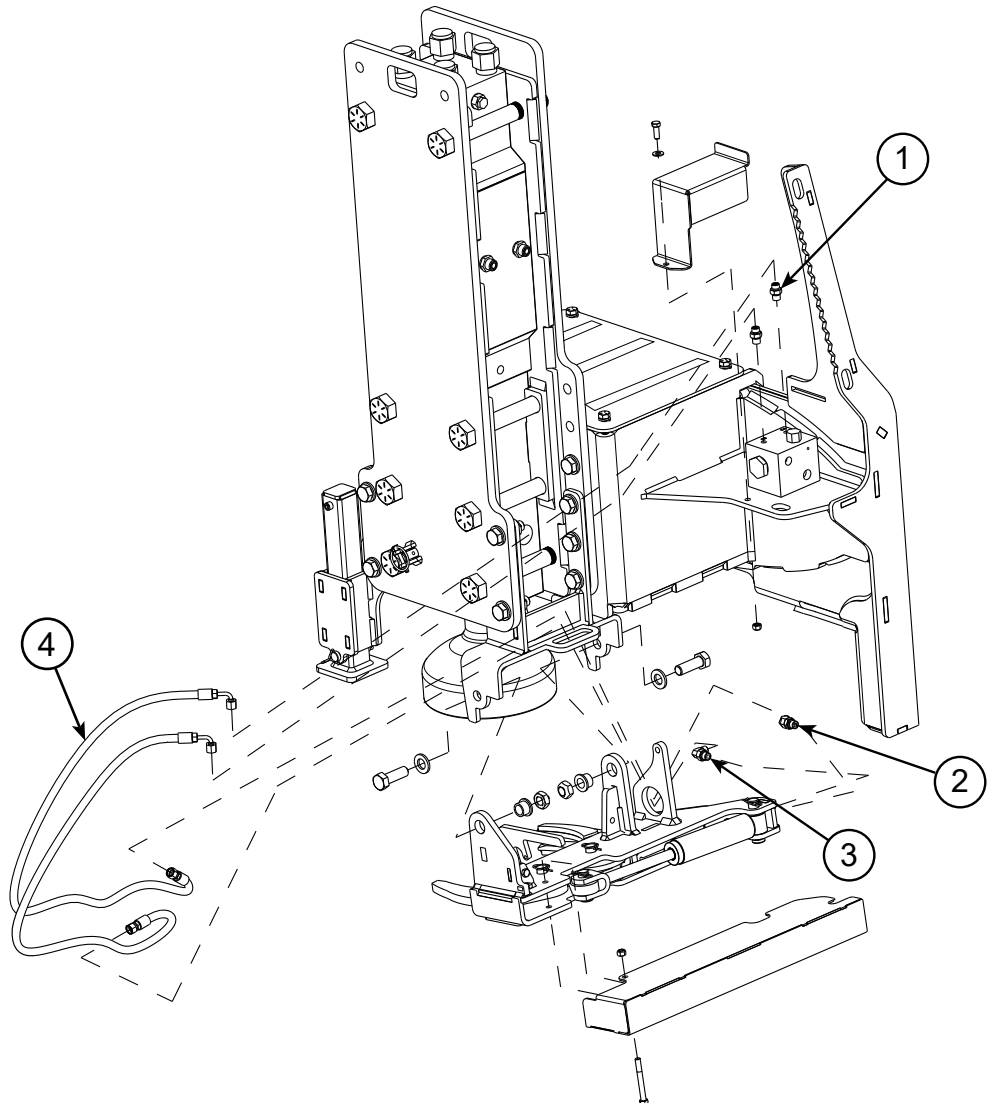
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|--------------------------------------------------|------|------------|
| 1 | 10049 | Female Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 2 | 206024 | 1/2" Hose Assembly (#10 ORB M to #12 ORB M) | 1 | All Models |
| 3 | 206000 | 1/2" Hose Assembly (#10 ORB M to #10 ORB M) | 1 | All Models |
| 4 | 10048 | Male Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 5 | 196043 | Adapter, 45° (#8 ORFS M to #7/8-14 UNF-2A) | 2 | All Models |
| 6 | 216007 | 1/2" Hose Assembly, 90° (#8 ORFS F to #8 ORFS F) | 1 | T7 |
| | 206023 | 1/2" Hose Assembly, 90° (#8 ORFS F to #8 ORFS F) | 1 | T8-RR |
| 7 | 216006 | 1/2" Hose Assembly, 90° (#8 ORFS F to #8 ORFS F) | 1 | T7 |
| | 206022 | 1/2" Hose Assembly, 90° (#8 ORFS F to #8 ORFS F) | 1 | T8-RR |
| 8 | 206015 | Adapter (#8 BSPP M to #8 ORFS M) | 2 | All Models |
| 9 | 21141 | Plug (#6 ORB) | 2 | All Models |

Parts

Grapple Hydraulics
Non-Tilt Skid-Steer Mount

! WARNING

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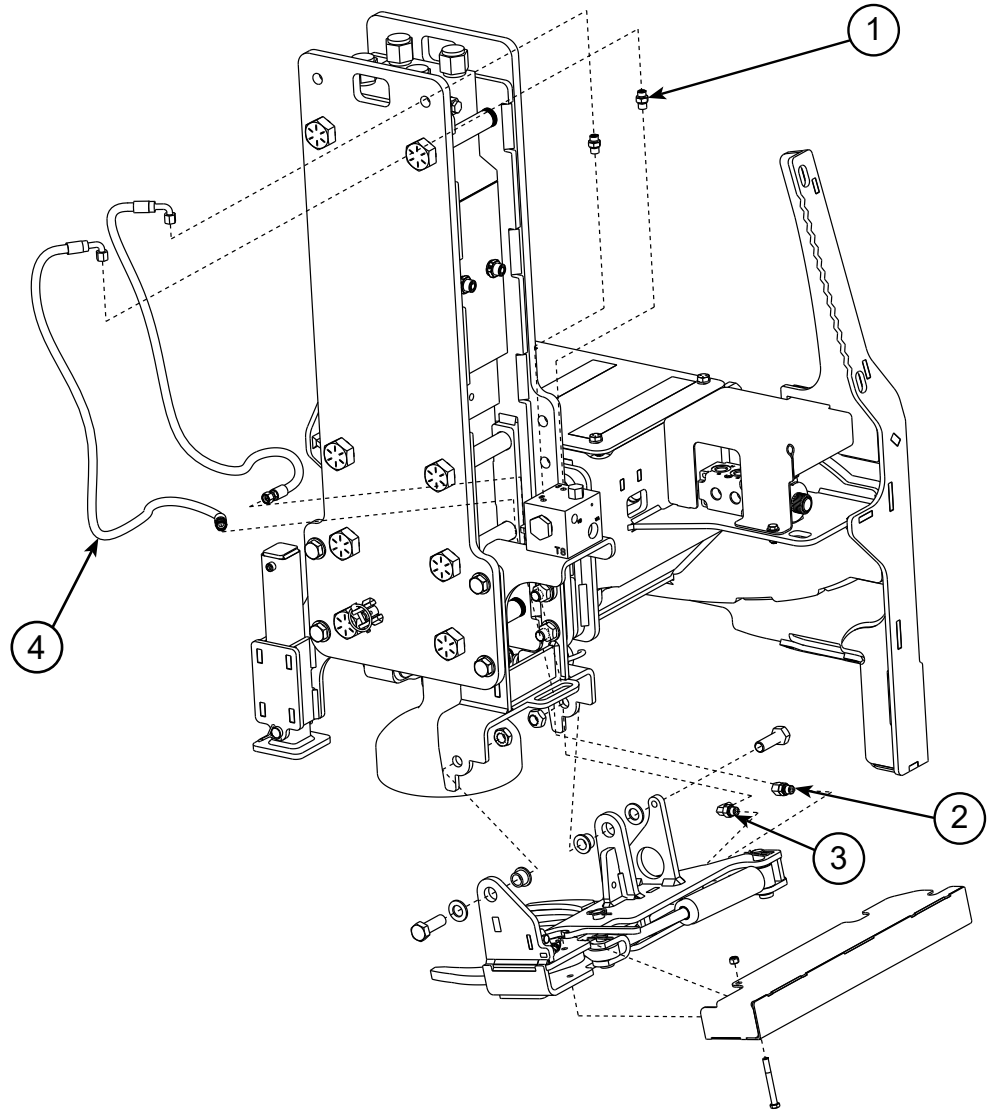
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|---------------------------------------------------|------|------------|
| 1 | 196045 | Adapter (#4 ORFS M to #6 ORB M) | 2 | All Models |
| 2 | 206087 | Adapter, 45° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 3 | 206014 | Adapter, 90° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 4 | 206021 | 1/4" Hose Assembly, 90° (# 4 ORFS F to #4 ORFS F) | 2 | All Models |

Parts

Grapple Hydraulics w/ Tilt
Skid-Steer Mount

WARNING

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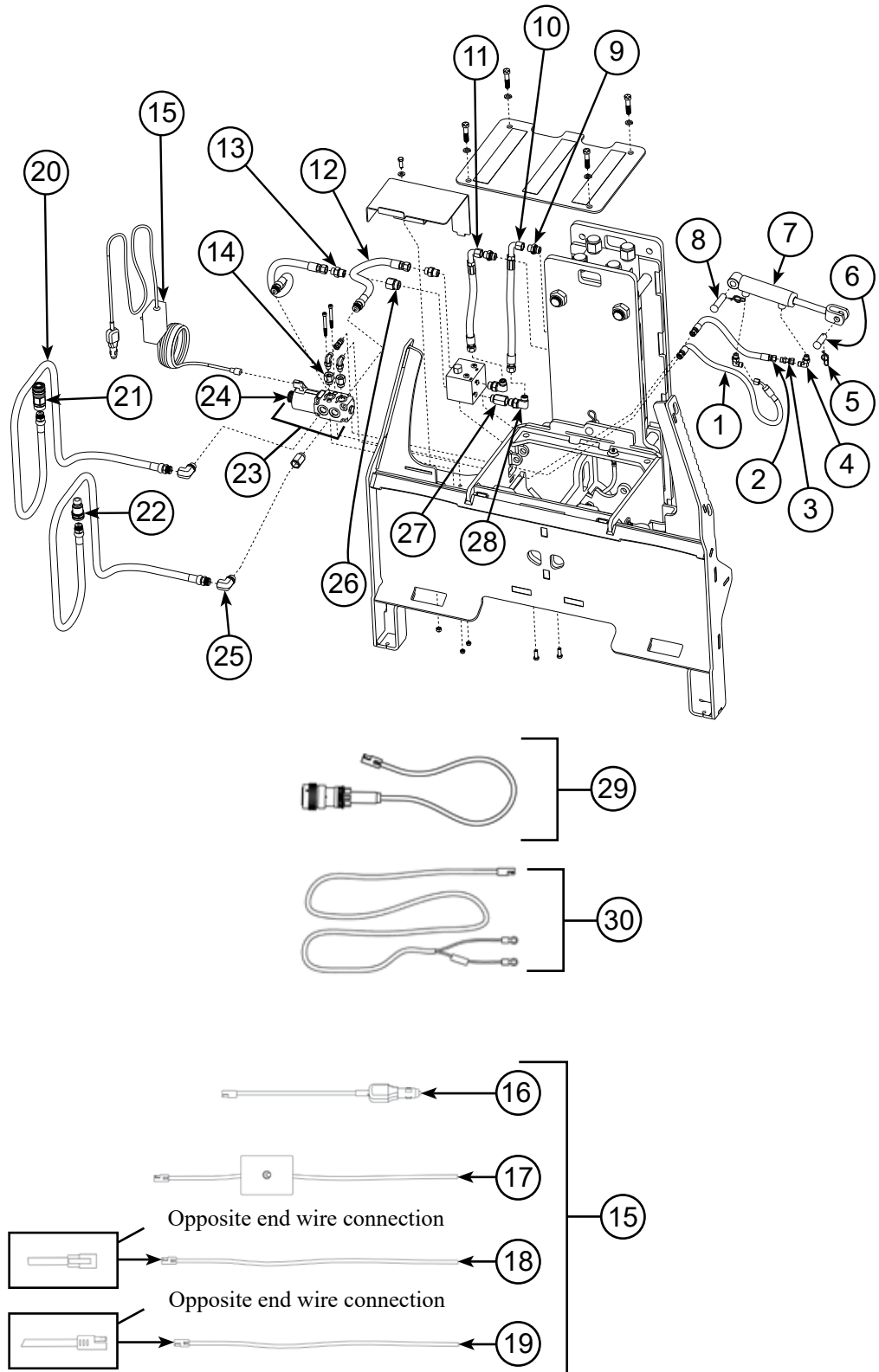
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|---------------------------------------------------|------|------------|
| 1 | 196045 | Adapter (#4 ORFS M to #6 ORB M) | 2 | All Models |
| 2 | 206087 | Adapter, 45° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 3 | 206014 | Adapter, 90° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 4 | 206021 | 1/4" Hose Assembly, 90° (# 4 ORFS F to #4 ORFS F) | 2 | All Models |

Parts

Tilt Hydraulics
Skid-Steer Mount

! WARNING

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Parts

| | REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|-------------|----------|----------|---------------------------------------------------|------|------------|
| (continued) | 1 | 216032 | 1/4" Hose Assembly, 45° (#4 ORFS F to #4 ORFS F) | 1 | All Models |
| | 2 | 216031 | 1/4" Hose Assembly (#4 ORFS F to #4 ORFS F) | 1 | All Models |
| | 3 | 216030 | Restrictor (#4 ORFS M to #4 ORFS F) | 2 | All Models |
| | 4 | 206014 | Adapter, 90° (#4 ORFS M to #6 ORB M) | 4 | All Models |
| | 5 | 21078 | Rue Clip | 2 | All Models |
| | 6 | 21134 | Clevis Pin | 1 | All Models |
| | 7 | 21167 | Hydraulic Cylinder Weldment | 1 | All Models |
| | 8 | 21077 | Clevis Pin | 1 | All Models |
| | 9 | 206015 | Adapter (#8 BSPP M to #8 ORFS M) | 2 | All Models |
| | 10 | 216034 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7 |
| | | 216036 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T8-RR |
| | 11 | 216035 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7 |
| | | 216037 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T8-RR |
| | 12 | 216033 | 1/2" Hose Assembly (# 8 ORFS F to #10 ORB M) | 2 | All Models |
| | 13 | 196044 | Adapter (#8 ORFS M to #10 ORB M) | 2 | All Models |
| | 14 | 216029 | Adapter (#10 ORB M to #6 ORB F) | 2 | All Models |
| | 15 | 21162 | Wiring Harness (Includes REF. NOS. 16-19) | 1 | All Models |
| | 16 | 21343 | Wire (12-volt Auxiliary Power) | 1 | All Models |
| | 17 | 21344 | Wire (Control Switch) | 1 | All Models |
| | 18 | 21345 | Wire (Solenoid) | 1 | All Models |
| | 19 | 21346 | Wire (Extension) | 1 | All Models |
| | 20 | 206000 | 1/2" Hose Assembly (#10 ORB M to #10 ORB M) | 2 | All Models |
| | 21 | 10049 | Female Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| | 22 | 10048 | Male Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| | 23 | 21128 | Diverter Valve (Includes REF. NO. 24) | 1 | All Models |
| | 24 | 21340 | Diverter Valve Solenoid | 1 | All Models |
| | 25 | 216038 | Adapter, 90° (#10 ORB M to #10 ORB F) | 2 | All Models |
| | 26 | 236069 | Adapter (#12 ORB M to #10 ORB F) | 1 | All Models |
| | 27 | 216039 | Adapter (#10 ORB M to #10 ORB F) | 2 | All Models |
| | 28 | 216026 | Adapter, 90° (#8 ORFS M to #10 ORB M) | 2 | All Models |
| | 29 | *21220 | Optional Wiring Harness | 1 | All Models |
| | 30 | *21253 | Optional Wiring Harness (Battery Connection) | 1 | All Models |

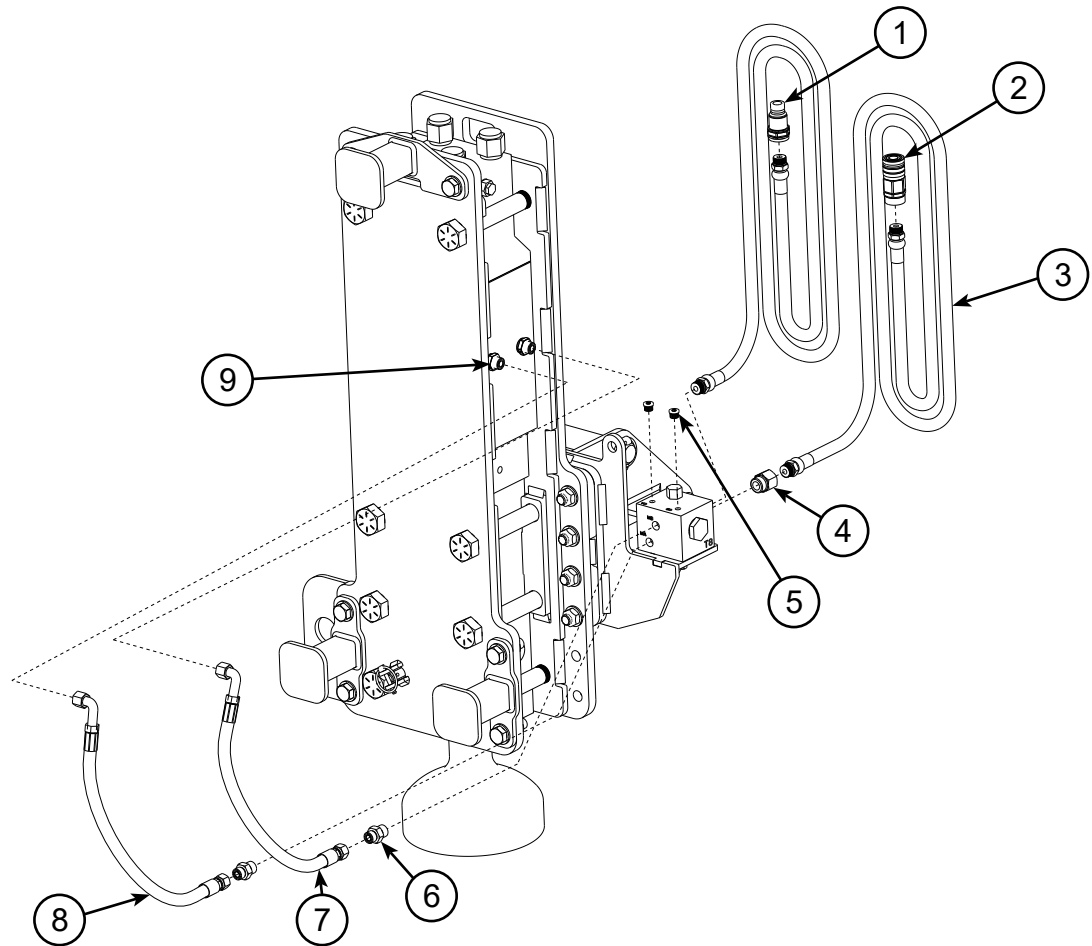
* For PN and full description, refer to *Accessories*.

Parts

Hydraulics Backhoe &
Excavator Mount

! WARNING

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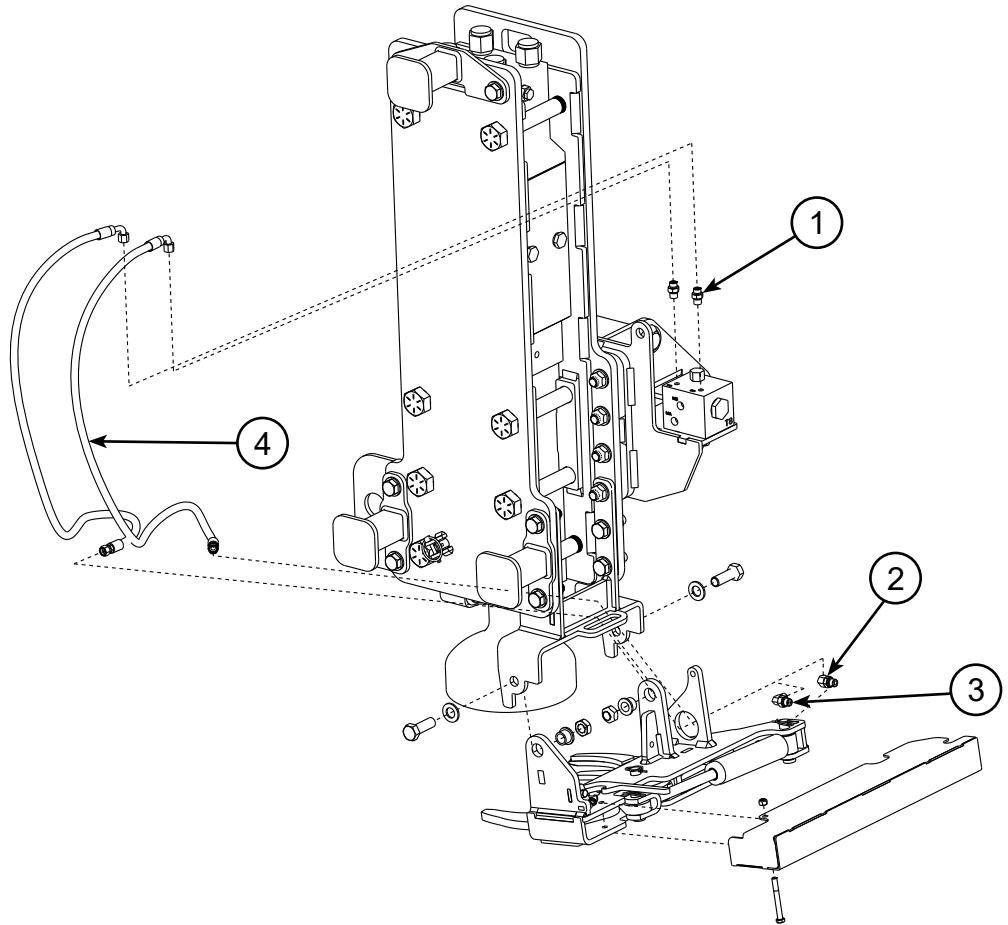
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|---------------------------------------------------|------|----------------------------------------|
| 1 | 10048 | Male coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 2 | 10049 | Female Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 3 | 216073 | 1/2" Hose Assembly (#10 ORB M to #10 ORB M) | 2 | All Models |
| 4 | 236069 | Adapter (#12 ORB M to #10 ORB F) | 1 | All Models |
| 5 | 21141 | Plug (#6 ORB) | 2 | All Models |
| 6 | 196044 | Adapter (#8 ORFS M to #10 ORB M) | 2 | All Models |
| 7 | 216037 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7-Non-Tilt Models |
| | 216075 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7-Tilt Models & T8-RR-Non-Tilt Models |
| | 216076 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T8-RR-Tilt Models |
| 8 | 216036 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7-Non-Tilt Models |
| | 216074 | 1/2" Hose Assembly, 90° (# 8 ORFS F to #8 ORFS F) | 1 | T7-Tilt Models & T8-RR-Non-Tilt Models |
| | 216006 | 1/2" Hose Assembly, 90° (#8 ORFS F to #8 ORFS F) | 1 | T8-RR-Tilt Models |
| 9 | 206015 | Adapter (#8 BSPP M to #8 ORFS M) | 2 | All Models |

Parts

Grapple Hydraulics
Backhoe & Excavator
Mount

⚠ WARNING

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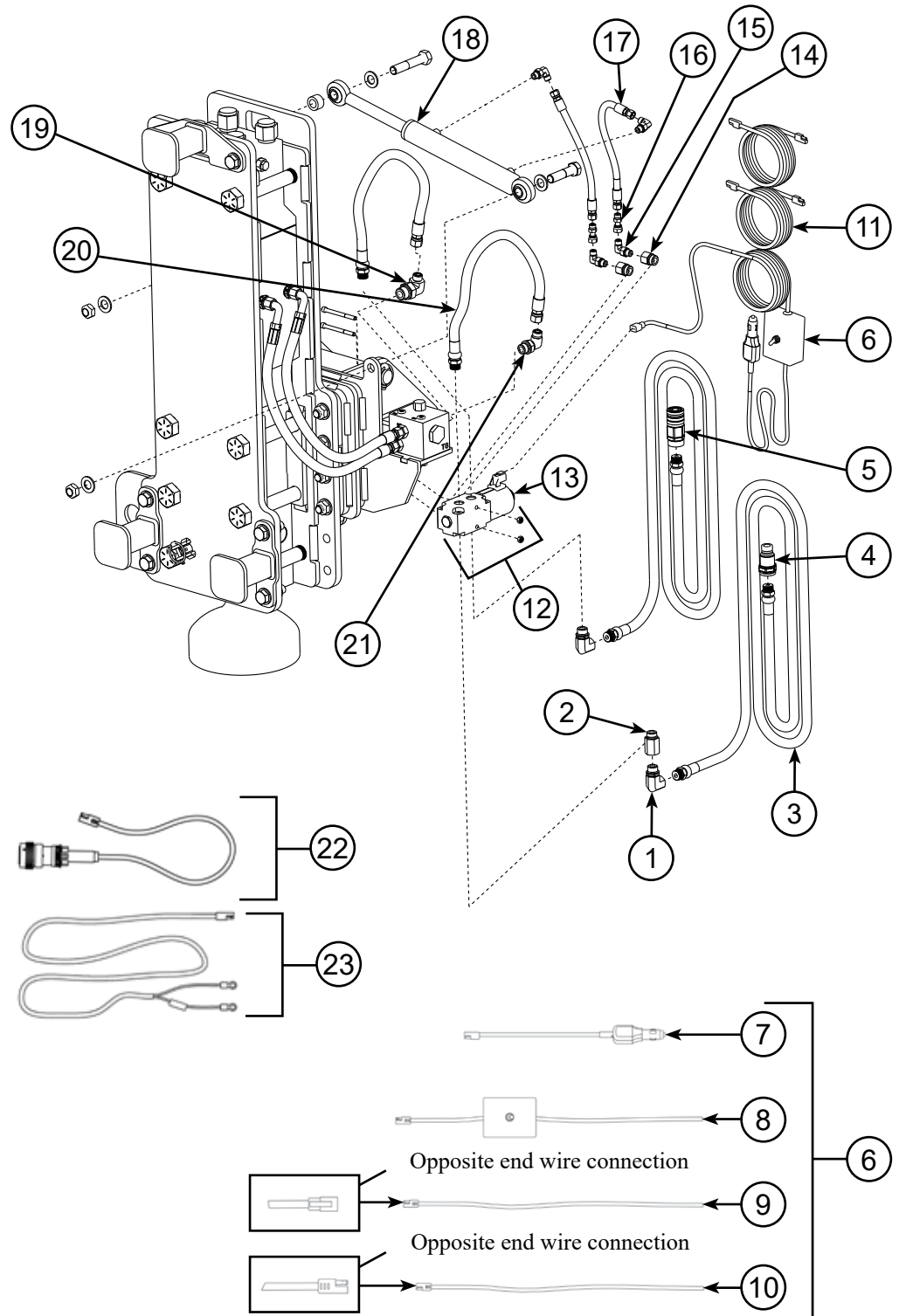
| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|---------------------------------------------------|------|------------|
| 1 | 196045 | Adapter (#4 ORFS M to #6 ORB M) | 2 | All Models |
| 2 | 206087 | Adapter, 45° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 3 | 206014 | Adapter, 90° (#4 ORFS M to #6 ORB M) | 1 | All Models |
| 4 | 206021 | 1/4" Hose Assembly, 90° (# 4 ORFS F to #4 ORFS F) | 2 | All Models |

Parts

Tilt Hydraulics Backhoe &
Excavator Mount

! WARNING

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Parts

(continued)

| REF. NO. | PART NO. | DESCRIPTION | QTY. | MODEL |
|----------|----------|----------------------------------------------|------|------------|
| 1 | 216038 | Adapter, 90° (#10 ORB M to #10 ORB F) | 2 | All Models |
| 2 | 216039 | Adapter (#10 ORB M to #10 ORB F) | 1 | All Models |
| 3 | 216073 | 1/2" Hose Assembly (#10 ORB M to #10 ORB M) | 2 | All Models |
| 4 | 10048 | Male Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 5 | 10049 | Female Coupler (1/2" flush-face, ISO 16028) | 1 | All Models |
| 6 | 21162 | Wiring Harness (Includes REF. NOS. 7-10) | 1 | All Models |
| 7 | 21343 | Wire (12-volt Auxiliary Power) | 1 | All Models |
| 8 | 21344 | Wire (Control Switch) | 1 | All Models |
| 9 | 21345 | Wire (Solenoid) | 1 | All Models |
| 10 | 21346 | Wire (Extension) | 1 | All Models |
| 11 | 21346 | Wire (Extension) | 2 | All Models |
| 12 | 21128 | Diverter Valve (Includes REF. NO. 13) | 1 | All Models |
| 13 | 21340 | Diverter Valve Solenoid | 1 | All Models |
| 14 | 216029 | Adapter (#10 ORB M to #6 ORB F) | 2 | All Models |
| 15 | 206014 | Adapter, 90° (#4 ORFS M to #6 ORB M) | 4 | All Models |
| 16 | 216030 | Restrictor (#4 ORFS M to #4 ORFS F) | 2 | All Models |
| 17 | 216031 | 1/4" Hose Assembly (# 4 ORFS F to #4 ORFS F) | 2 | All Models |
| 18 | 210074 | Tilt Cylinder Weldment | 1 | All Models |
| 19 | 216027 | Adapter, 90° (#8 ORFS M to #12 ORB M) | 1 | All Models |
| 20 | 216033 | 1/2" Hose Assembly (# 8 ORFS F to #10 ORB M) | 2 | All Models |
| 21 | 216026 | Adapter, 90° (#8 ORFS M to #10 ORB M) | 1 | All Models |
| 22 | *21220 | Optional Wiring Harness | 1 | All Models |
| 23 | *21253 | Optional Wiring Harness (Battery Connection) | 1 | All Models |

* For PN and full description, refer to *Accessories*.

WARNING

This product can expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

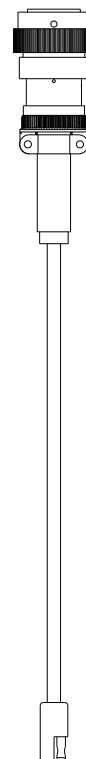
Wiring Harness Options

Danuser takes care to ensure the accuracy of the information contained in this manual. We assume no liability for errors contained herein. It is the responsibility of the installer to ensure that all of the products are correct before installation. Proper assembly always requires that the installer use all instructions and safety procedures. We assume no liability for any errors made in product selection or installation.

Optional wiring harness allows for tilt function from the vehicle joystick controls. It replaces the standard harness 12-volt auxiliary power port plug and control switch on the T7 and T8-RR.

- | | |
|---------------|-------------------------------------------------------------------------------------------------|
| PN 21220-1 | - 8-Pin used on ASV, Caterpillar, Komatsu, and Terex |
| PN 21220-2 | - 14-Pin used on Bobcat (prior to 1999), Case, Kubota, New Holland, Takeuchi, and Volvo |
| PN 21220-3 | - 14-Pin Deere used on John Deere |
| PN 21220-4 | - 14-Pin Caterpillar used on Caterpillar |
| PN 21220-5 | - 14-Pin used on Bobcat (1999 and current) and Gehl |
| * PN 21220-U1 | - 8-Pin universal wiring harness. Contacts are crimped on wire but not installed in connector. |
| * PN 21220-U2 | - 14-Pin universal wiring harness. Contacts are crimped on wire but not installed in connector. |

* Requires connector contacts be installed in a switchable +12-volt pin location and ground pin location. Mapping of skid-steer connector pins required.



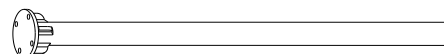
Wiring Harness (Battery Connection)

PN 21253 - Connects to battery terminals for alternative power connection for Hornet models with tilt.



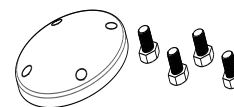
T-post Adapter

PN 21149 - Must be added for driving T-posts. Can only be used with a flat bottom driving tool.



T-post Adapter Domed Driving Tool Kit

PN 220011 - Must be added to PN 21149 for driving T-posts with a domed driving tool.



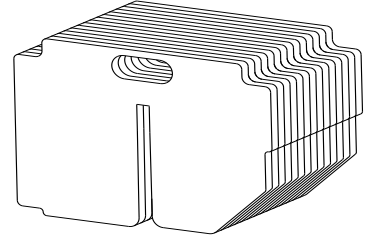
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Additional Weight Kit - Non-Tilt Hornets

PN 200076 - Add up to 14 weight plates for reduced vibration and more efficient driving. 1 weight = 44 lb., 14 weights = 616 lb. Increases driving speed up to 50% faster than base unit.

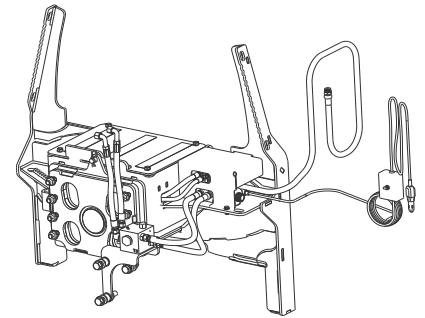


Additional Weight Kit - Tilt Hornets

PN 214201 - Add up to 11 weight plates for reduced vibration and more efficient driving. 1 weight = 44 lb., 11 weights = 484 lb. Tilt intermediate weldment and additional tilt components (included with Hornet Driver) = 132 lb. Increases driving speed up to 50% faster than base unit.

T7 Skid-Steer Tilt Kit

PN 214200 - Tilt left or right up to 20°. May be added to T7 Hornet only. Includes diverter switch and plug adapter that connects to a 12-volt auxiliary power outlet inside the cab.



T8-RR Skid-Steer Tilt Kit

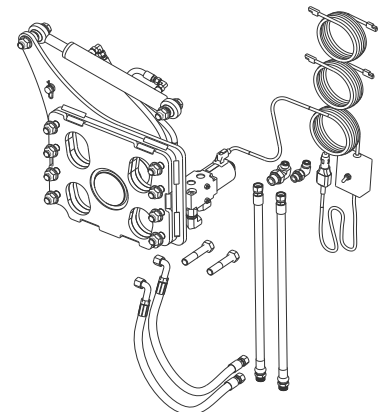
PN 214205 - Tilt left or right up to 20°. May be added to T8-RR Hornet only. Includes diverter switch and plug adapter that connects to a 12-volt auxiliary power outlet inside the cab.

T7 Backhoe & Excavator Tilt Kit

PN 214202 - Tilt left or right up to 20°. May be added to T7 Hornet only. Includes diverter switch and plug adapter that connects to a 12-volt auxiliary power outlet inside the cab.

T8-RR Backhoe & Excavator Tilt Kit

PN 214207 - Tilt left or right up to 20°. May be added to T8-RR Hornet only. Includes diverter switch and plug adapter that connects to a 12-volt auxiliary power outlet inside the cab.



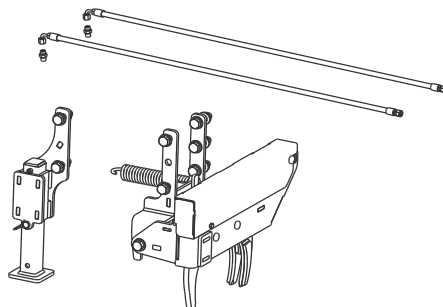
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WARNING

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T7 Skid-Steer Grapple Kit - Non-Tilt Hornets

PN 210040 - Grapple for one-person operation, for skid-steer Hornet T7 models without tilt only.



T7 Skid-Steer Grapple Kit - Tilt Hornets

PN 214203 - Grapple for one-person operation, for skid-steer Hornet T7 models with tilt only.

T8-RR Skid-Steer Grapple Kit - Non-Tilt Hornets

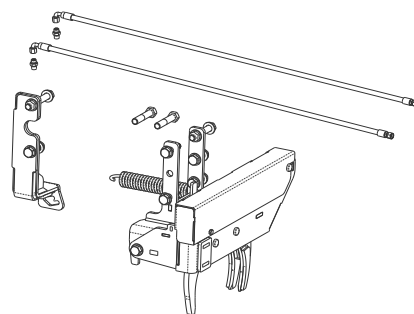
PN 210041 - Grapple for one-person operation, for skid-steer Hornet T8-RR models without tilt only.

T8-RR Skid-Steer Grapple Kit - Tilt Hornets

PN 214208 - Grapple for one-person operation, for skid-steer Hornet T8-RR models with tilt only.

T7 Backhoe & Excavator Grapple Kit

PN 214204 - Grapple for one-person operation, for backhoe & excavator Hornet T7 models only.



T8-RR Backhoe & Excavator Grapple Kit

PN 214209 - Grapple for one-person operation, for backhoe & excavator Hornet T8-RR models only.

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Warranty

DANUSER

Model # _____

Serial # _____

LIMITED WARRANTY

Danuser Machine Company, 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.

Hornet - 1 Year

Wear Items Not Covered Under Warranty - Hydraulic Hoses and Seals, Concrete Breaker Tool, and Rock Spike

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 power cells and hydraulic components, 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 power cells and hydraulic components. To qualify for warranty inspection, the "failed" part(s) 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: Power cells and hydraulic components must arrive with all ports sealed from dirt and moisture. If a power cell or hydraulic component 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.

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