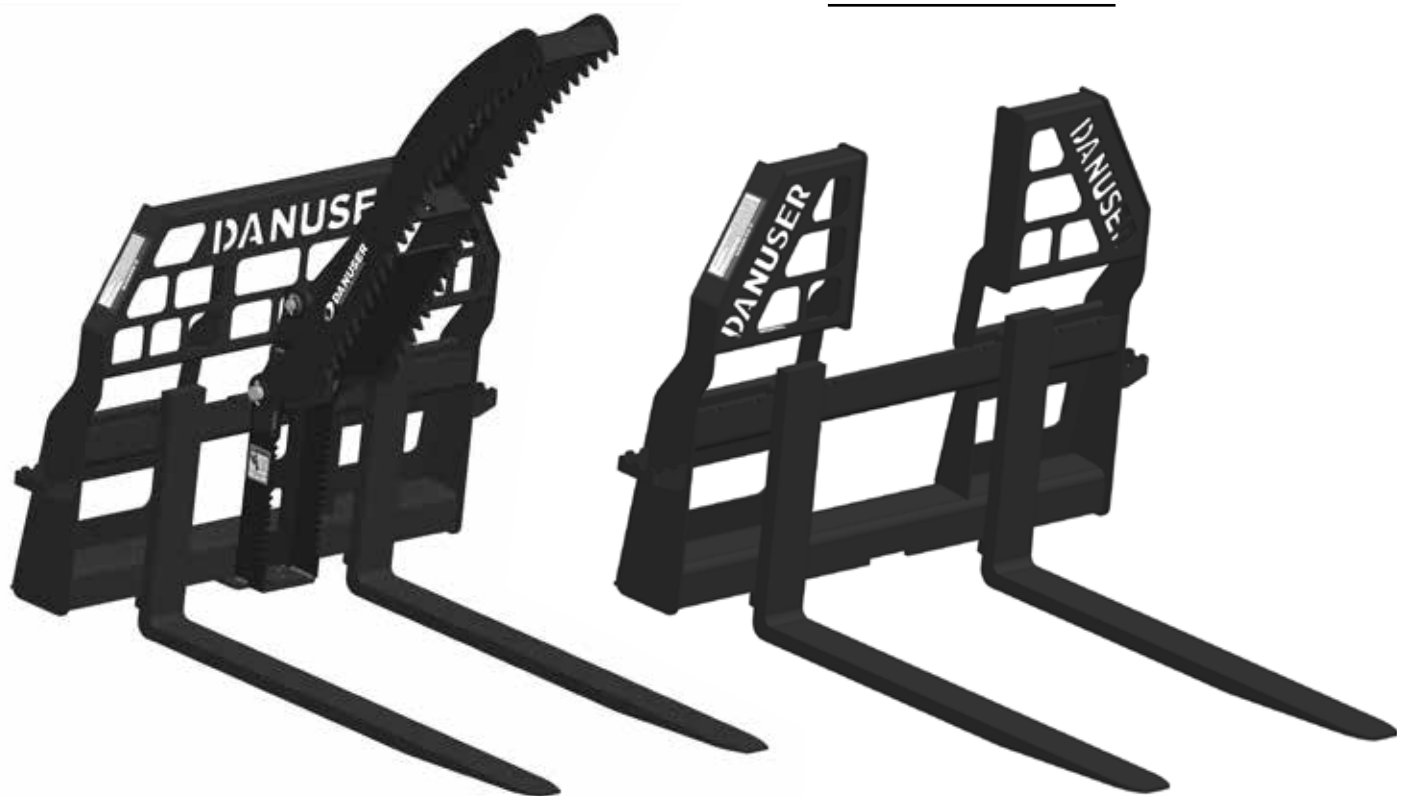
DANUSER®
ESTABLISHED 1910 · FULTON, MISSOURI

PALLET FORKS & MULTI-PURPOSE GRAPPLE



⚠ 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.

Owner: _____

Date Purchased: _____

Model #: _____ Serial #: _____

Manual #: 9MFORK2461251

⚠WARNING

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

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 Pallet Forks and/or Multi-Purpose Grapple. We appreciate your business.

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 Pallet Forks and/or Multi-Purpose Grapple, 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 Pallet Forks and/or Multi-Purpose Grapple, 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.

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 Pallet Forks and/or Multi-Purpose Grapple.

Symbol	*Meaning*
⚠ DANGER	Indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.
⚠ WARNING	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.
⚠ CAUTION	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.
NOTE	This is important information for proper use of this equipment. Failure to comply may lead to premature equipment failure.

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⚠WARNING

Working with unfamiliar equipment can lead to careless injuries. Read and understand this manual and the manual for your vehicle before assembling, installing, operating, maintaining, servicing, removing, or moving this Danuser Pallet Forks and/or Multi-Purpose Grapple. 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 Pallet Forks and/or Multi-Purpose Grapple are designed to be operated from the vehicle operator station. Keep bystanders away from the work area. Do not operate with another person near or in contact with any part of the Pallet Forks and/or Multi-Purpose Grapple.

- 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 Pallet Forks and/or Multi-Purpose Grapple.

- Please remember it is also important that you read, understand, and follow the safety signs on the attachment. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety as well as the safety of others. Danuser 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 attachment.

- 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 Pallet Forks and/or Multi-Purpose Grapple.

- 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 Pallet Forks and/or Multi-Purpose Grapple.

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

- Never allow children to operate or be around the Pallet Forks and/or Multi-Purpose Grapple.

- Do not use the Pallet Forks and/or Multi-Purpose Grapple as a work platform. Do not stand or climb on the Pallet Forks and/or Multi-Purpose Grapple.
- Do not allow riders on the equipment at any time. There is no safe place for any riders.
- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this equipment while taking prescription or over-the-counter medications.
- Safe operation of equipment requires the operator's full attention. Avoid distractions such as radio headphones, cell phones, etc. while operating.
- Stay away from power lines when transporting, raising, or operating the attachment. Electrocution can occur without direct contact.
- The Pallet Forks must be securely latched to the vehicle. Ensure locking pin(s) are installed and properly secured. Improperly latched Pallet Forks can fall without warning.
- Before you operate the attachment, check over pins and connections to be sure all are securely in place.
- Keep hands, feet, hair, jewelry, and clothing away from all moving parts.
- Never place yourself between the vehicle and the attachment.
- Never allow anyone under the attachment at any time.
- Never place your hands or fingers between the pallet fork frame and the fork tines, especially when adjusting fork tines.
- Do not exceed the vehicle’s rated operating load. Use sufficient counterweights. Move the vehicle slowly when the attachment is raised.
- Do not exceed the fork tine’s rated capacity. Always use proper length forks.
- Be sure the load does not stick out too far. A light load sticking out too far can have the same tipping effect as a heavy load carried in close.
- Check materials to be handled. Be alert for any hazardous materials that could come in contact with the Pallet Forks and/or Multi-Purpose Grapple.
- The Pallet Forks are designed to vertically lift stable objects. Only lift objects that have solid bases that rest securely on the forks.
- Do not lift any objects that exceed the height of the brick guard.
- Do not lift any objects that are not secured or banded which may be small enough to fit through the openings in the brick guard.
- Balance the load on both forks, and always keep the load level.
- Make sure loads are secure. If using the Multi-Purpose Grapple and the load appears unstable, open the grapple and reposition load.
- When stacking logs or stumps, make sure stack is stable.
- 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.
- For operator safety, always keep load in front of vehicle. Load should never be tilted toward or positioned over the operator.

- Do not operate the Pallet Forks and/or Multi-Purpose Grapple on steep hillsides. When operating 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 Pallet Forks. 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.
- 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 where children do not play. Securely block and support the attachment.
- Do not modify the attachment. Modifications can weaken the integrity of the attachment and may impair the safety, function, life, and performance of the Pallet Forks and/or Multi-Purpose Grapple.
- When making repairs or servicing the Pallet Forks and/or Multi-Purpose Grapple, use only parts that meet the original equipment manufacturer's standards and requirements.
- Always use care when operating the Pallet Forks and/or Multi-Purpose Grapple. Most accidents occur because of neglect or carelessness.

Safety is a primary concern in the design, manufacture, sale, and use of the Pallet Forks and/or Multi-Purpose Grapple. Danuser confirms to you, our customer, our concern for safety.

⚠ DANGER

Improper operation of this Pallet Forks and/or Multi-Purpose Grapple 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 Pallet Forks and/or Multi-Purpose Grapple operations are beyond our control, we disclaim all liability for any damages, injuries, or death which may result.

⚠CALIFORNIA WARNING

This product can expose you to chemicals including lead, which are 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.

Decals & Safety Signs

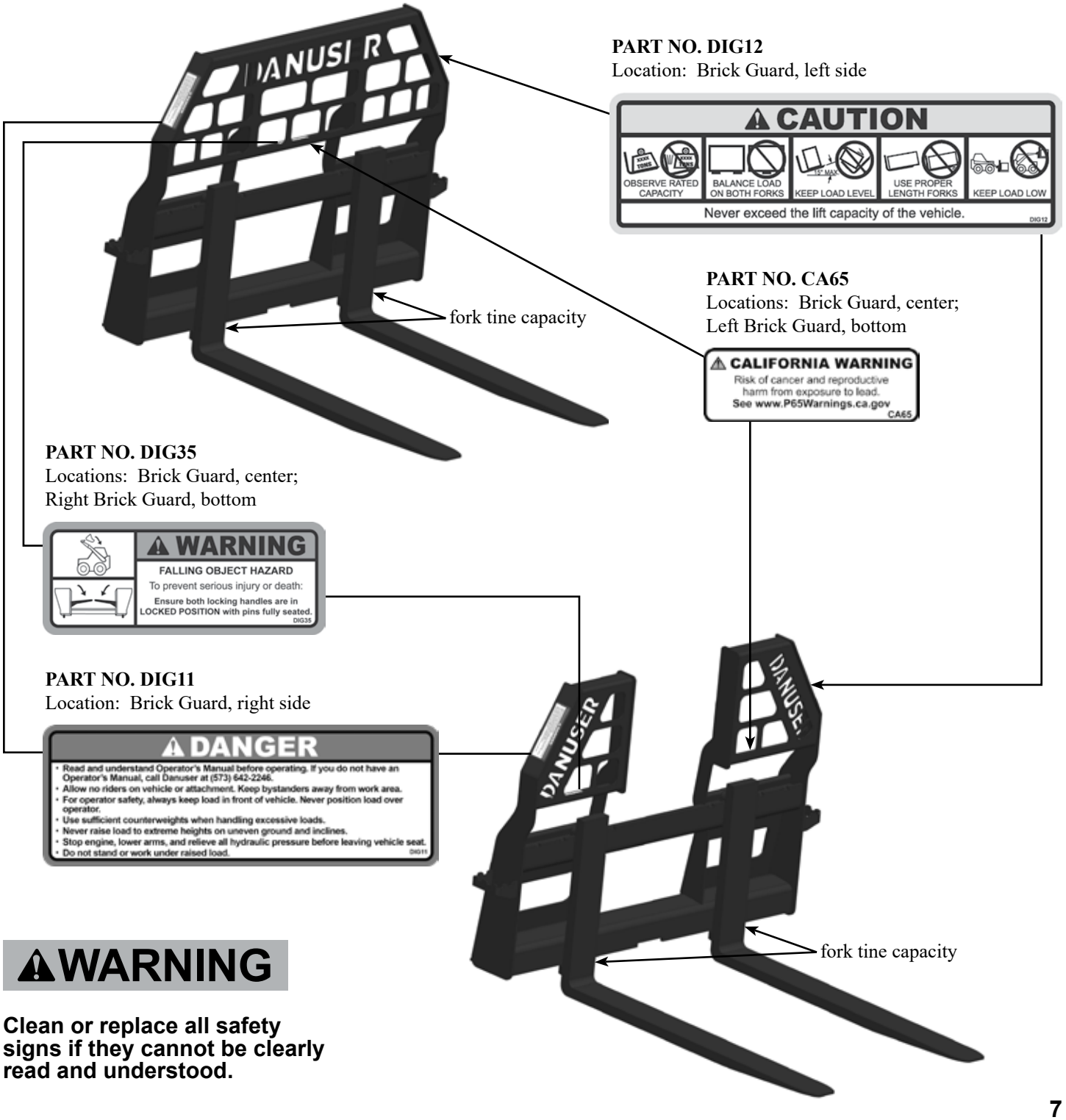
Skid-Steer
Full Brick Guard or
Walk-Thru Brick Guard

The Pallet Forks come 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).



⚠WARNING

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

Decals & Safety Signs

John Deere
200/300/400/500

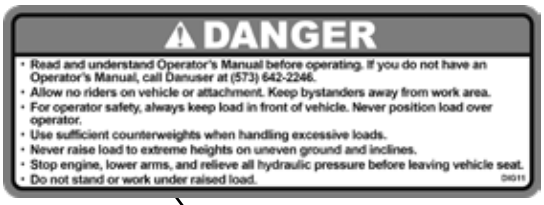
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4. Firmly press the safety sign, and squeeze out the air bubbles with a straight edge (e.g., a credit card).

PART NO. DIG11
Location: Brick Guard, right side



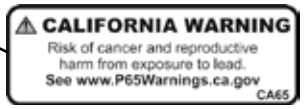
PART NO. DIG12
Location: Brick Guard, left side

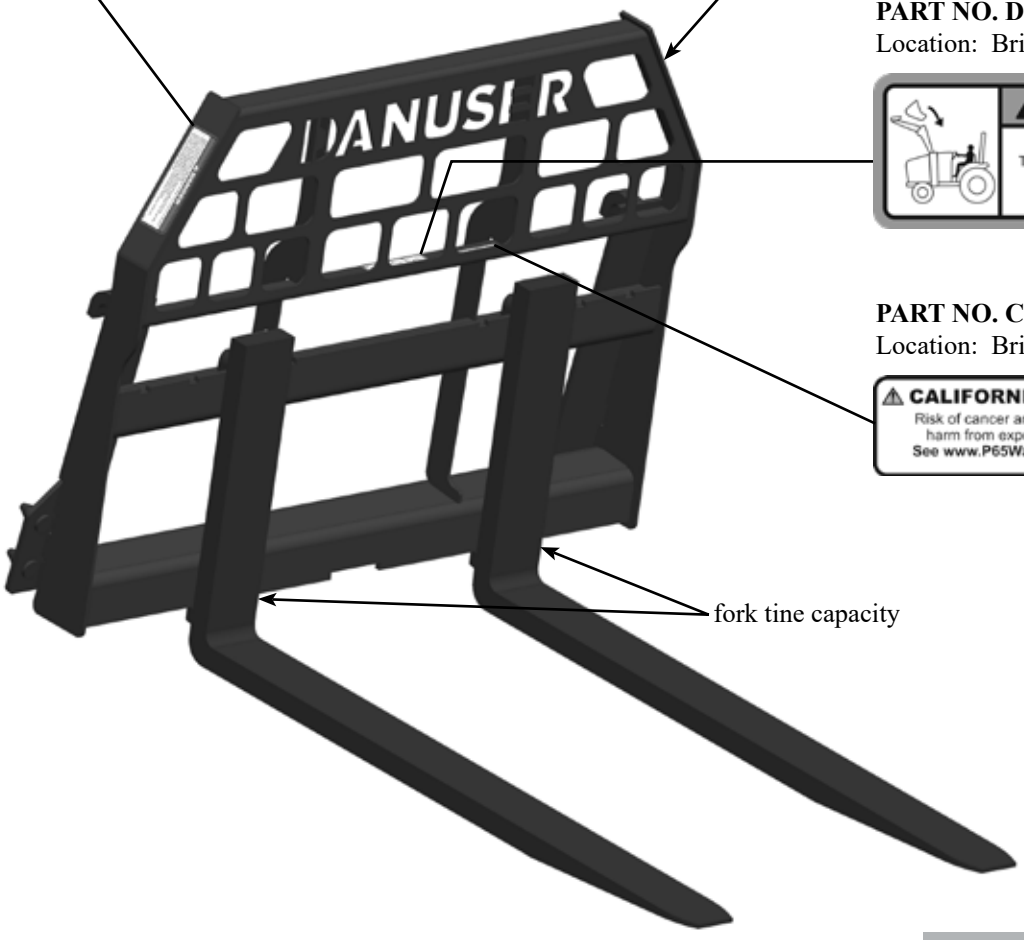


PART NO. DIG41
Location: Brick Guard, center



PART NO. CA65
Location: Brick Guard, center





⚠WARNING

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

Decals & Safety Signs

John Deere
600/700

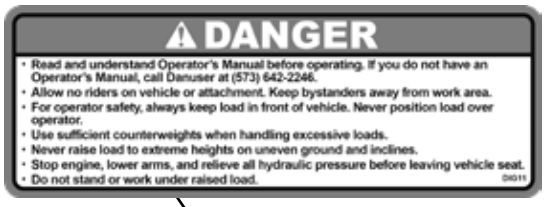
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- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing, illegible, or damaged.
- Ensure replacement parts installed during repair have safety signs attached.

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).

PART NO. DIG11
Location: Brick Guard, right side



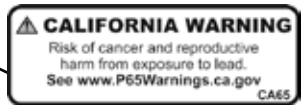
PART NO. DIG12
Location: Brick Guard, left side

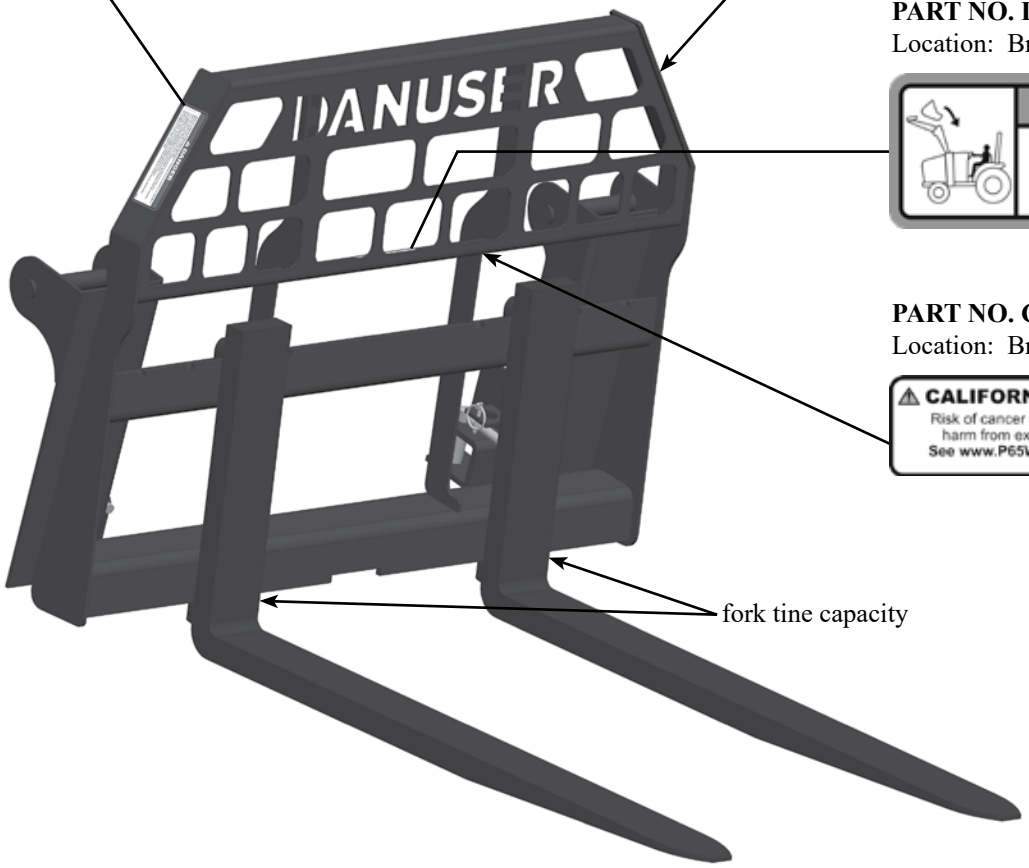


PART NO. DIG41
Location: Brick Guard, center



PART NO. CA65
Location: Brick Guard, center





⚠WARNING

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

Decals & Safety Signs

Euro/Global

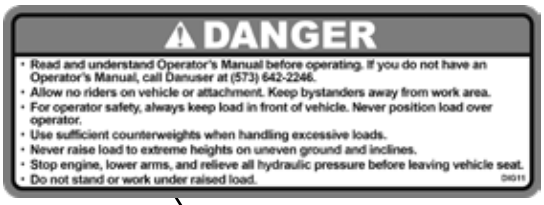
The Pallet Forks come equipped with all safety signs in place. Their locations are shown in this section. Read and follow their instructions and ensure their care:

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- Replace safety signs that are missing, illegible, or damaged.
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To install new safety signs, follow these steps:

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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. DIG11
Location: Brick Guard, right side



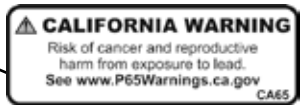
PART NO. DIG12
Location: Brick Guard, left side

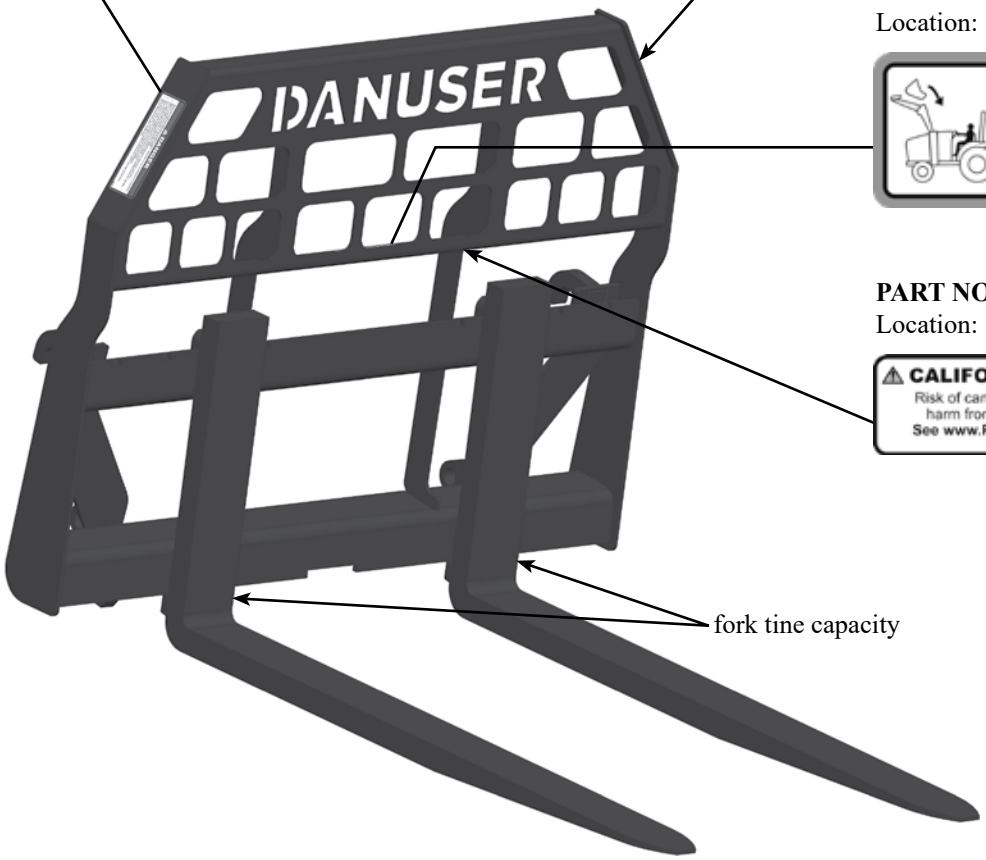


PART NO. DIG41
Location: Brick Guard, center



PART NO. CA65
Location: Brick Guard, center





⚠WARNING

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

Decals & Safety Signs

Multi-Purpose Grapple

The Multi-Purpose Grapple 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:

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4. Firmly press the safety sign, and squeeze out the air bubbles with a straight edge (e.g., a credit card).

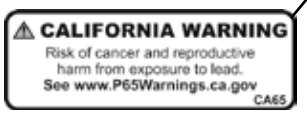
PART NO. DIG33
Location: Grapple Jaw, top and bottom

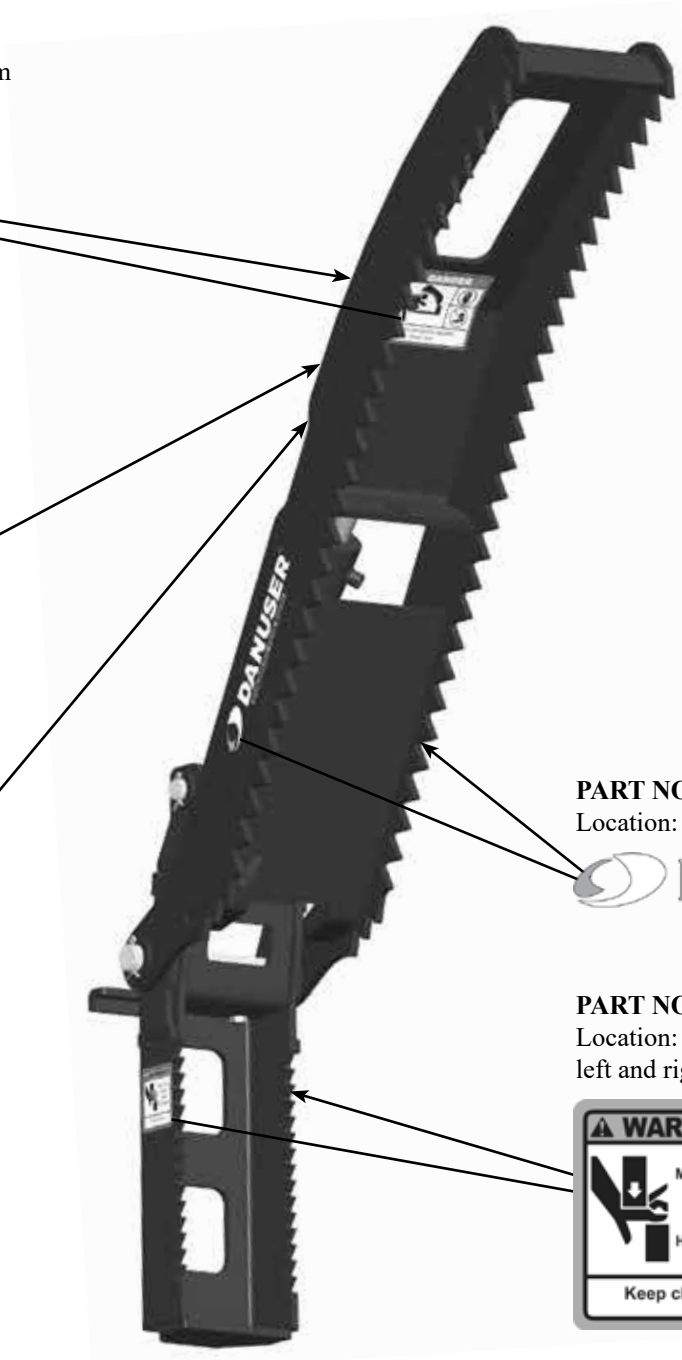


PART NO. DIG5
Location: Grapple Jaw, top



PART NO. CA65
Location: Grapple Jaw, top





PART NO. DANUSER106
Location: Grapple Jaw, left and right side

PART NO. DIG34
Location: Mounting Bracket, left and right side

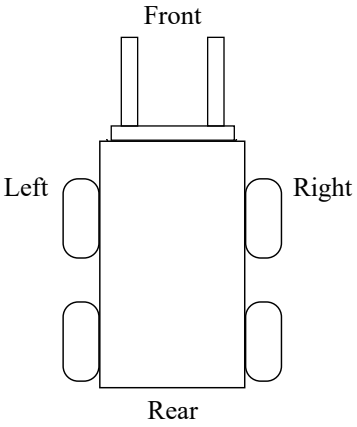
⚠WARNING

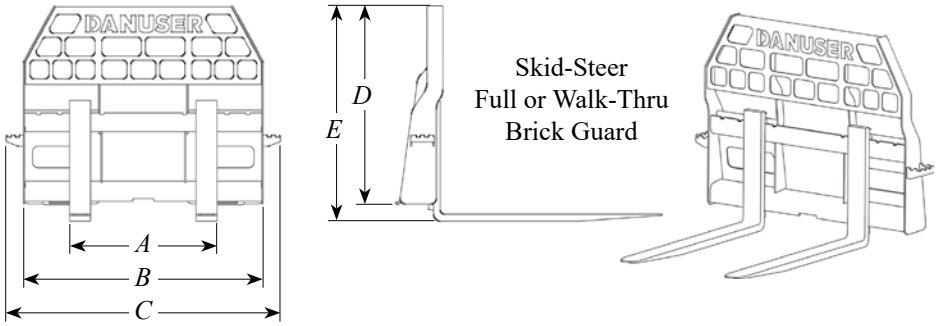
Clean or replace all safety signs if they cannot be clearly read and understood.

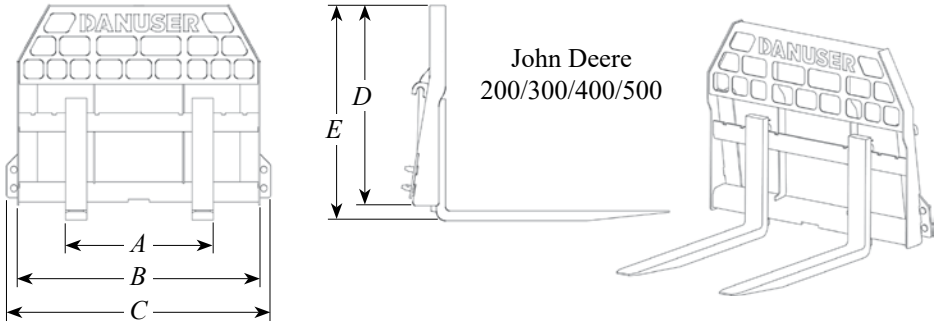
Specifications

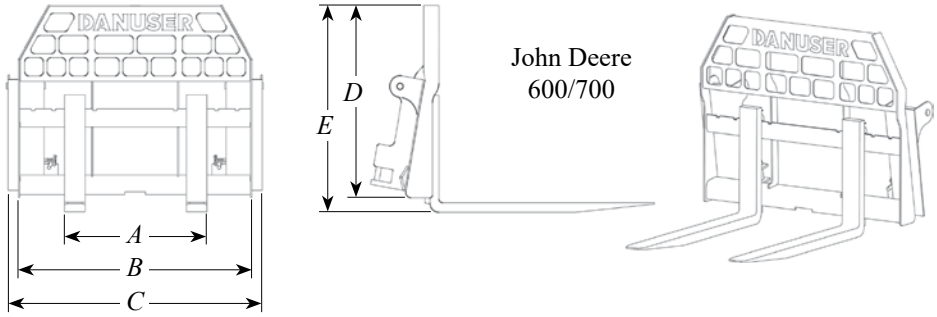
Pallet Forks

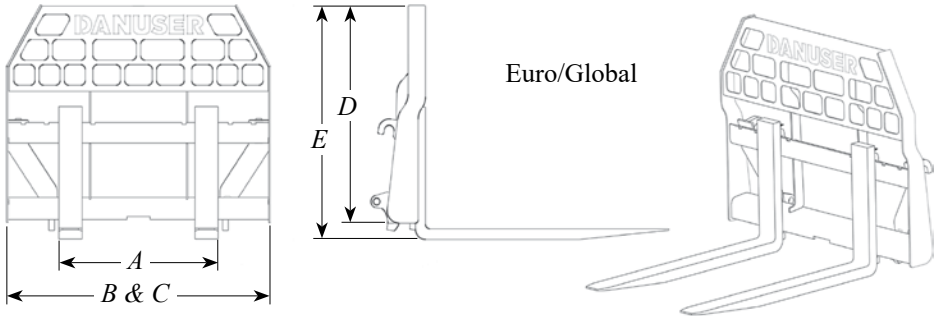
Operator's Manual
Direction Terminology









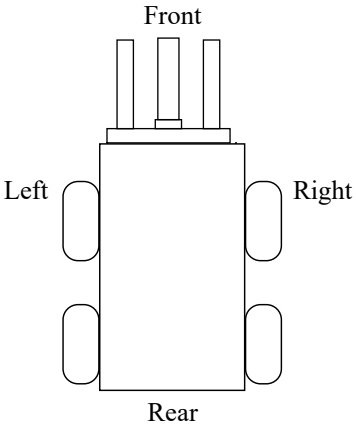


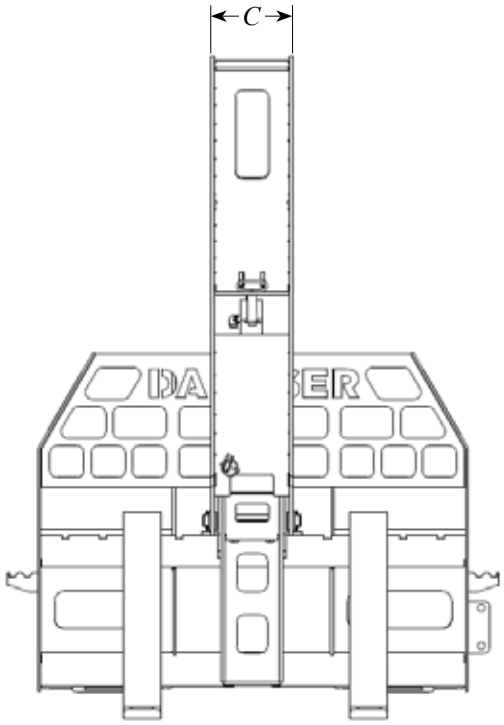
Pallet Forks	Skid-Steer Full or Walk-Thru Brick Guard	John Deere 200/300/400/500	John Deere 600/700	Euro/Global
Fork Tine Width (Min/Max)	9"-45"			
Frame Width (B)	45.5"			
Overall Width (C)	52"	49.5"	50"	45.5"
Frame Height (D)	35.75"	35.75"	35.75"	37"
Overall Height (E)	38.75"			

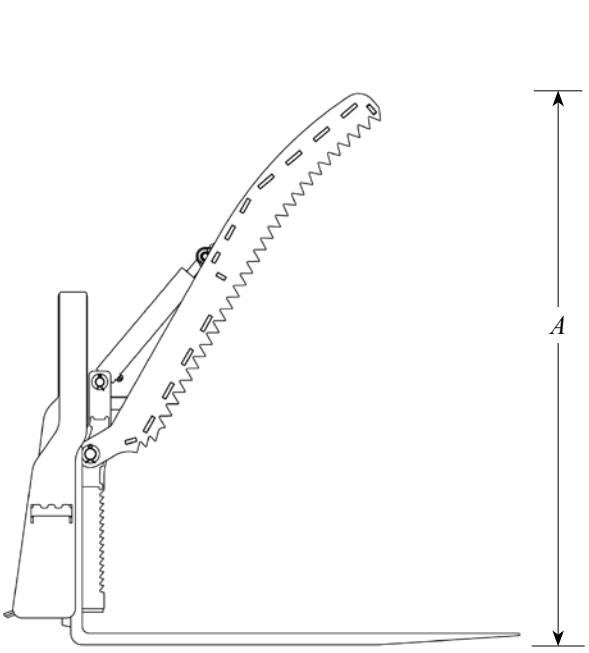
Specifications

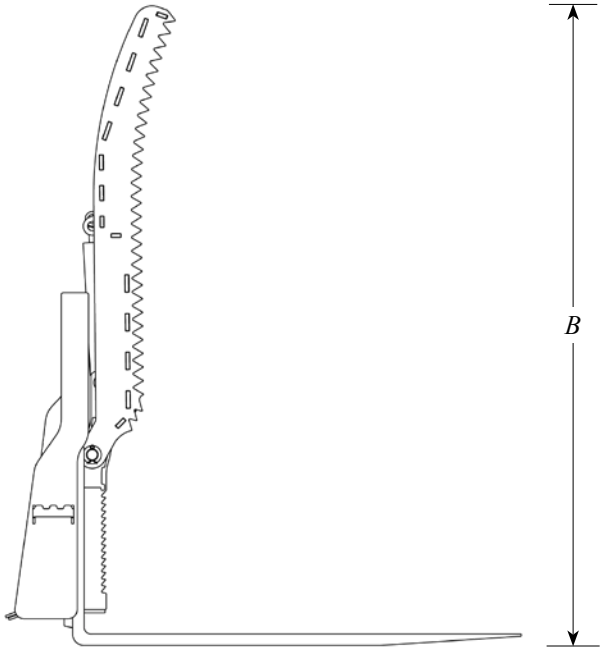
Multi-Purpose Grapple

Operator's Manual
Direction Terminology









Multi-Purpose Grapple	
Overall Height in Working Position (A)	55"
Overall Height in Pinned Up Position (B)	69.75"
Overall Jaw Width (C)	8.63"
Clamping Force	9,500 lb.

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 Requirements:

- The Multi-Purpose Grapple is designed to operate up to 3,000 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 viscosity of the fluid should never fall below 70 SUS (13 cST). The best viscosity range of the Multi-Purpose Grapple is 100-200 SUS (20-43 cST).

Assembly & Installation

Pallet Forks

⚠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.

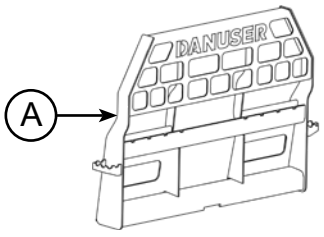
Prepare the Vehicle

Read and understand the manual for your vehicle before assembling or installing the Pallet Forks. The use of the Pallet Forks 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.

STEP 1: Park the vehicle on level ground, and install the pallet fork frame (A) by following your vehicle operator's manual for installing an attachment.



⚠WARNING

The Pallet Forks must be securely latched to the vehicle. Ensure locking pin(s) are installed and properly secured. Improperly latched Pallet Forks can fall without warning.

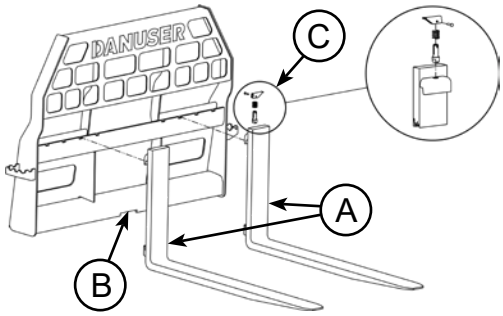
STEP 2: Completely lower the vehicle loader arms and fully roll the tilt cylinders back. If the lower carriage bar is in contact with the ground, then slightly raise the vehicle loader arms.

NOTE The lower carriage bar should be slightly off the ground to allow installation of the fork tines.

STEP 3: Shut off the vehicle engine and remove the key.

STEP 4: Grease the carriage bars to reduce wear and make adjusting the fork tines easier.

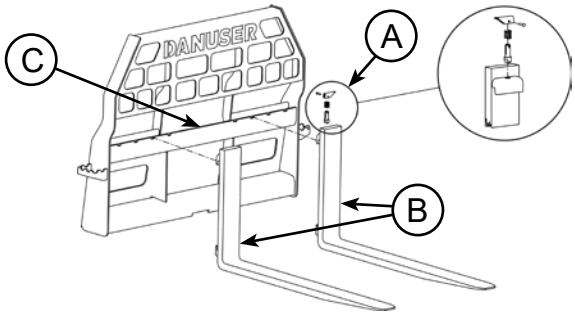
STEP 5: Position the first fork tine (A) at the center notch (B) of the frame. Set the top fork tine tab onto the upper carriage bar first, then rotate the fork tine so the lower tab passes through the notch in the lower carriage bar. Lift the lever (C) and slide the fork tine to the right. Repeat this process for the second fork tine, sliding it to the left.



⚠CAUTION

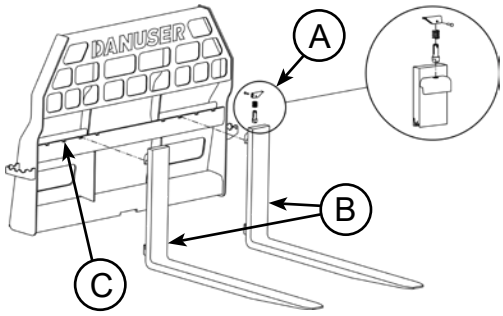
Never put your hands or fingers in the pinch-point between the frame and the fork tine.

STEP 6: Flip up the levers (A), and slide the fork tines (B) to the desired width. Each fork tine must be the same distance from the center of the frame (C).



NOTE Keep the fork tines adjusted to the maximum width for better load stability.

STEP 7: Flip down the levers (A), and secure fork tines (B) by sliding the latches into the upper carriage bar notches (C).



Assembly & Installation

Multi-Purpose Grapple

⚠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.

⚠WARNING

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

Prepare the Vehicle

Read and understand the manual for your vehicle before assembling or installing the Multi-Purpose Grapple. The use of the grapple 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.

Throughout this section, REF. NO. # refers to the Reference Numbers assigned to each part in the kit. Use the Multi-Purpose Grapple Parts on page 30 to match each REF. NO. # with its corresponding part during installation.

Recommended Tools

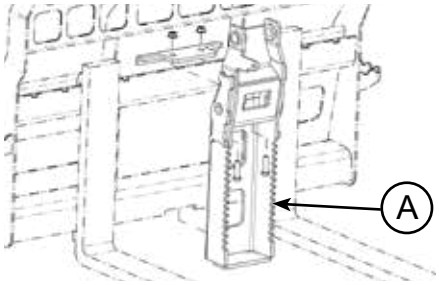
- 3/4" wrench
- 3/4" socket
- Impact wrench or ratchet
- Torque wrench (at least 100 ft.-lb. capacity)
- Blocking
- Pliers

STEP 1: Park the vehicle on level ground, and install the Pallet Forks by following your vehicle operator's manual for installing an attachment.

⚠WARNING

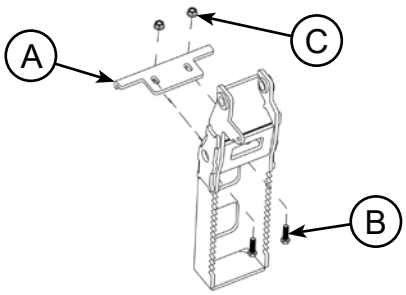
The Pallet Forks must be securely latched to the vehicle. Ensure locking pin(s) are installed and properly secured. Improperly latched Pallet Forks can fall without warning.

STEP 2: Position the mounting bracket (A) at the center notch of the frame. Lift the bracket until it makes contact with the lower carriage bar. Temporarily support the bracket with blocking as needed.



NOTE If using PN 12085 Multi-Purpose Grapple, the mounting bracket used will be REF. NO. 17. If using PN 170500 Multi-Purpose Grapple, the mounting bracket used will be REF. NO. 18.

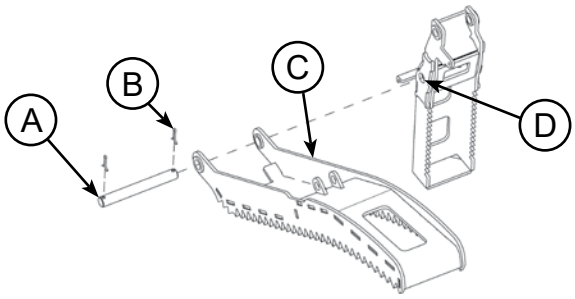
STEP 3: Install REF. NO. 8 Top Bracket (A), using the two (2) REF. NO. 9 Hex Cap Screws (B) and REF. NO. 7 Toplock Flange Nuts (C). Make sure to hook the top bracket over the upper carriage bar. Using a 3/4" wrench and torque wrench with 3/4" socket, torque both bolts to 100 ft.-lb.



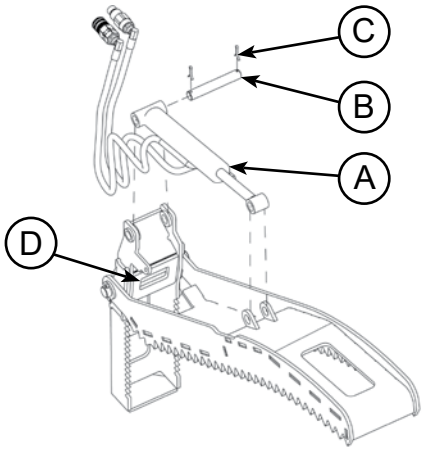
Assembly & Installation

(continued)

STEP 4: Carefully lift REF. NO. 16 Grapple Jaw (C) and align with the indicated holes in the mounting bracket (D). Insert REF. NO. 14 Pin (A) through the jaw and the mounting bracket. Secure pin with two (2) REF. NO. 13 Cotter Pins (B).

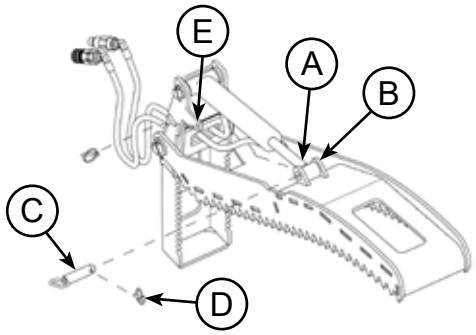


STEP 5: Install the REF. NO. 6 Hydraulic Cylinder (A) onto the mounting bracket. Insert REF. NO. 11 Pin (B) through the mounting bracket and cylinder. Secure pin with two (2) REF. NO. 10 Cotter Pins (C). Route the hydraulic hoses through the opening in the mounting bracket below the cylinder (D).



NOTE Place the hydraulic cylinder with the hydraulic ports facing down towards the grapple jaw.

STEP 6: Lift the grapple jaw until the mounting ears (B) align with the hydraulic cylinder (A). Insert REF. NO. 15 Cylinder Rod Pin (C) and secure with REF. NO. 11 Klik Pin (D). Attach the other REF. NO. 11 Klik Pin to the locking tab on the mounting bracket (E).



Assembly & Installation

(continued)

STEP 7: Route hydraulic hoses out of the way, and connect them to the vehicle's auxiliary hydraulics. Test the vehicle to make sure you have enough hose length to perform the full range of the loader arms' operating heights.

⚠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.

STEP 8: Start the vehicle. Activate the vehicle's auxiliary hydraulics to make sure the Multi-Purpose Grapple freely opens and closes.

STEP 9: Check the hydraulic system for leaks.

⚠WARNING

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

Operation

Pallet Forks

⚠DANGER

The Pallet Forks are designed to be operated from the vehicle operator station. Keep bystanders away from the work area. Do not operate with another person near or in contact with any part of the Pallet Forks.

⚠WARNING

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

⚠WARNING

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

⚠CAUTION

The Pallet Forks are designed to vertically lift stable objects. Only lift objects that have solid bases that rest securely on the forks.

(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.

⚠WARNING

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

⚠WARNING

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

⚠DANGER

Do not use the Pallet Forks as a work platform. Do not stand or climb on the Pallet Forks.

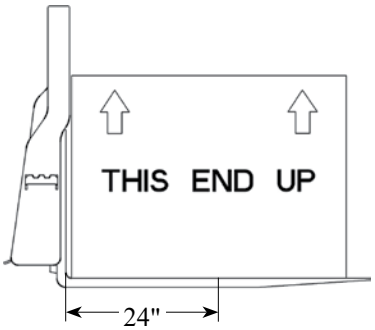
⚠DANGER

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

⚠DANGER

Never allow anyone under the attachment at any time.

NOTE The maximum load lifted by the Pallet Forks should never exceed the rated capacity. The rated capacity of each fork tine can be found on the side of the fork tine. The maximum capacity is based on a 24" load center. Lifting a load heavier than the rated capacity or centered farther than 24" out on the fork tines can result in damage to the Pallet Forks and will void all warranties.



Max Load Center

STEP 1: Approach the load so the weight will be centered between the fork tines. The heaviest side of the load should be positioned closest to the pallet fork frame.

STEP 2: Make sure the fork tines are level and are completely under the load.

STEP 3: Slightly lift the load, and make sure it is secure. If the load appears to be unstable, lower it, reposition it, and repeat steps 2 and 3 until the load is stable.

⚠DANGER

For operator safety, always keep the load in front of the vehicle. Load should never be tilted toward or positioned over the operator.

⚠WARNING

Do not lift any objects that exceed the height of the brick guard.

⚠WARNING

Do not lift any objects that are not secured or banded which may be small enough to fit through the openings in the brick guard.

STEP 4: Raise the load to the minimum height required for transport.

⚠ DANGER

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

⚠ WARNING

Move the vehicle slowly when the attachment is raised, and 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.

Operation

Multi-Purpose Grapple

⚠ DANGER

The Multi-Purpose Grapple is designed to be operated from the vehicle operator station. Keep bystanders away from the work area. Do not operate with another person near or in contact with any part of the Multi-Purpose Grapple.

⚠ 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

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

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

⚠ WARNING

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

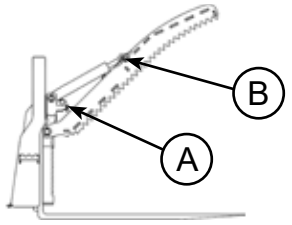
Pin Up the Multi-Purpose Grapple

STEP 1: Park the vehicle on level ground.

STEP 1: Activate the auxiliary hydraulics and fully open the grapple jaw.

STEP 2: Shut off the vehicle engine.

STEP 3: Remove the klik pin stored in the mounting bracket locking tab (A). While supporting the weight of the jaw, remove the klik pin and cylinder rod pin from the grapple jaw (B).



⚠WARNING

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

⚠WARNING

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

⚠DANGER

Do not use the Pallet Forks as a work platform. Do not stand or climb on the Pallet Forks.

⚠DANGER

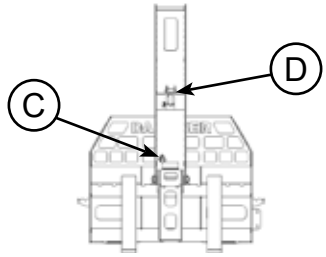
Do not allow riders on the equipment at any time. There is no safe place for any riders.

⚠DANGER

Never allow anyone under the attachment at any time.

STEP 4: While supporting the grapple jaw, rotate the jaw upward to the fully vertical position against the brick guard. Ensure all hydraulic hoses are clear of pinch points during rotation.

STEP 5: Secure the grapple jaw in the upright position using one (1) klik pin in the mounting bracket locking tab (C). Place the cylinder rod pin and klik pin in the designated storage location on the grapple jaw (D).

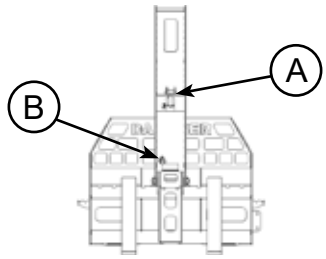


NOTE When the Multi-Purpose Grapple is stored in the upright position it is non-functional, and the Pallet Forks can be used normally. To resume grapple operation follow instructions below to engage the Multi-Purpose Grapple.

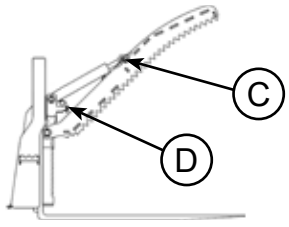
Engage the Multi-Purpose Grapple

STEP 1: Park the vehicle on level ground and shut off the engine.

STEP 2: While securely holding the jaw upright, remove the klik pin and cylinder rod pin from the storage location on the grapple jaw (A). Then remove the klik pin from the mounting bracket locking tab (B).



STEP 3: While supporting the grapple jaw, carefully lower the jaw until the hydraulic cylinder aligns with the mounting tabs on the grapple jaw (C). Install the cylinder rod pin and secure it with one (1) klik pin. Attach the remaining klik pin to the locking tab on the mounting bracket (D).



NOTE The Multi-Purpose Grapple is designed to help secure bulky, unusually shaped, or long materials. Using the grapple accessory in any other way could damage the Multi-Purpose Grapple or Pallet Forks.

Use the Multi-Purpose Grapple

STEP 1: To open and close the grapple jaw, activate the auxiliary hydraulics in one direction to open and the other direction to close.

STEP 2: With the grapple jaw in the open position, approach the load so the weight will be centered between the fork tines. The heaviest side of the load should be positioned closest to the pallet fork frame.

STEP 3: Make sure the fork tines are level and are completely under the load.

STEP 4: Activate the auxiliary hydraulics to close the grapple jaw.

STEP 5: Slightly lift the load, and make sure it is secure. If the load appears to be unstable, lower it, reposition it, and repeat steps 2, 3, and 4 until the load is stable.

⚠ DANGER

For operator safety, always keep the load in front of the vehicle. Load should never be tilted toward or positioned over the operator.

⚠ WARNING

Do not lift any objects that exceed the height of the brick guard.

⚠ WARNING

Do not lift any objects that are not secured or banded which may be small enough to fit through the openings in the brick guard.

STEP 6: Raise the load to the minimum height required for transport.

⚠ DANGER

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

Removal & Storage

⚠ 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.

Before storage, make sure the hydraulic system is properly sealed against contaminants entering the unit. Always store the Pallet Forks and/or Multi-Purpose Grapple in a dry, covered location.

STEP 1: Lower the Pallet Forks and/or Multi-Purpose Grapple onto a flat, level surface in an area where children do not play.

STEP 2: Disconnect the hydraulic hoses (if equipped) 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 hydraulic system.

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

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

STEP 5: Replace any damaged or missing safety signs.

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.

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 Pallet Forks and/or Multi-Purpose Grapple 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 Pallet Forks and/or Multi-Purpose Grapple.

⚠CAUTION

When making repairs or servicing the Pallet Forks and/or Multi-Purpose Grapple, 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 Torque Values Chart.) Replace as necessary.	Daily
Check all hydraulic components for leaks or wear. Repair or replace as necessary.	Daily

Torque Values Chart

Torque Values Chart																		
Bolt Size (inches)	Bolt Head Identification Grade 2		Grade 5		Grade 8		ASTM A574		Bolt Size (Metric)	Bolt Head Identification 5.8 Class 5.8		8.8 8.8 Class 8.8		10.9 10.9 Class 10.9		12.9 12.9 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									
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									

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

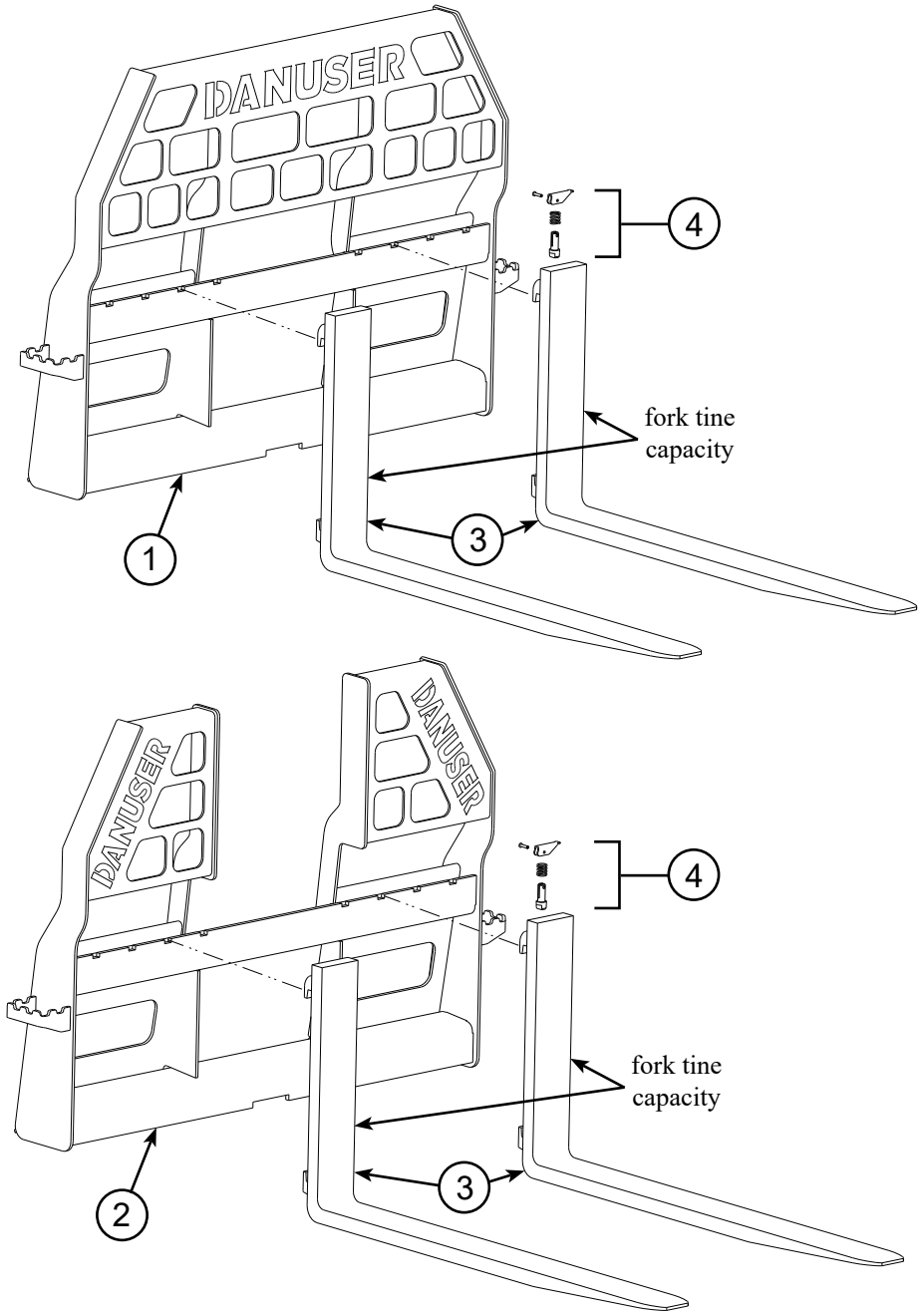
Torque tolerance +0%, -15% of torque values. Unless otherwise specified, use torque values listed above.

Parts

Pallet Forks
Skid-Steer Full or
Walk-Thru Brick Guard

⚠CALIFORNIA WARNING

This product can expose you to chemicals including lead, which are 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.



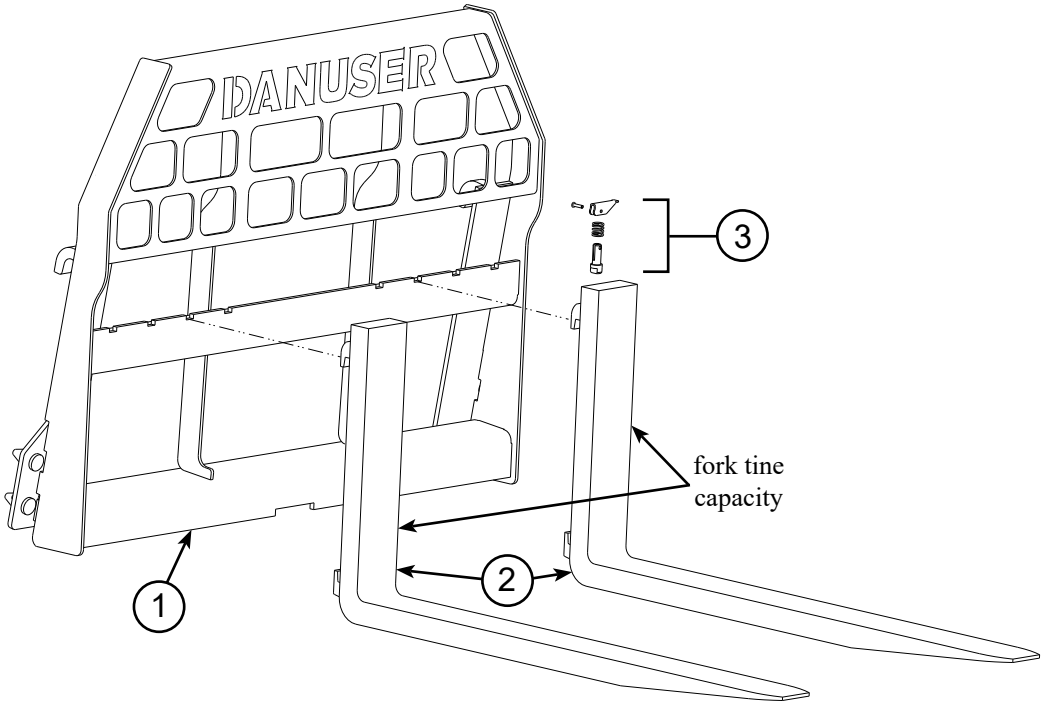
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	12017	Skid-Steer Full Brick Guard	1
2	12030	Skid-Steer Walk-Thru Brick Guard	1
3	12056	Fork Tine Set (1-1/4" x 48" - 4,200 lb. capacity)	1
	12059	Fork Tine Set (1-5/8" x 48" - 5,500 lb. capacity)	1
4	12060	Latch Kit	2

Parts

Pallet Forks
John Deere
200/300/400/500

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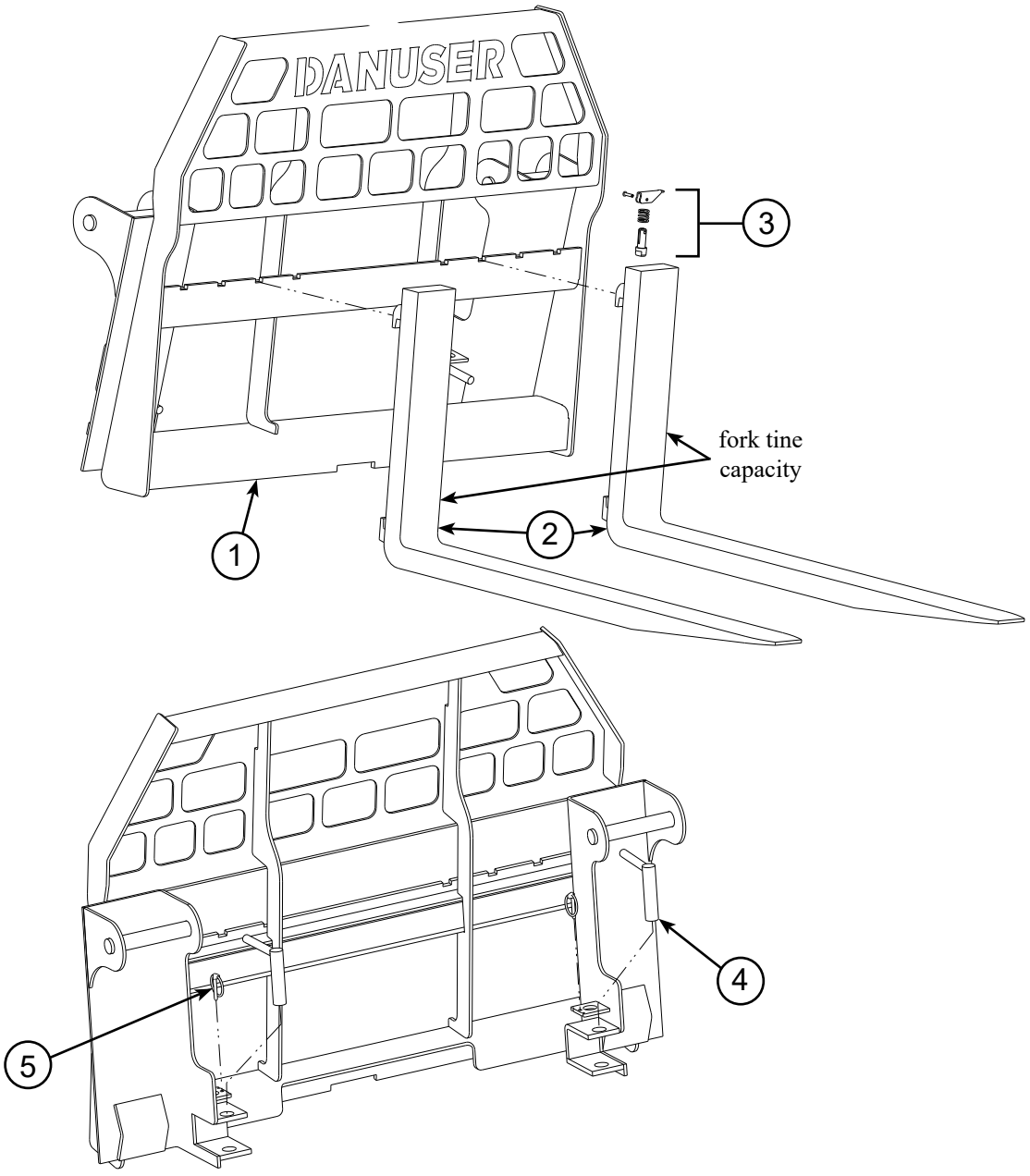
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	12033	John Deere Fork Frame (200/300/400/500)	1
2	12056	Fork Tine Set (1-1/4" x 48" - 4,200 lb. capacity)	1
	12059	Fork Tine Set (1-5/8" x 48" - 5,500 lb. capacity)	1
3	12060	Latch Kit	2

Parts

Pallet Forks
John Deere
600/700

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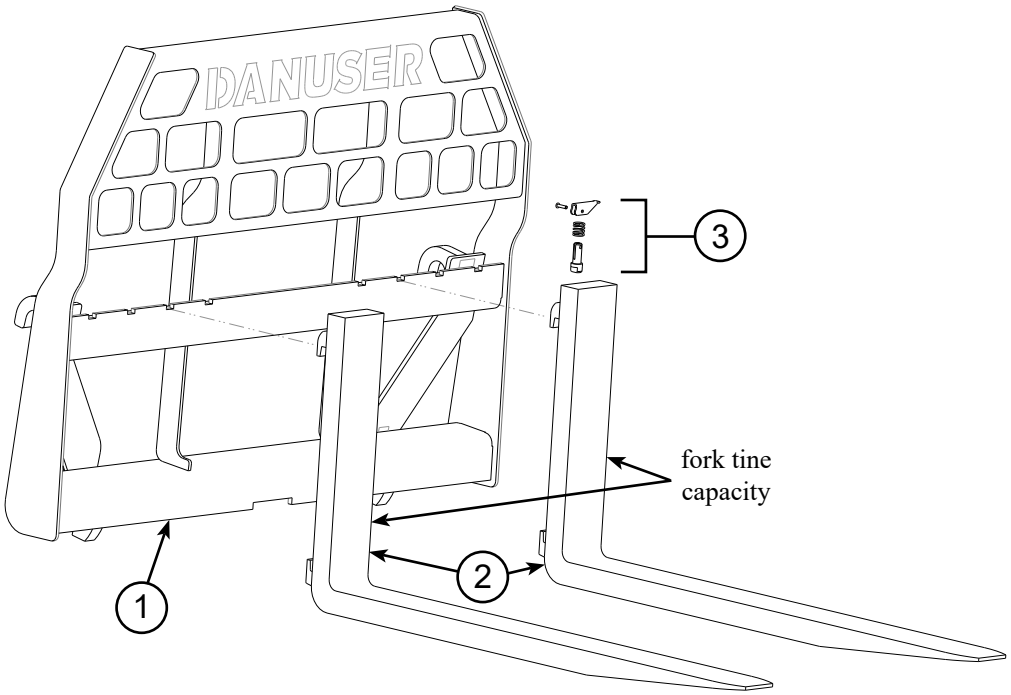
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	12034	John Deere Fork Frame (600/700)	1
2	12056	Fork Tine Set (1-1/4" x 48" - 4,200 lb. capacity)	1
	12059	Fork Tine Set (1-5/8" x 48" - 5,500 lb. capacity)	1
3	12060	Latch Kit	2
4	12082	Pin Assembly	2
5	1600	Klik Pin	2

Parts

Pallet Forks
Euro/Global

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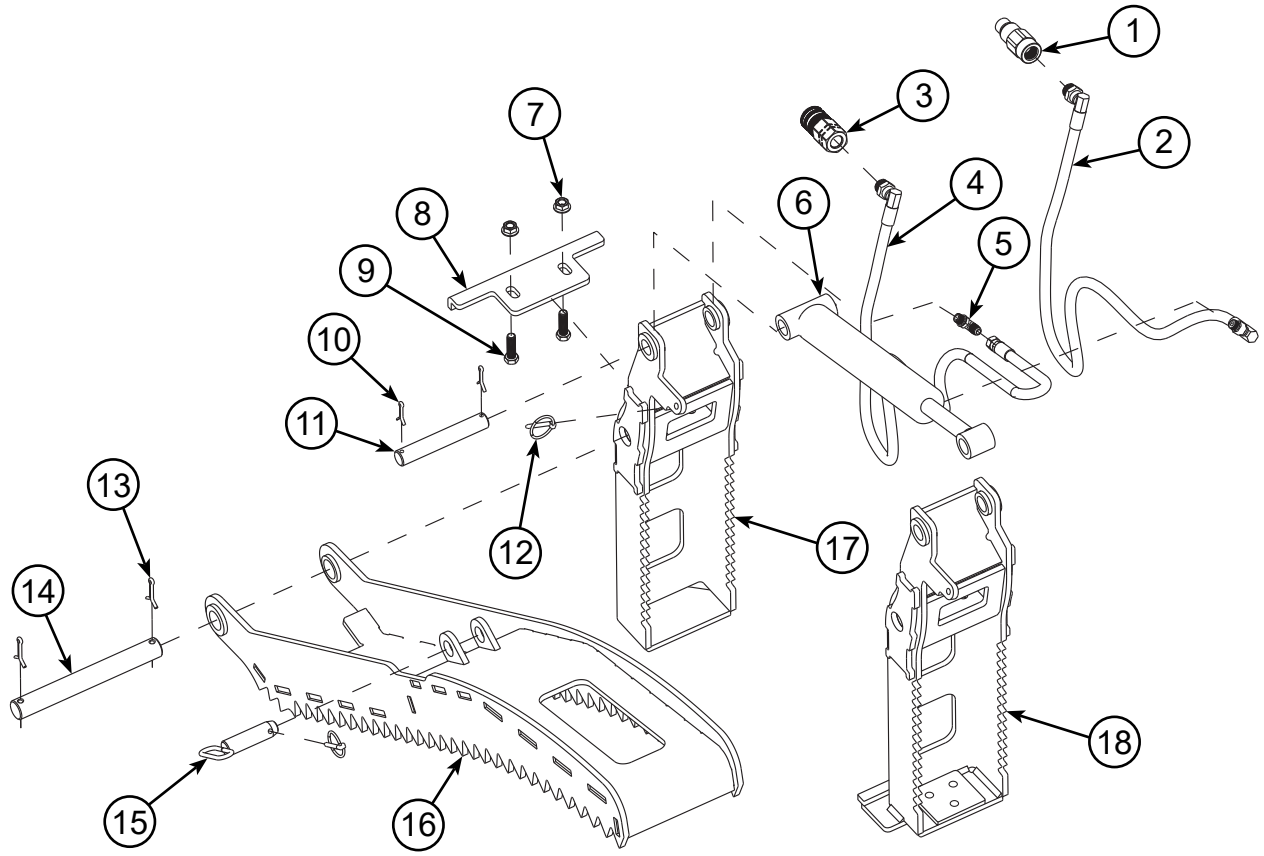
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	12035	Euro/Global Fork Frame	1
2	12056	Fork Tine Set (1-1/4" x 48" - 4,200 lb. capacity)	1
	12059	Fork Tine Set (1-5/8" x 48" - 5,500 lb. capacity)	1
3	12060	Latch Kit	2

Parts

Multi-Purpose Grapple

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REF. NO.	PART NO.	DESCRIPTION	QTY.
1	12108	Male Coupler (1/2” flush-face, ISO 16028)	1
2	12109	3/8” Hose Assembly (#6 ORB M 90° Swivel to #10 ORB M 90° Swivel, with 1/16” Restrictor)	1
3	10049	Female Coupler (1/2” flush-face, ISO 16028)	1
4	12110	3/8" Hose Assembly (#6 JIC F to #10 ORB M 90° Swivel)	1
5	12111	Adapter, 90° (#6 ORB M to #6 JIC M)	1
6	12106	Hydraulic Cylinder	1
7	6196	Toplock Flange Nut (1/2"−13)	2
8	12093	Top Bracket	1
9	12107	Hex Cap Screw (1/2"−13 x 1.75", Gr. 8)	2
10	35127	Cotter Pin (3/16" x 1.75")	2
11	12103	Pin	1
12	1600	Klik Pin	2
13	12105	Cotter Pin (1/4" x 2")	2
14	12104	Pin	1
15	12100	Cylinder Rod Pin	1
16	12094	Grapple Jaw	1
17	12086	Danuser Mounting Bracket (12085 Grapple Kit)	1
18	170501	Other Brand Mounting Bracket (170500 Grapple Kit)	1

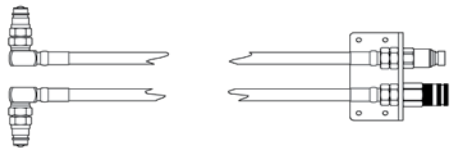
Accessories

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Front-End Loader Hose Kit

PN 196056 - 1/2” hoses, 25’ long, with 1/2” flush-face couplers (ISO 16028) on one end to connect to the Multi-Purpose Grapple hoses, and ISO 7241 Series A couplers (compatible with ISO 5675 Pioneer couplers) on the opposite end to connect to tractor rear remotes. Includes bolt-on/weld-on mounting bracket.



Warranty

DANUSER

Purchase Date _____

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. Proof of purchase may be required. This Limited Warranty is extended only to the original purchaser of Danuser products.

Pallet Forks - 2 Years Multi-Purpose Grapple - 1 Year
Wear Items Not Covered Under Warranty - Hydraulic Hoses and Seals

1. During the applicable warranty period, Danuser, at its option, will repair or replace any part determined by Danuser to be defective. Such repair or replacement shall take place at Danuser's factory or a location designated by Danuser. Under no circumstances shall Danuser be obligated for the cost of any repair or replacement by anyone other than Danuser without its express written consent.

2. Parts may not be returned without written authorization from Danuser.

3. Some purchased components, including but not limited to hydraulic 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 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, you may either contact your authorized Danuser Dealer or initiate a claim directly with Danuser. In either case, a Warranty Claim Form must be completed and written authorization from Danuser obtained prior to returning parts. All warranty claims must include detailed information regarding make and model of vehicle on which the Danuser product was mounted, hours of use, description of events that led up to the failure, and any other information helpful in reviewing the warranty claim. All warranty returns must be prepaid. Shipments arriving at our factory on a freight collect basis will be refused by our receiving department. The freight charge will be credited if the parts are determined by Danuser to be defective, and the associated freight costs in returning those parts will be prepaid by Danuser. NOTE: Hydraulic components must arrive with all ports sealed from dirt and moisture. If a 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.

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