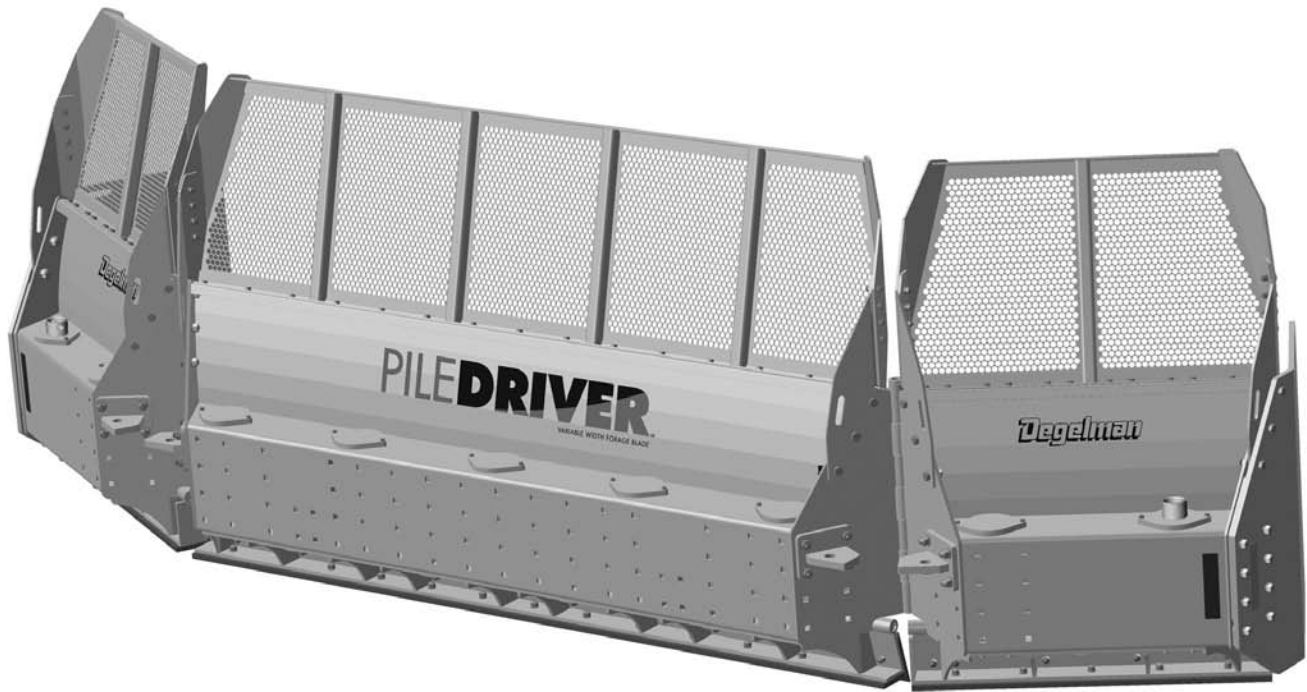


dozer blades

PILEDRIVER

VARIABLE WIDTH FORAGE BLADE



143322 v1.0

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CASE STEIGER QUADTRAC
450/500/550/600

PILEDRIVER VARIABLE WIDTH FORAGE BLADE

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Record Serial Number:

.....

Introduction

WELCOME

Degelman is proud to welcome you to our rapidly increasing family of high quality and dependable product owners. This product was designed and built specifically for you, the customer. Through our research and with your input and feedback, we present to you our PileDriver Blade.

Designed with durability, safety, and performance in mind, this dozer blade is ready for years of quality service. In order to help you keep your dozer blade in top operating condition we have provided you with this manual.

ABOUT THIS MANUAL

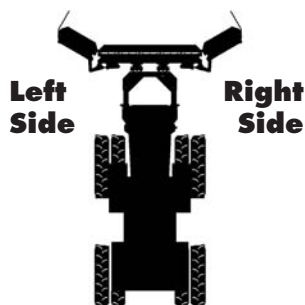
This manual has been designed to help you with three extremely important issues: **Operation, Safety, and Maintenance**. It is strongly recommended that you read through the entire manual and review it annually for:

- your own personal safety.
- the safety of others.
- helpful and effective operation techniques.
- maintenance procedures.
- preventative maintenance.

Your authorized Degelman dealer can be contacted for ordering any replacement parts, decals, or manuals. Since many of our parts are specially designed specifically for this dozer blade we strongly recommend you always replace them with genuine Degelman parts only.

This manual and its contents were current at the time of its first printing. To increase product performance and operation, some part modifications and changes may occur that are not reflected in this manual.

Note: The description "Right" or "Left" as used in this manual is determined by the direction the tractor will travel while in use (unless otherwise stated).



PROOF OF OWNERSHIP

Serial Number Plate



Your **serial number** is found on the serial number plate.

It is important to record the serial and model number of your dozer for proof of ownership and for any required service or maintenance assistance.

Serial Number _____

Owner Name _____

Model _____

Purchase Date _____

Dealer Name _____

Address _____

Phone _____

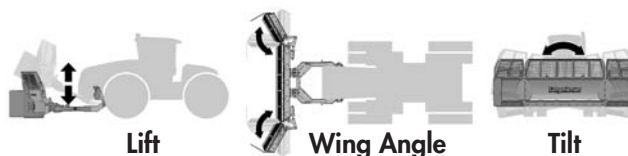
DESCRIPTION

The **PileDriver Blade** consists of a dual-wing dozer blade connected to a pivot/main frame assembly.

Typically, this assembly mounts to side and axle brackets that are bolted securely onto the frame of your tractor.

The blade is attachable/detachable with a simple HQT (Hydraulic Quick-Tach) mounting system and hydraulic hook-up.

The PileDriver Blade has options for three hydraulically controlled ranges of motion – lift, wing angle & tilt.



Why is **SAFETY** important to **YOU**?

3 **BIG** Reasons:

- **Accidents Can Disable and Kill**
- **Accidents Are Costly**
- **Accidents Can Be Avoided**

SAFETY ALERT SYMBOL



The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert Symbol identifies important safety messages applied to the dozer blade and in this manual. When you see this symbol, be alert to the possibility of **injury or death**. Follow the instructions provided on the safety messages.

SIGNAL WORDS

Note the use of the Signal Words: **DANGER**, **WARNING**, and **CAUTION** with the safety messages. The appropriate Signal Word has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, **WILL** result in death or serious injury if proper precautions are not taken.

WARNING: Indicates a potentially hazardous situation that, if not avoided, **COULD** result in death or serious injury if proper precautions are not taken.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, **MAY** result in minor or moderate injury if proper practices are not taken, or, serves as a reminder to follow appropriate safety practices.

YOU are RESPONSIBLE

... for your own safety and that of others!

- If you are not familiar with basic agriculture & industrial safety, you must get training.
- Owners of equipment must give operating instructions to other operators such as family members or a hired hand.
- Making any design changes to equipment could cause a hazard, damage your machine & void your warranty.

YOU are responsible for the **SAFE** operation and maintenance of your Degelman implement. YOU must ensure that you and anyone else who is going to operate, maintain, or work around the machine be familiar with the operating and maintenance procedures, and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and will alert you to good safety practices that should be adhered to while operating this equipment.

Remember, YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Owners must give operating instructions to operators or employees before allowing them to operate the unit, and at least annually thereafter per OSHA regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. All accidents can be avoided!
- A person who has not read and understood **ALL** operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.

Safety

GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before using. Review safety related items with all operators annually.
2. Lower blade to ground, stop tractor engine, place all controls in neutral, set park brake and remove ignition key before servicing, adjusting or repairing.
3. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
4. DO NOT allow riders on the machine or tractor during operation or transporting.
5. Clear the area of all bystanders, especially children, before starting.
6. DO NOT operate machine on steep side hills or slopes.
7. Be careful when working around or maintaining a high-pressure hydraulic system. Ensure all components are tight and in good repair before starting.
8. Clean all reflectors, lights and the SMV sign before transporting on a highway or public road. Be sure to check with local highway authorities and comply with their lighting requirements.
9. Stay well back from machine when operating. Keep others away.
10. DO NOT operate the Dozer without an adequate amount of rear wheel ballast.

Prepare for Emergencies

- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, hospital, ambulance, and fire department near your phone.



Doctor _____

Ambulance _____

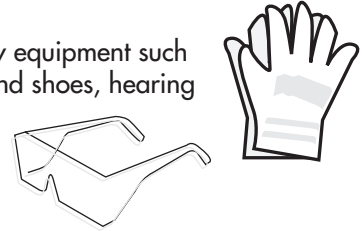
Hospital _____

Fire Department _____

Wear Protective Equipment

Note: Before working on machine, always turn tractor off, set controls in neutral, and remove ignition key.

- Wear proper safety equipment such as safety glasses and shoes, hearing protection, hard hats, or any other appropriate items to prevent injury.



- Loss of hearing or hearing impairment may result from prolonged exposure to loud noise. Wear suitable hearing protective devices such as earmuffs or earplugs to protect your hearing.
- Safely operating this equipment requires the full attention of the operator. Do not wear radio or music headphones, or talk on your phone while operating this machine. Never operate while under the influence of alcohol or drugs or allow anyone under the influence to operate the tractor.

⚠ HYDRAULIC

- Keep all parts clean.
- Replace worn or damaged parts.
- Don't try any makeshift repairs.
- Before operating check that everything is tight and not broken.
- Wear gloves and eye protection when searching for leaks. Use a piece of wood or cardboard but not your hand. High pressure oil will penetrate your skin. If that happens you risk serious injury.

⚠ BLADE

- Lower blade to the ground when not in use.
- Keep clear of blade when tractor is running.
- Keep hands & feet away from under blade.
- Turn engine off when hooking up hydraulics.

⚠ TRANSPORTING

- Lift blade up then hold with safety chain.
- Make sure SMV sign & reflectors are clean.
- Use your hazard lights.

Operation

TO THE NEW OPERATOR OR OWNER

The Degelman Dozer Blade is a push type tractor attachment designed primarily for excavating, levelling and filling of dirt, snow and silage.

It is the owners or operators responsibility to read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. Safety is everyone's business. By following safe operating practices, a safe environment is provided for the operator and bystanders.

The manual will take you step-by-step through your working day. By following the operating instructions in conjunction with a good maintenance program your machine will provide many years of trouble-free service.

PRINCIPLES OF OPERATION

The PileDriver consists of a blade/cutting edge unit attached to a pivot-main frame combination suspended from the tractor by the front and side mount brackets. By driving the tractor forward with the blade either straight ahead or angled, and allowing the cutting edge to run just under the ground surface - dirt, silage or snow is relocated as desired.

BREAK-IN

Although there are no operational restrictions on the PileDriver when it is new, there are some mechanical checks that must be done to ensure the long term integrity of the unit. When using the machine for the first time, follow this procedure:

A. Before using:

1. Read Operator's Manual.
2. Lubricate all points shown in the Maintenance Section.
3. Check all bolt tightness.

B. After operating for 2 hours:


1. Check all hardware.
2. Check all hardware tightness.
3. Check all hydraulic system connections. Tighten if any are leaking.


C. After operating 10 hours:

1. Repeat Step B.
2. Go to the service schedule as outlined in the Maintenance Section.

TRACTOR PREPARATION

1. Wheel Spacing

 **Important:** To avoid possible damage from over stressing tractor axles, use no tire combination which results in overall width greater than the width of the angle blade.

 **Important:** Before beginning operation, turn the wheel fully to the right and left to be sure there is sufficient clearance. If necessary, move the wheels to a wider setting to provide clearance. See your Tractor Operator's Manual.

2. Rear Wheel Weight and Tire Inflation:

Add necessary rear end weights for efficient operation and safety. Any of the cast-iron weights recommended for your tractor or liquid in the tires, may be used for necessary ballast. Be sure the weight is distributed equally on each rear wheel.

Inflate front and rear tires to proper pressure as recommended in the Tractor Operator's Manual for heavy front-mounted implements.

3. Checking Hydraulic Oil Level:

Check the oil level in the tractor hydraulic system daily. Refer to your tractor operator's Manual for Instructions. Keep the oil supply up to the proper level. Before checking oil supply, fully extend and retract angle and lift cylinders 3 - 4 times and return the blade to the ground.

ATTACHING THE PILEDRIVER

NOTE: Please refer to the assembly section of this manual - for full instructions for attaching your specific tractor and blade model.

BLEEDING THE HYDRAULICS

Before beginning operation, bleed the hydraulic system to remove any air. To do this, cycle the hydraulics several times by holding the cylinder fully extended for several seconds. This will cause any trapped air to be purged from cylinder.

COLD WEATHER OPERATION

To assure smooth operation in cold weather, cycle the cylinders several times to warm the oil in the hydraulic system.

Operation

OPERATOR'S RESPONSIBILITY

Every operator should read this manual and be instructed in safe operating procedures. An untrained operator is not qualified to operate this machine and could place themselves or bystanders in danger.

OPERATING SPEED

For normal operation, operate the tractor at a comfortable or manufacturer recommended speed. When operating over rough terrain or limited to space, reduce engine speed. The actual forward speed will be determined by tractor horsepower, land density and depth of cut.

Experience will teach you the most efficient operating speed, but as a rule 3-4 MPH (5-7 km/h) is a normal operating range.

PRE-OPERATION CHECKLIST

Efficient and safe operation of the PileDriver requires that each operator reads and understands the operating procedures and all related safety procedures outlined in this manual.

Before Using for the FIRST Time

- Lubricate all points
- Torque all hardware to correct setting
- Check hardware torque & hydraulics after the first 2 hrs & again after 10 hrs.

Before Using EVERY Time

- Check:
- If all points lubricated
 - All components attached securely
 - Condition of cutting edge
 - Depth/skid shoe wear
 - Hydraulics:
 - Tractor's oil reservoir
 - Condition of hoses, lines & fittings

ANGLING DOZER BLADE

The PileDriver wings can be hydraulically (optional) or mechanically angled by operating the proper tractor remote cylinder lever or adjusting the mechanical link bars. With hydraulic wing angle, the Pile Driver allows you to operate in an infinite amount of positions, so you can push huge amounts of material in a cupped formation. It allows you to close down on either side of the blade so the operator can run the tractor tire on the edge of the bunker walls. And it allows you to close down both sides at the same time so you can keep the blade on the tractor when it's time for transport.

A dual relief valve is incorporated to protect the hydraulic angling system when the blade is overloaded. (This valve will bypass the hydraulic fluid and diminish the degrees that the blade was initially angled.)



Important: To avoid damage to tractor or blade, the hydraulic system must be hooked up properly including line to hydraulic tank drain.

BLADE DEPTH

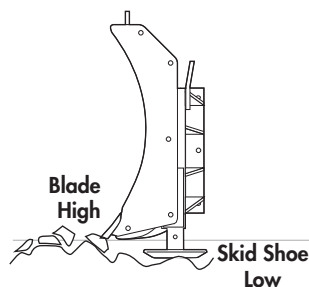
Gauge the depth of cut to push the most material possible without losing speed through spinning the wheels or slowing the tractor engine. Do this by setting the depth shoes (optional), and by regulating the depth for the blade height with the lifting cylinder operating lever.

The distance the material is pushed should be kept to a minimum. Dig and cut the material downgrade whenever possible.

DEPTH/SKID SHOES (Optional)

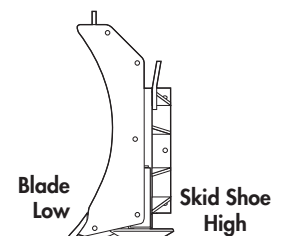
Soft uneven ground

- Skid shoe low
- Blade high



Hard even ground

- Skid shoe high
- Blade low



Transport & Storage

TRANSPORT SAFETY

- Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when operating the machine in the field/yard or on the road.
- Check with local authorities regarding machine transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
- Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the shoulder, if permitted by law.
- Always use hazard warning flashers on tractor when transporting, unless prohibited by law.

TRANSPORTING

Follow this procedure when preparing to transport:

1. Clear the area of bystanders, especially small children, before converting into transport configuration.
2. Operate the lift hydraulics to raise the blade fully and install a certified safety chain to secure it.
3. Clean the SMV sign, lights and reflectors.
4. Maintain a safe speed. Slow down when cornering and on rough roads.
5. Slow down and pull off to the side of the road when meeting other traffic.
6. Use hazard flashers on tractor unless prohibited by law.

STORAGE SAFETY

- Store unit in an area away from human activity.
- Do not permit children to play near the stored unit.

STORAGE

After the season's use, completely inspect all major systems of the machine. Repair or replace any worn or damaged components to prevent unnecessary down time at the beginning of next season.

Since the unit can be used in extremely adverse conditions during the season, the machine should be carefully prepared for storage to ensure that all dirt, mud, debris and moisture has been removed.

Follow this procedure when preparing to store:

1. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
2. Inspect all parts to see if anything has become entangled in them. Remove the entangled material.
3. Lubricate all grease fittings to remove any moisture.
4. Inspect all hydraulic hoses, fittings, lines and couplers. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
5. Touch up all paint nicks and scratches to prevent rusting.
6. Oil the exposed rams on the hydraulic cylinder to prevent rusting.
7. Select an area that is dry, level and free of debris.

Troubleshooting

GENERAL TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Blade Falls Down in transport.	Lift cylinder hydraulic circuit not connected correctly.	Trace your hoses from front to back of tractor, making sure angle circuit connected to rear relief valve, not lift circuit.
PileDriver Wings won't hold.	Excessive loading of dozer.	Reduce amount of material pushing. Equipped with safety angle relief valve, pressure exceeded.
	Excessive impact on dozer.	Reduce speed of impact on high load. Equipped with safety angle relief valve, pressure exceeded.
Cutting Edge Wearing excessively in Center of the Blade.	High downward force of dozer in contact with crown of road.	Adjust skid shoes to prevent cutting edge contact with road crown.
		Change operation of the PileDriver to prevent running on crown of road.
Cutting Edge Wearing excessively at Ends of the Blade.	High downward force on ends of dozer.	Run dozer tilt circuit in float to contour to ground.
		Change operation to prevent this type of contact.
		Adjust skid shoes to prevent contact.
Hydraulic wing angle circuit Hoses Pop Out of valve stack.	Relief valve tank drain hose not connected properly.	Ensure hydraulic tank drain hose goes directly to tank with no internal pressure.
Cannot Retract HQT Cylinder Pins when attached to tractor.	PileDriver not raised off the ground.	Lift PileDriver off ground. (Raising the PileDriver blade off the ground removes pressure from the HQT pins).
	*Ball Valve not open.	Open Ball Valve.
Difficult or cannot turn skid shoe jack handle.	Too much pressure on jack.	Raise dozer off ground to adjust skid shoe depth.
Breaking cutting edge bolts.	Cutting edge bolts not properly torqued. Torque 5/8" Gr.8 bolts to 225 lb-ft Torque 3/4" Gr.8 bolts to 400 lb-ft	Under torqued bolts allows impact to break bolts.
		Over torqued bolts can fail from too much tension loading.
PileDriver wings won't angle or will not come back from full angle.	Hoses not properly coupled in valve stack.	Remove and re-install hoses into valve stack.
	Angle relief valve return to tank line not properly installed.	Change return to tank line so that no internal pressure, run direct to tank.
Blade not following ground contour.	Tilt circuit not allowed to float.	Float hydraulic tilt circuit.
Cannot align front bracket roller with main frame front quick attach lug.	Heights are not aligned.	Use dozer hydraulic lift circuit to adjust main frame front lug height.
		Use jacks on side on main frame to adjust height.

Maintenance


MAINTENANCE SAFETY

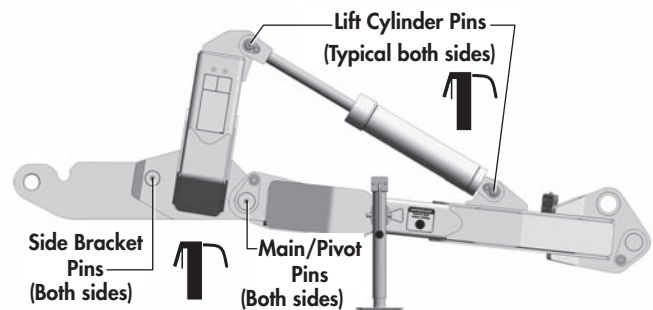
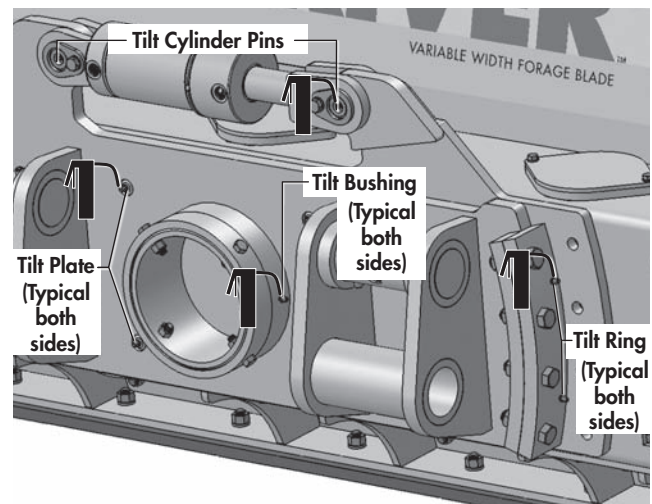
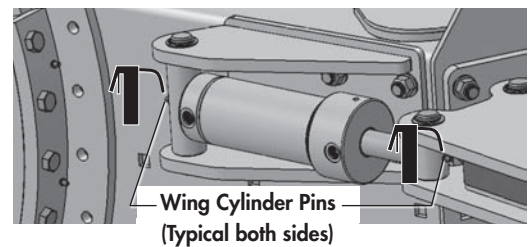
1. Review the Operator's Manual and all safety items before working with, maintaining or operating the machine.
2. Lower machine to ground, stop the tractor engine, place all controls in neutral, set park brake and remove ignition key before servicing, adjusting or repairing.
3. Clear the area of bystanders, especially children when carrying out any maintenance and repairs or making adjustments.
4. Place safety stands or large blocks under the frame before removing tires or working beneath the machine.
5. Be careful when working around or maintaining a high-pressure hydraulic system. Wear proper eye and hand protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop when searching for a pin hole leak in a hose or a fitting.
6. Always relieve pressure before disconnecting or working on hydraulic system.

GREASING

1. Use only a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
5. Inject grease until you see grease being expelled from the pin or bushing areas.

LUBE AFTER EVERY 8 HRS.

 Items to Grease	Qty.
Lift Cylinder Pins	2 per cylinder
Wing Cylinder Pins	2 per cylinder
Tilt Cylinder Pins	2 per cylinder
Tilt Ring	2 per side
Tilt Plate	2 per side
Tilt Bushing	1 per side
Side Bracket Pins	1 per side
Main Pivot Pins	1 per side



Please note: The frame assemblies for your particular fit-up may differ significantly from those shown in the diagram, however, the basic grease points should be similar.

Maintenance

HARDWARE/HOSE SPECIFICATIONS

Unless otherwise stated:



- Hardware - Hex, Plated GR5 UNC (imperial) or P8.8 (metric)
- Hoses - 3/8, ends come with 3/4 JIC female swivel.

Unified Inch Torque Values (based on "Dry" values)

Size	Grade 5	Grade 8
	lb·ft (N·m)	lb·ft (N·m)
1/4"	9 (12)	12.5 (17)
5/16"	18 (25)	26 (35)
3/8"	33 (44)	46 (63)
7/16"	52 (70)	75 (100)
1/2"	80 (110)	115 (150)
9/16"	115 (155)	160 (225)
5/8"	160 (215)	225 (300)
3/4"	280 (375)	400 (550)
7/8"	450 (625)	650 (875)
1"	675 (925)	975 (1300)
1-1/8"	860 (1150)	1350 (1850)
1-1/4"	1200 (1650)	1960 (2600)
1-3/8"	1550 (2150)	2550 (3400)

Metric Torque Values (based on "Dry" values)

Size	Class 8.8	Class 10.9
	lb·ft (N·m)	lb·ft (N·m)
M6	8.5 (11)	12 (17)
M8	20 (28)	30 (40)
M10	40 (55)	60 (80)
M12	70 (95)	105 (140)
M14	110 (150)	165 (225)
M16	175 (240)	255 (360)
M18	250 (330)	350 (475)
M20	350 (475)	500 (675)
M22	475 (650)	675 (925)
M24	600 (825)	850 (1150)
M27	875 (1200)	1250 (1700)
M30	1200 (1650)	1700 (2300)

Hydraulic Fitting Torque

Size	lb.ft (N.m)
3/4	75 (100)
7/8	90 (122)

CHECK HARDWARE TORQUE

Important: Check torque on all hardware periodically. Check after first 2, 10, 40, then every 200 hours.



- Torque values listed are for general use only. If a different torque value or tightening procedure is specified for a specific application, do not use these values.
- Refer to the "Parts" section for proper grade and length of bolts for replacement parts.
- Do not replace locknuts with nuts and lock washers. Replace all parts with original, specified parts only.
- Dry values shown mean the bolt/nut is plain or zinc plated without any lubrication.

HYDRAULIC SAFETY

1. Always place all tractor hydraulic controls in neutral before dismounting.
2. Make sure that all components in the hydraulic system are kept in good condition and are clean.
3. Replace any worn, cut, abraded, flattened or crimped hoses and metal lines.
4. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cement. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
5. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
6. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
7. Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are not damaged.

Think SAFETY! Work SAFELY!

Maintenance

SAFETY DECALS

1. Keep safety decals and signs clean and legible at all times.
2. Replace safety decals and signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety decals or signs are available from your Dealer Parts Department. Safety decals will be available upon request.

How to Install Safety Decals:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.

REPLACEMENT DECALS

Decals, especially safety and reflective, should be replaced when they become damaged or worn. Contact your dealer.

Safety Decals

143038	Mounting Decal	2
142546	Remove Jack Decal	2
142386	Warning Decal, Falling Blade	2
143240	Tow Cable Routing (Optional)	2

Reflective Decals

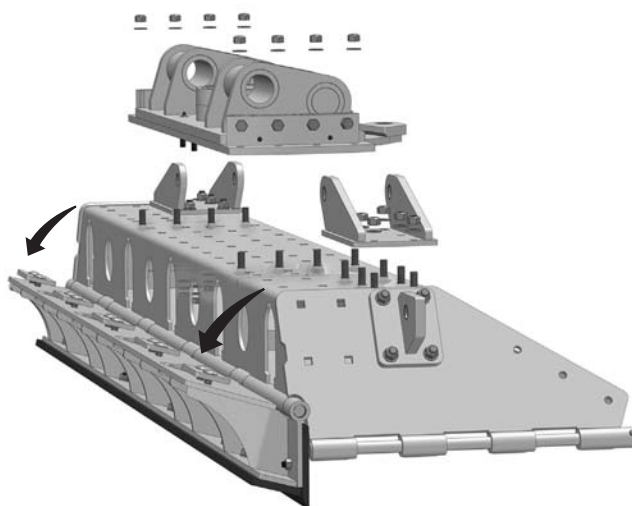
142556	Red Reflector, 9" lg	4
142557	Amber Reflector, 9" lg	2

Product Decals

143204	Degelman Logo, 48-3/16" lg	1
142009	Degelman Logo, 16-1/4" lg	1
142859	PileDriver Decal	1

PRE-ASSEMBLY - CENTER SECTION

Important: Before attaching wing assemblies, it is recommended to fully install all Tilt and Wing Angle brackets to the back of the Center Section. It should be noted that access to install center section components may prove difficult with the cutting edge assembly installed. The following is a recommend procedure for installing these brackets:

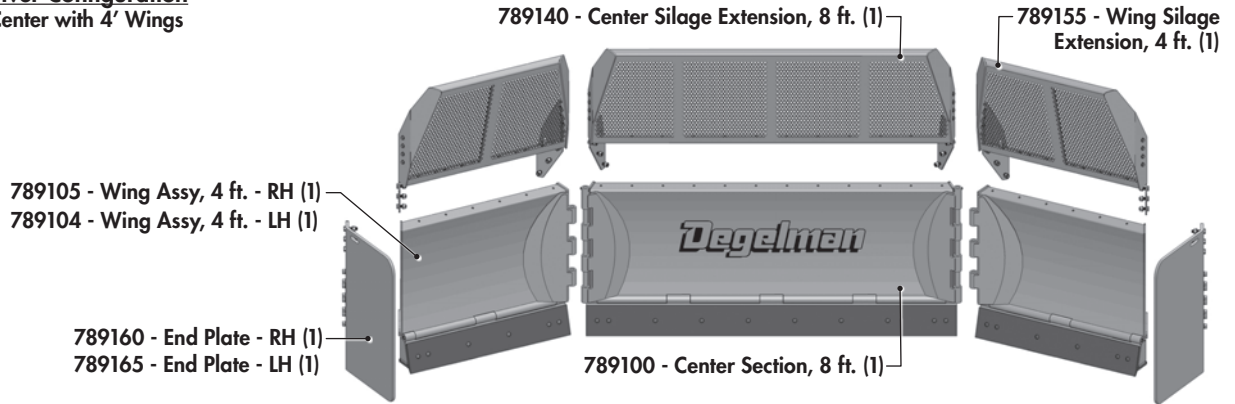


Recommendation for Installing Center Options:

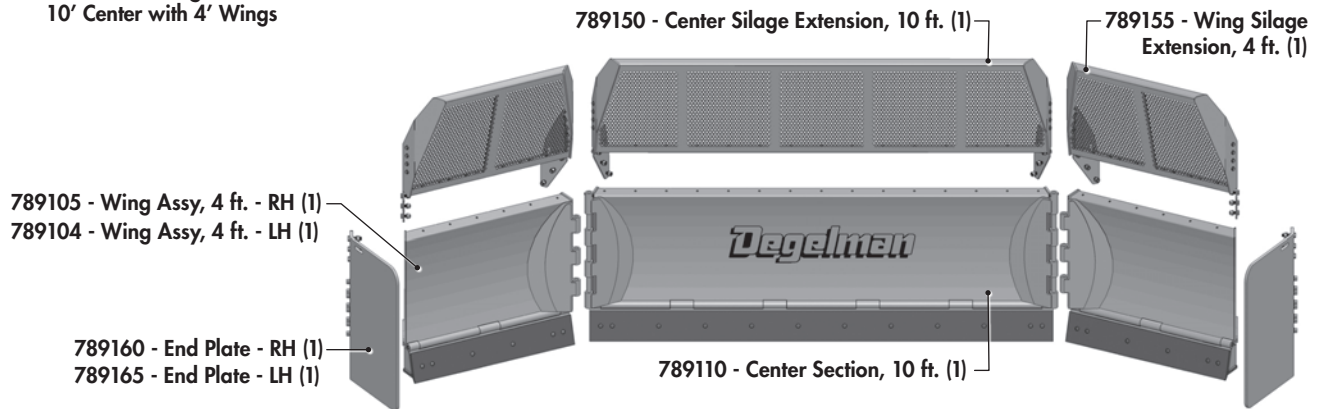
1. Lay center section down on its face, raised up about 5" above ground.
2. Unbolt cutting edge assembly and let swing away to gain better access to hardware.
3. Place wing angle, frame mount and/or tilt assembly brackets down onto center section.
4. Fasten accordingly.
5. Swing cutting edge assembly back into place and securely fasten.

Blade Overview / Options

16' PileDriver Configuration 8' Center with 4' Wings

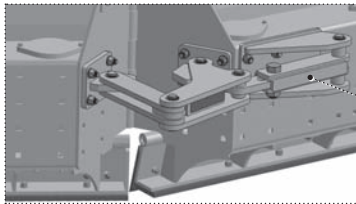


18' PileDriver Configuration 10' Center with 4' Wings



Optional Tilt & Wing Angle Configurations (No Tilt or Hydraulic Tilt, Manual or Hydraulic Wing Angle)

8' & 10' - Manual Wing Angle Option



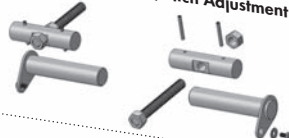
8' & 10' - Hydraulic Wing Angle Option



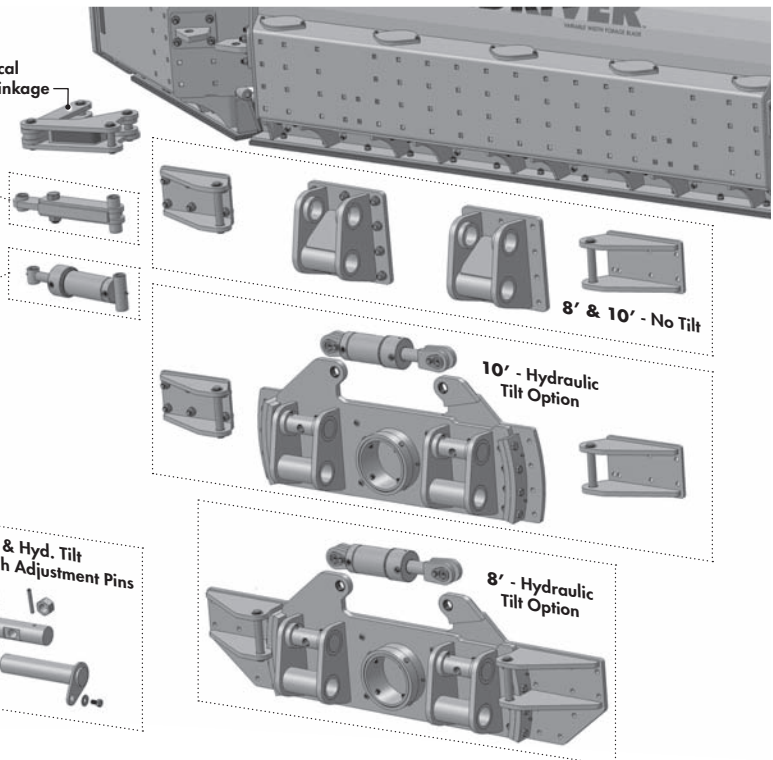
8' & 10' - Wing Skid Shoes (Optional)



8' & 10' - Standard & Hyd. Tilt Pivot Frame Attachment/Pitch Adjustment Pins



8' & 10' - Typical Wing Angle Linkage



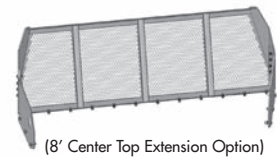
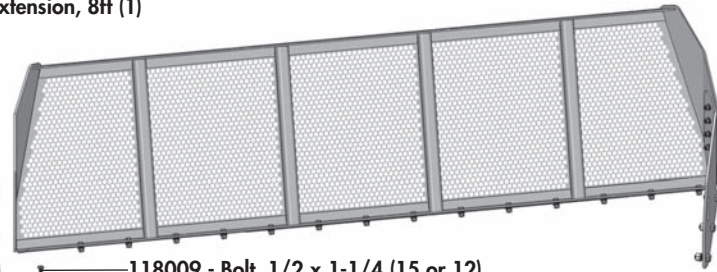
Center Section Components

CENTER FRAME COMPONENTS (10' or 8')

TOP EXTENSION OPTION

10' Assembly: 789150 - Silage Extension, 10ft (1) - shown
8' Assembly: 789140 - Silage Extension, 8ft (1)

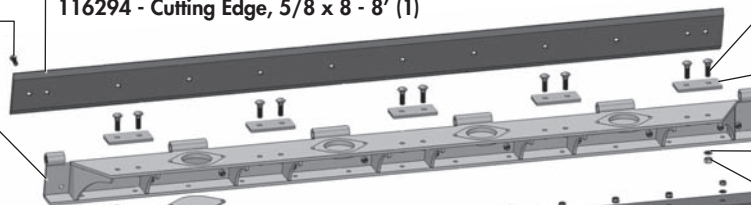
- 118405 - Nut, 1/2 (8)
- 118504 - Lock Washer, 1/2 (8)
- 118587 - Flat Washer, 1/2 F436 (16)
- 118292 - Bolt, 1/2 x 1-3/4 (8)
- 789147 - Plate, Bolted - LH (1)
- 789148 - Plate, Bolted - RH (1)
- (NOTE: Plate is positioned on INSIDE of extension's frame, and outside of center frame)
- 118043 - Bolt, 3/4 x 2 (6)
- 118772 - Lock Washer, 3/4 - GR8 (6)
- 118770 - Nut, 3/4 - GR8 (6)
- 118009 - Bolt, 1/2 x 1-1/4 (15 or 12)
- 118587 - Flat Washer, 1/2 F436 (30 or 24)
- 118504 - Lock Washer, 1/2 (15 or 12)
- 118405 - Nut, 1/2 (15 or 12)



CENTER SECTION ASSEMBLY

10' Assembly: 789110 - Center Section Assembly, 10ft (1) - shown
8' Assembly: 789100 - Center Section Assembly, 8ft (1)

- 118417 - Lock Nut, 3/8 (2)
- 118670 - Bolt, 3/8 x 2-1/2 GR8 (2)
- 788602 - Shaft Pin, Wing (2)
- 810279 - Retaining Ring, 1-1/4 Internal (2)
- 789124 - Cap, Plate (9 or 6)
- 118005 - Bolt, 3/8 x 1 (18 or 12)
- 118503 - Lock Washer, 3/8 (18 or 12)
- 788541 - Center Assy, 10ft (1) - shown
- 788537 - Center Assy, 8ft (1)
- 117438 - Bolt, Carriage 3/4 x 2-1/2 GR8 (8)
- 118775 - Flat Washer, 3/4 F436 (8)
- 117414 - Lock Nut, 3/4 unitorque (8)
- 788608 - Lug, Stop (2)
- 788596 - Shaft Pin, 10ft (1) - shown
- 788594 - Shaft Pin, 8ft (1)
- 118203 - Bolt, Scraper 5/8 x 2 (12 or 10)
- 116295 - Cutting Edge, 5/8 x 8 - 10' (1) - shown
- 116294 - Cutting Edge, 5/8 x 8 - 8' (1)
- 789125 - Cutting Edge Holder, 10' (shown) (1)
- 789115 - Cutting Edge Holder, 8' (1)
- 118447 - Lock Nut, 5/8 - unitorque (12 or 10)
- 118407 - Nut, 5/8 (13 or 11)
- 118508 - Lock Washer, 5/8 (13 or 11)
- 118203 - Bolt, Scraper 5/8 x 2 (13 or 11)
- 116292 - Cutting Edge, 3/4 x 5 - 10' (1) - shown
- 116291 - Cutting Edge, 3/4 x 5 - 8' (1)
- 117438 - Bolt, Carriage 3/4 x 2-1/2 GR8 (10 or 8)
- 789129 - Bolt Holder Bar, 1/2 (5 or 4)
- 118772 - Lock Washer, 3/4 - GR8 (10 or 8)
- 118770 - Nut, 3/4 - GR8 (10 or 8)



Wing Section Components

WING FRAME COMPONENTS (RH Shown)

TOP EXTENSION OPTION

RH & LH: 789155 - Silage Extension, 4ft (1)

118405 - Nut, 1/2 (8)

118504 - Lock Washer, 1/2 (8)

118587 - Flat Washer,
1/2 F436 (16)

118292 - Bolt, 1/2 x
1-3/4 (8)

789147 - Plate, Bolted - LH (1)

789148 - Plate, Bolted - RH (1)

(NOTE: Plate is positioned on INSIDE of
extension's frame, and outside of wing frame)



Optional Skid
Shoe Assembly

118009 - Bolt, 1/2
x 1-1/4 (6)

118587 - Flat Washer,
1/2 F436 (12)

118504 - Lock Washer,
1/2 (6)

118405 - Nut, 1/2 (6)

118043 - Bolt, 3/4 x 2 (6)

118772 - Lock Washer, 3/4 - GR8 (6)

118770 - Nut, 3/4 - GR8 (6)

END PLATE ASSEMBLY

RH Assembly: 789160 - End Plate
Assembly (1) - shown

LH Assembly: 789165 - End Plate
Assembly (1)

118051 - Bolt, 3/4
x 3 GR8 (3)



WING SECTION ASSEMBLY

RH Assembly: 789105 - Wing Section Assembly, 4ft (1) - shown

LH Assembly: 789104 - Wing Section Assembly, 4ft (1)

788556 - Wing Assy, RH 4ft (1) - shown

788557 - Wing Assy, LH 4ft (1)

117438 - Bolt, Carriage
3/4 x 2-1/2 GR8 (4)

118775 - Flat Washer,
3/4 F436 (4)

117414 - Lock Nut, 3/4
unitorque (4)

788608 - Lug, Stop (1)

810279 - Retaining Ring,
1-1/4 Internal (2)

788590 - Shaft Pin, 4ft (1)

118203 - Bolt, Scraper
5/8 x 2 (6)

116296 - Cutting Edge,
5/8 x 8 - 4' (1)

118447 - Lock Nut, 5/8
- unitorque (6)

118407 - Nut, 5/8 (5)

118508 - Lock Washer,
5/8 (5)

118203 - Bolt, Scraper 5/8 x 2 (5)

116293 - Cutting Edge, 3/4 x 5 - 4' (1)

118005 - Bolt,
3/8 x 1 (6)

118503 - Lock
Washer, 3/8 (6)

789135 - Cap, Plate
- Jack Bushing (1)

789124 - Cap, Plate (2)
(One located under Cutting
Edge Holder - see below)

117438 - Bolt, Carriage 3/4
x 2-1/2 GR8 (4)

789129 - Bolt Bar, 1/2 (2)

789130 - Cutting Edge
Holder, 4' (1)

118772 - Lock Washer,
3/4 - GR8 (4)

118770 - Nut, 3/4 - GR8 (4)

117438 - Bolt, Carriage
3/4 x 2-1/2 GR8 (8)

118772 - Lock Washer, 3/4 -
GR8 (11)

118770 - Nut, 3/4 - GR8 (11)

OPTIONAL SKID SHOE

788696 - Skid Shoe
Assembly (1)

(comes with hardware)

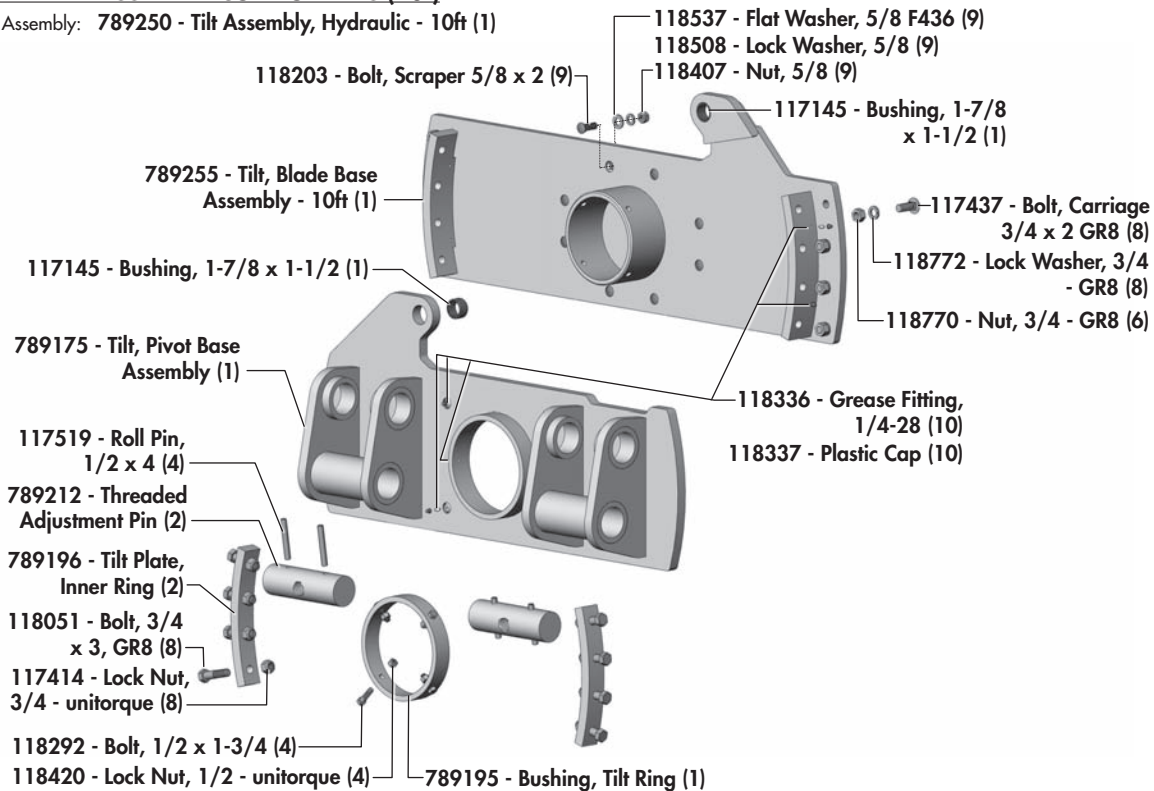


Tilt Frame Components - 8' & 10'

HYDRAULIC TILT FRAME COMPONENTS

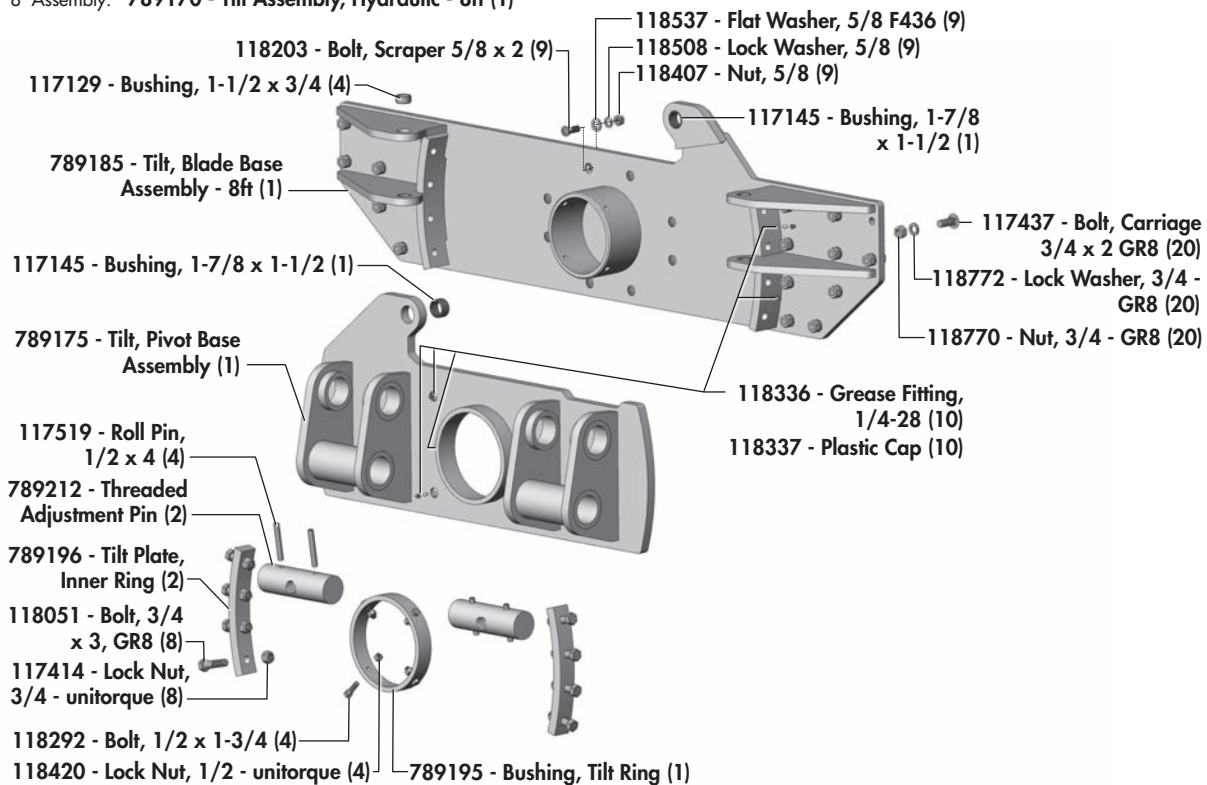
TILT FRAME ASSEMBLY COMPONENTS (10')

10' Assembly: 789250 - Tilt Assembly, Hydraulic - 10ft (1)



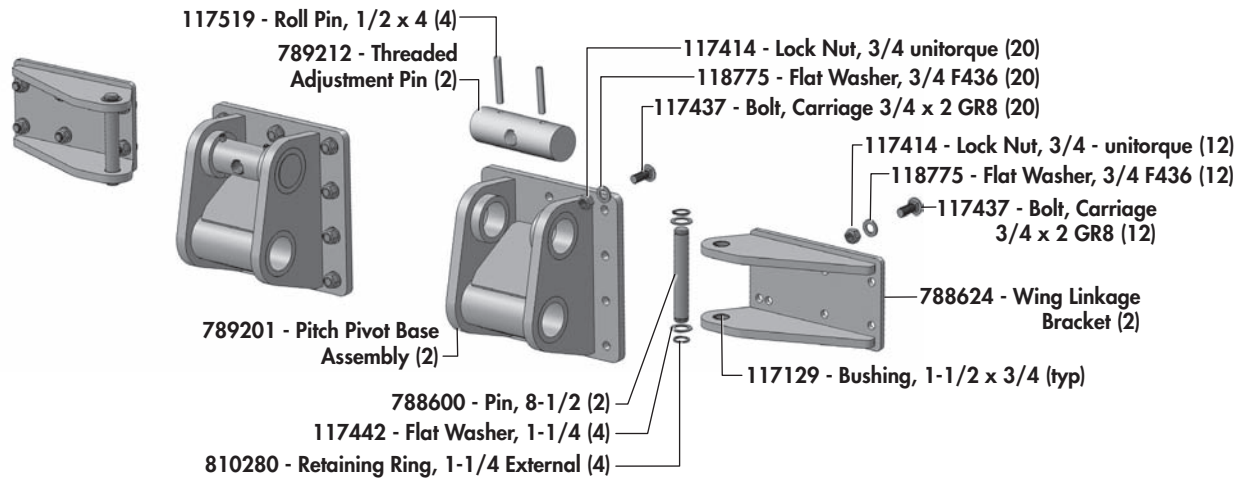
TILT FRAME ASSEMBLY COMPONENTS (8')

8' Assembly: 789170 - Tilt Assembly, Hydraulic - 8ft (1)

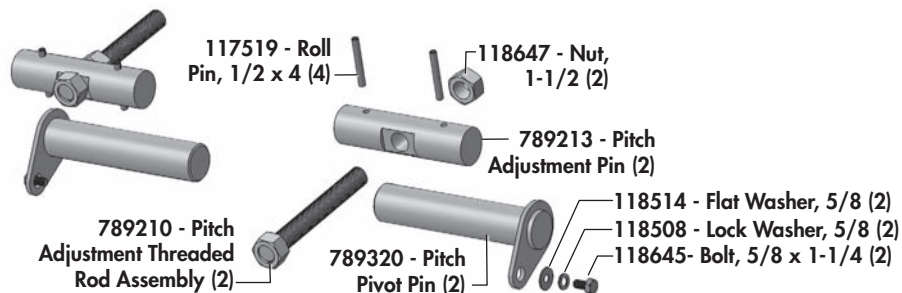


Pivot Frame Mounting/Wing Angle Components - 8' & 10'

STANDARD FRAME MOUNT BRACKETS (No Tilt - 8' & 10')

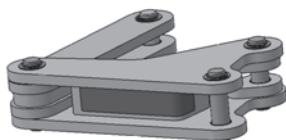


PIVOT FRAME PITCH ADJUSTMENT PINS

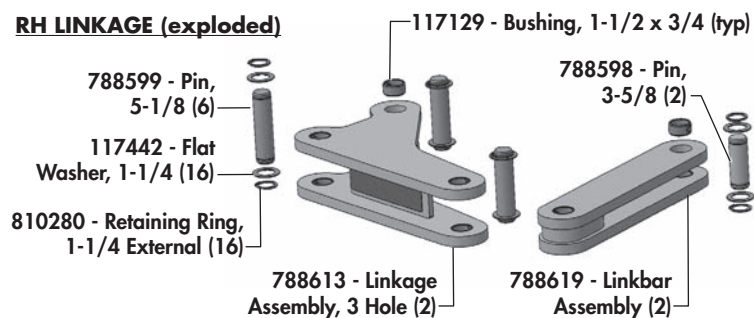


WING ANGLE LINKAGE COMPONENTS (Typical)

LH LINKAGE (Assembled)



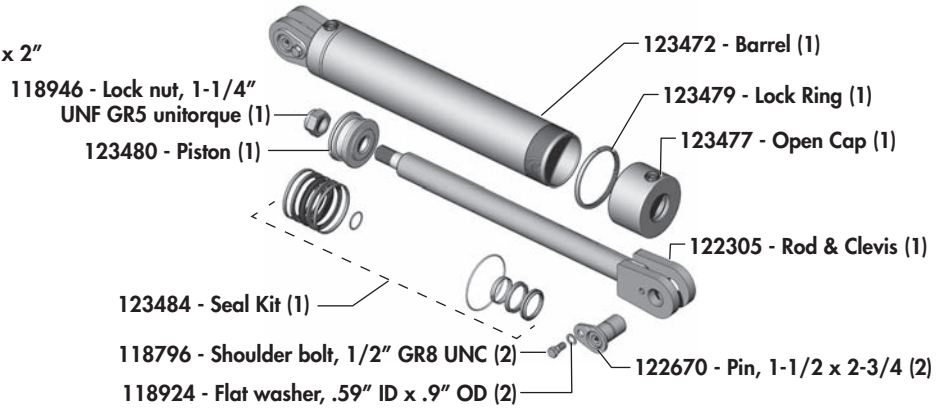
RH LINKAGE (exploded)



Cylinders

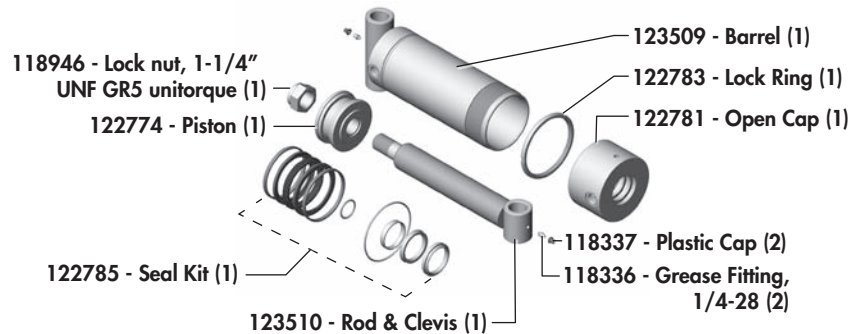
LIFT CYLINDERS

123470 - Cylinder, 4-1/2" x 20" x 2"

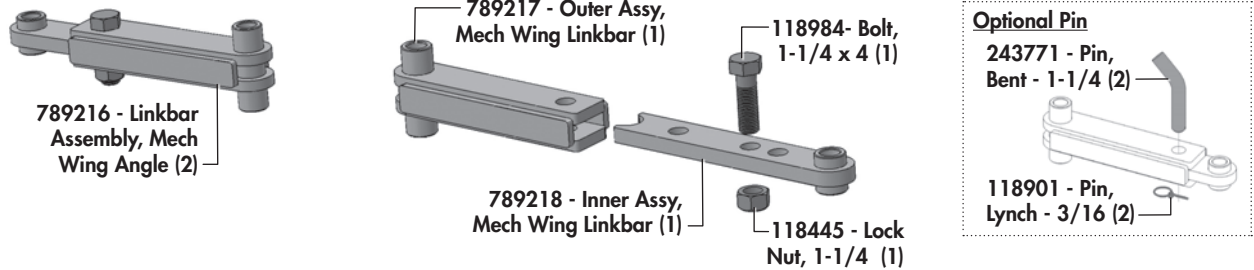


WING CYLINDERS (Optional)

123503 - Cylinder, 4" x 8" x 2"
1-1/4" Pin Eye

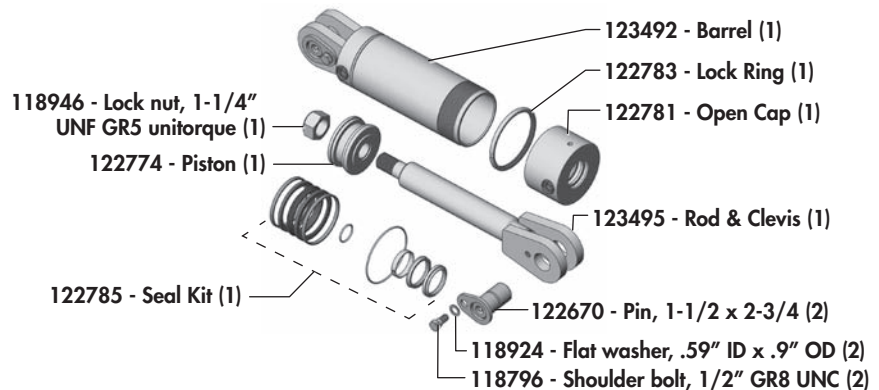


MECHANICAL WING ANGLE LINKBAR COMPONENTS (Manual Angle)



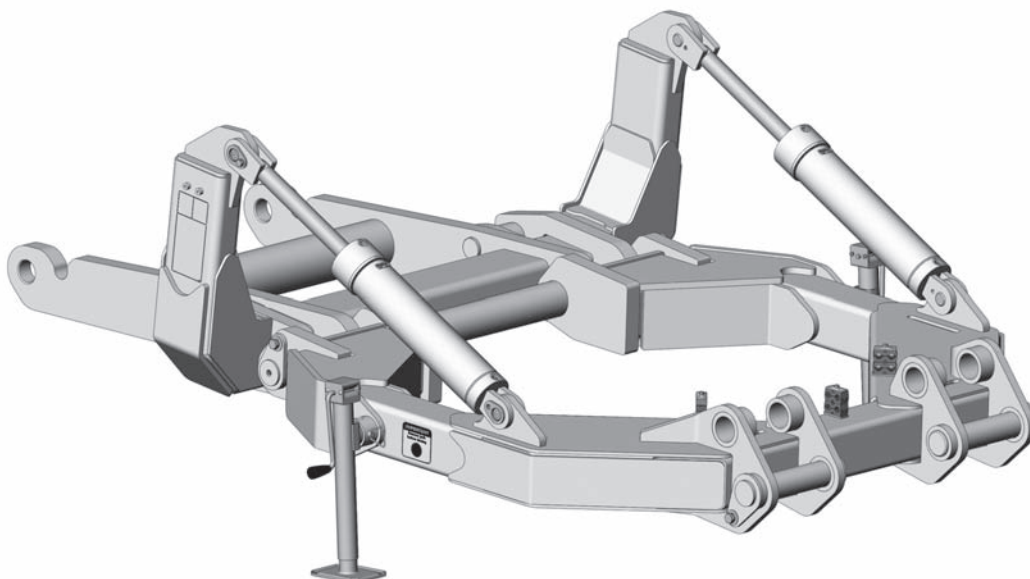
TILT CYLINDER (Optional)

123490 - Cylinder, 4" x 6" x 2"

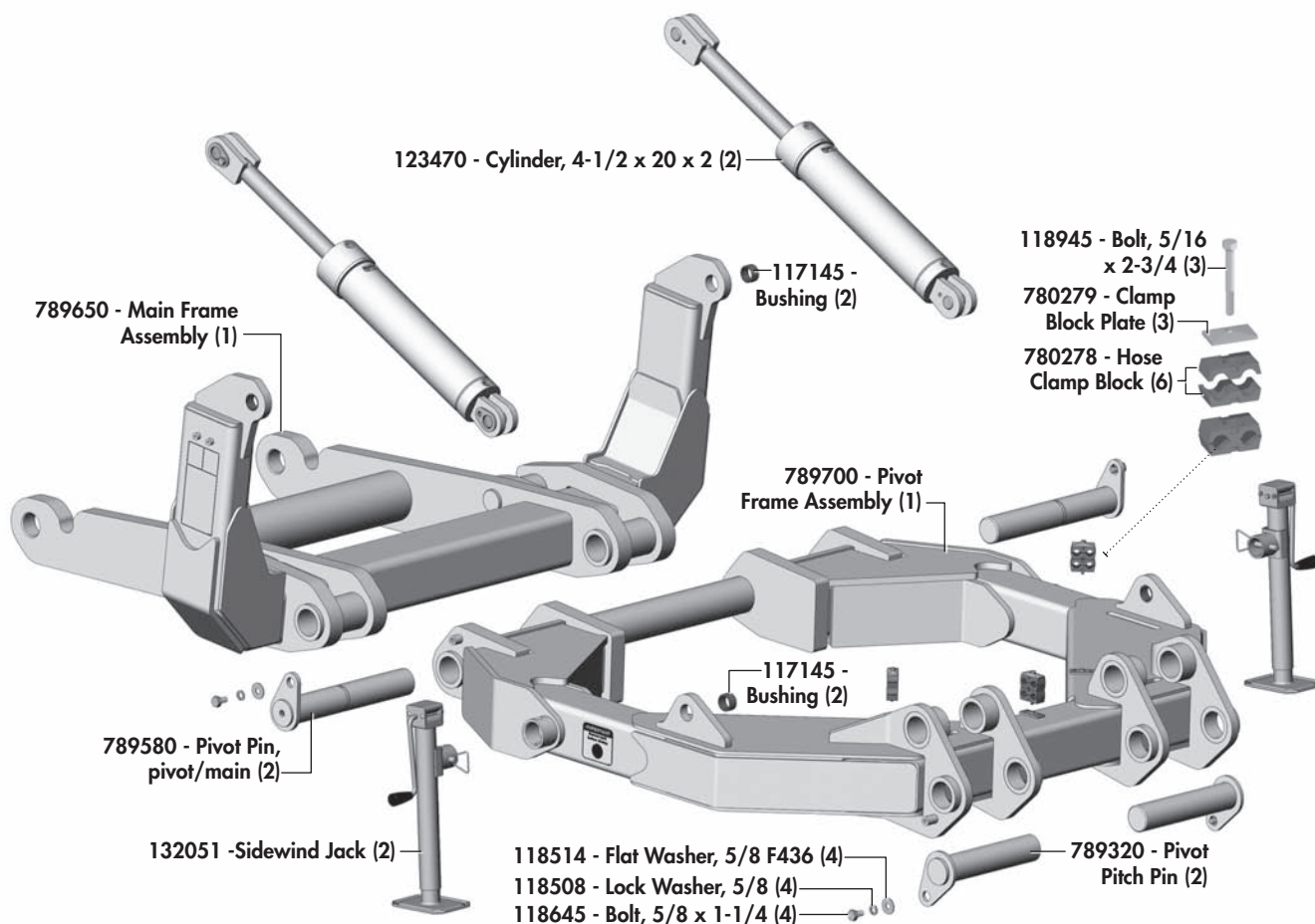


Pivot & Main Frame

PIVOT & MAIN FRAME OVERVIEW

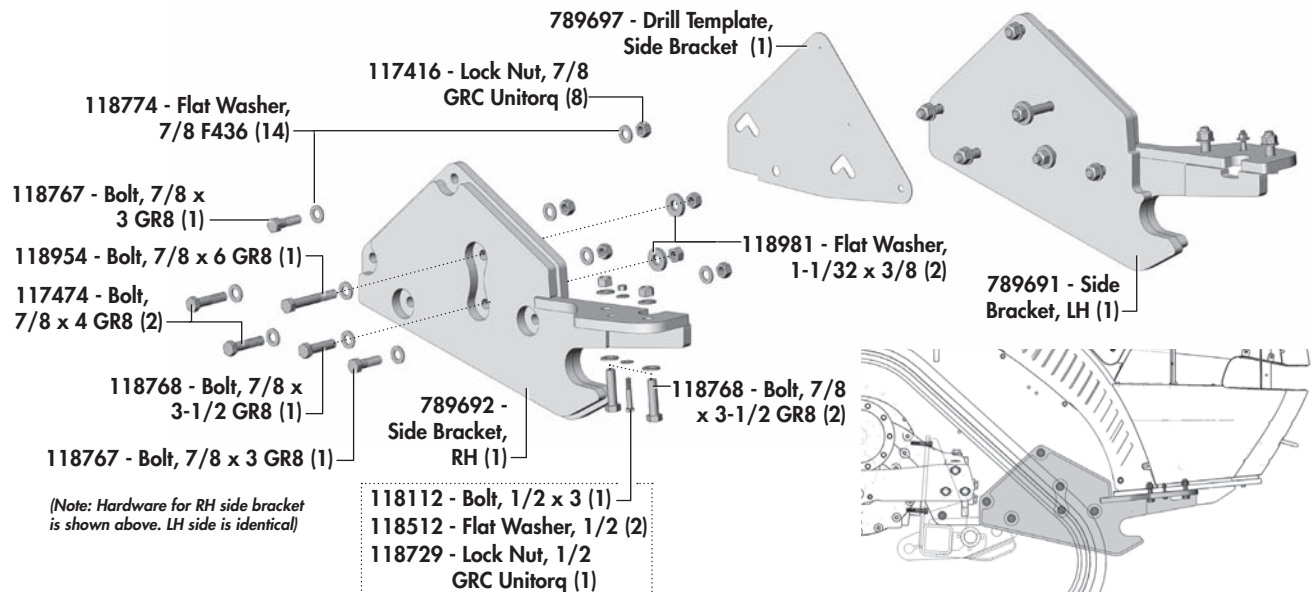


PIVOT & MAIN FRAME COMPONENTS

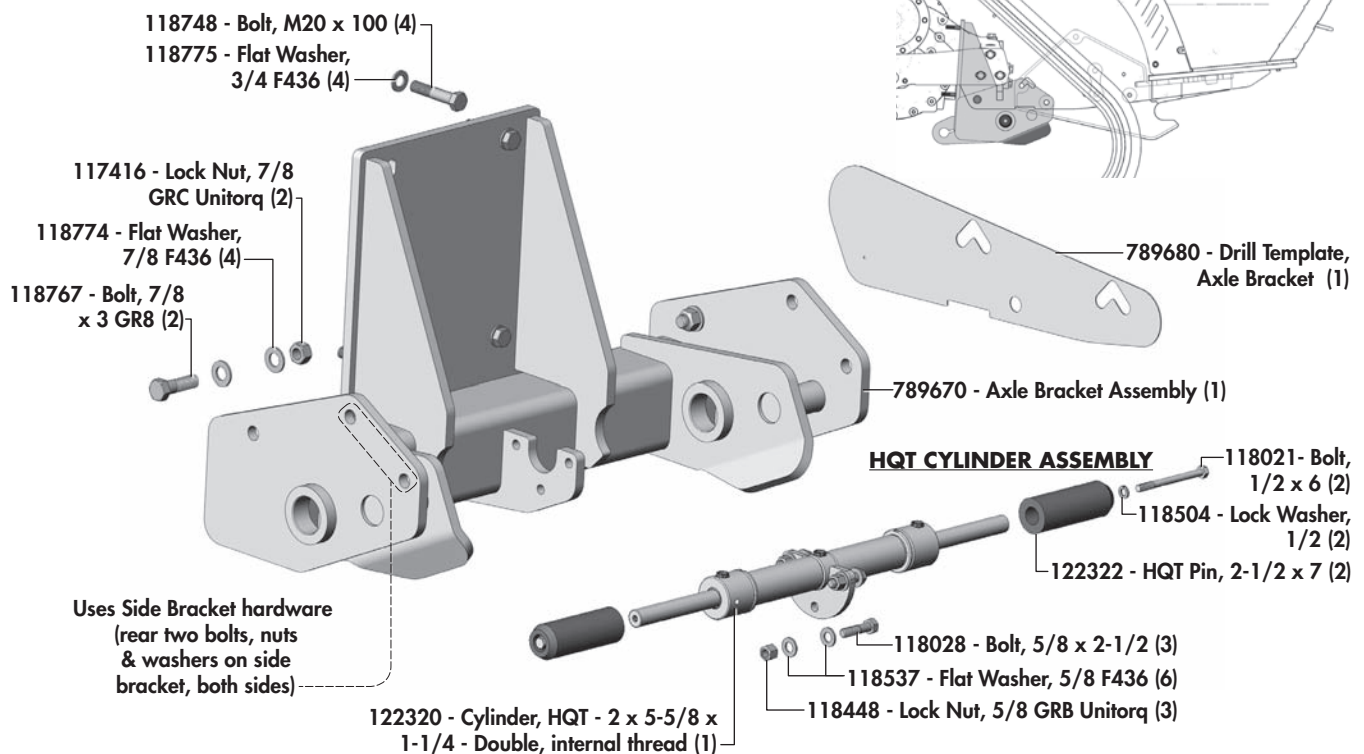


Axle & Side Brackets

CASE STEIGER QUADTRAC - SIDE FRAME BRACKETS



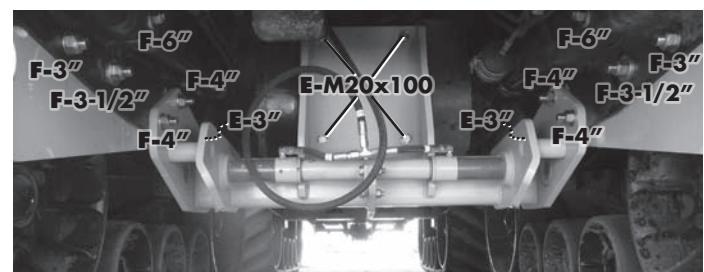
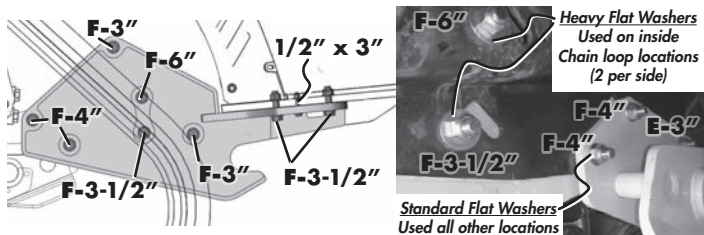
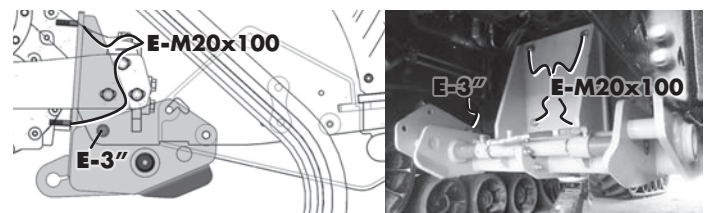
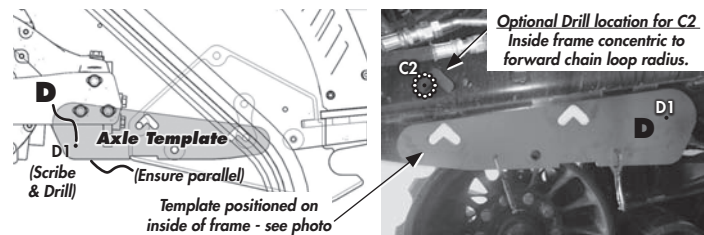
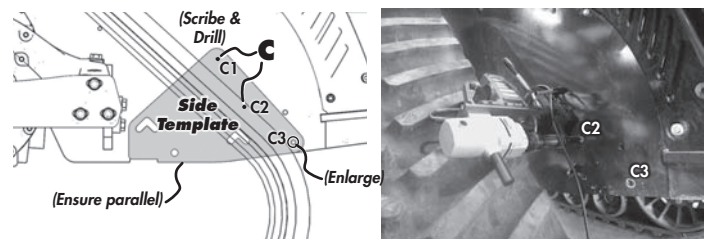
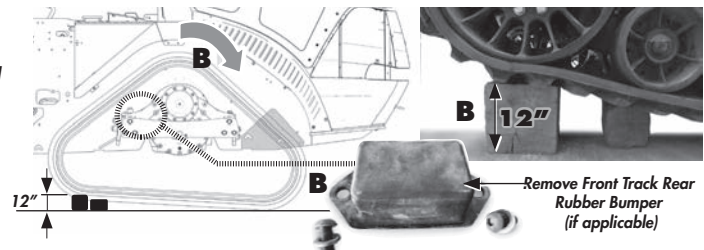
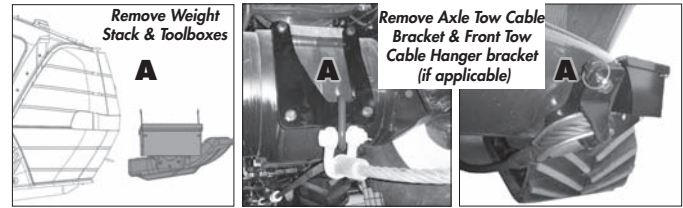
CASE STEIGER QUADTRAC - AXLE BRACKET OPTIONS



Axle & Side Bracket Installation

CASE STEIGER QUADTRAC

- A Preparation:** Remove front weights and toolboxes. (if applicable, remove tow cable brackets on front axle housing and front weight bar, some components will be re-installed with this fit-up).
- B** In order to drill new holes for brackets, it is necessary to rotate the front track forward. This can be accomplished by backing over a secure ramp resulting in the rear of the track being raised approximately 12 inches. (Note: Some models require a rubber bumper to be removed before rotating the track this amount. These bumpers need to be re-installed after bracket installation.)
- C** Mount the **Side Template** over the 2 existing chain loop slots and 1 existing hole using new side bracket mounting hardware. **IMPORTANT: Ensure bottom of template is parallel with bottom of frame!**
- Center punch 2 top location holes through templates to scribe points and note bottom front hole to be enlarged. **Remove template.** Drill out 2 scribed holes (C1 & C2) and one existing hole (C3) to 15/16". (Repeat step **C** on opposite side)
- Note:** If second scribed hole (C2) is unable to be drilled from outside, even with track fully rotated, it can be drilled from the inside frame - concentric (centered) to forward chain loop radius as shown.
- D** On inside of frame, mount the **Axle Template** over the 2 existing chain loop slots and 1 existing hole using new side bracket mounting hardware. **IMPORTANT: Ensure bottom of template is parallel with bottom of frame!**
- Center punch this rear location hole through template to scribe points. **Remove template.** Drill out scribed hole (D1) to 15/16". (Repeat step **D** on opposite side)
- E** "Loosely" install the axle bracket with the 4 front face M20 x 100 bolts and the rear 7/8" x 3" bolts on the side frame (one per side).
- F** Position **Side Brackets** with the supplied 7/8" bolts (various lengths) and hardware. Note location of two heavy washers on inside frame at chain loops. Install 1/2" bolt and hardware. Tighten bolts except for the two 4" axle bracket bolts should remain loose for now.
- G** Tighten the axle bracket bolts in the following order:
 1) Tighten the 4 front face bolts (E-M20x100).
 2) Tighten the 6 rear side bracket bolts (E-3" & F-4").



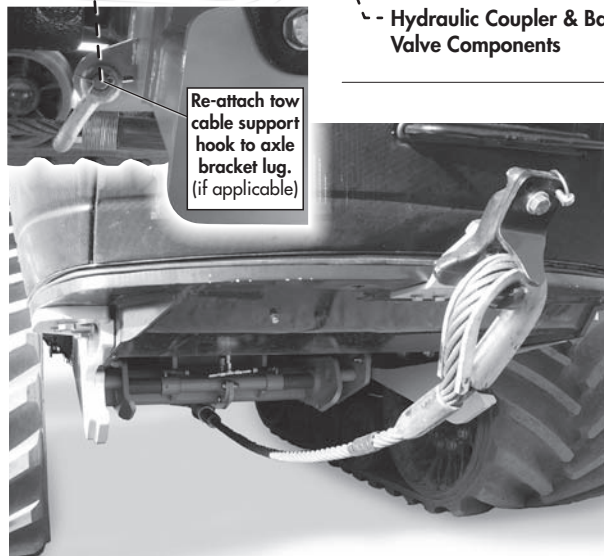
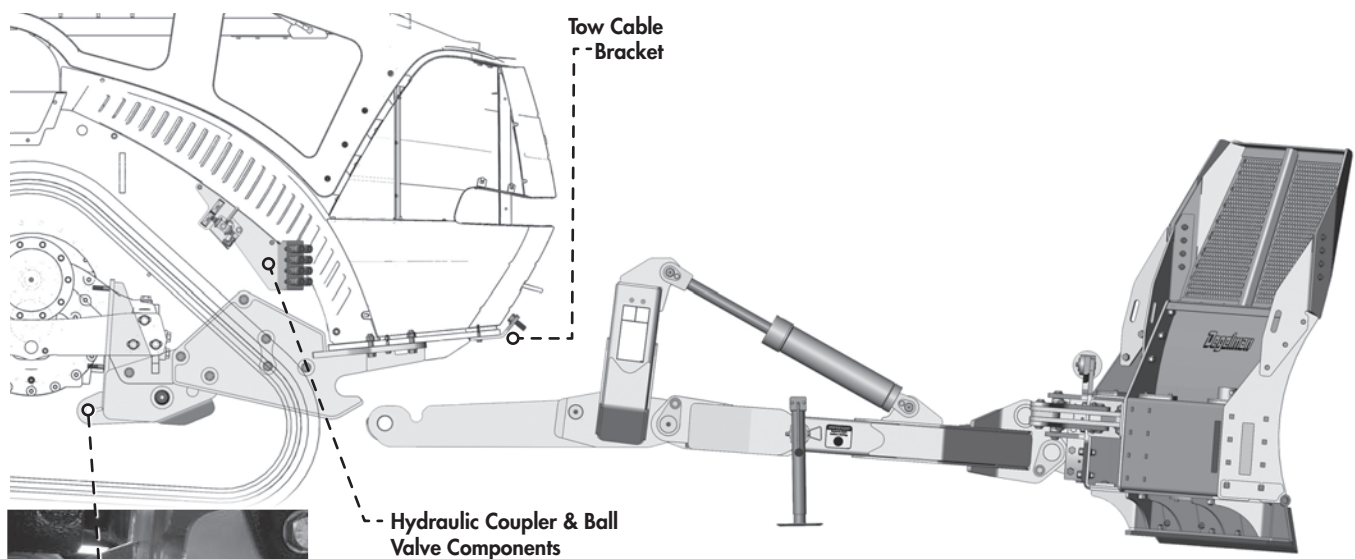
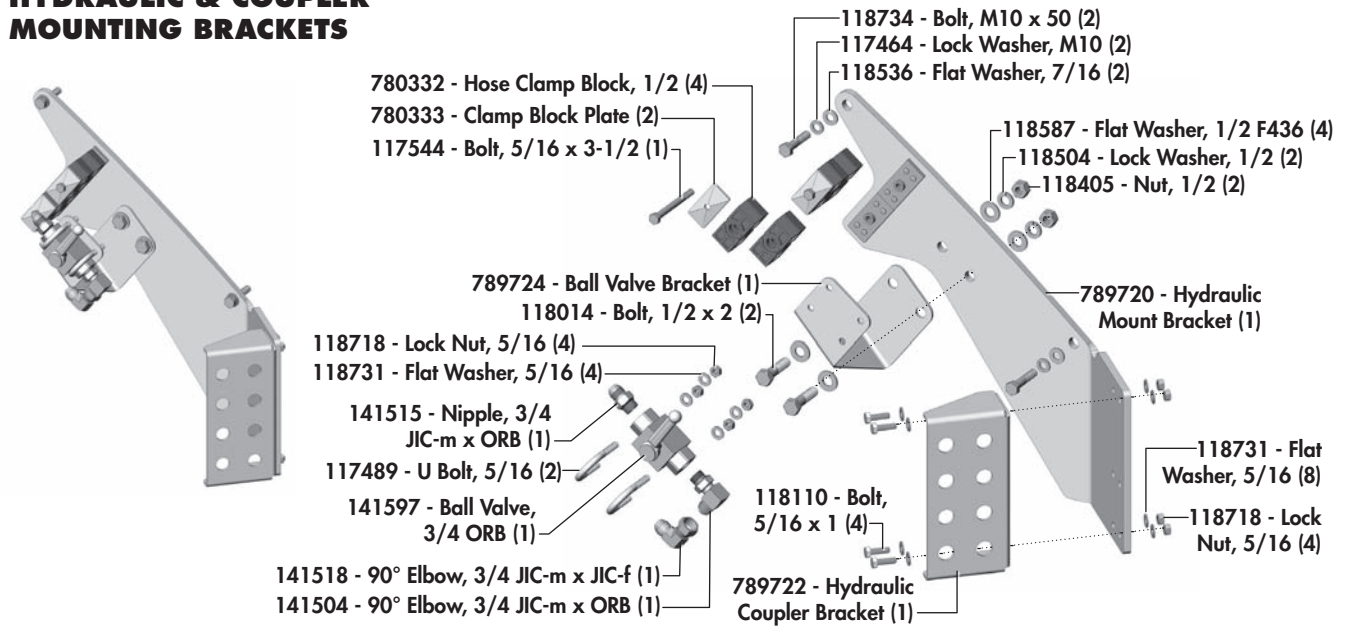
IMPORTANT-TORQUE



Torque all bolts properly!
Refer to maintenance
section for torque
specifications.

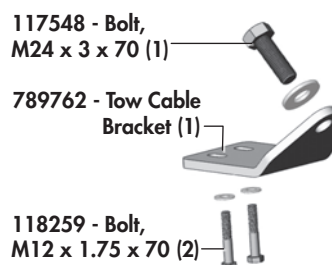
Hydraulic Coupler, Ball Valve & Tow Brackets

HYDRAULIC & COUPLER MOUNTING BRACKETS



FRONT TOW CABLE HOLDER BRACKET*

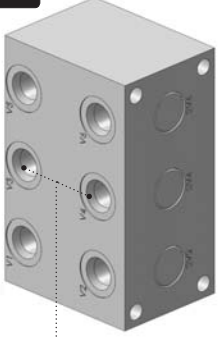




























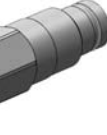
(*For models with existing tow cable option)



Hydraulic Routing

COMMON HYDRAULIC FITTINGS




This is a quick visual reference of the most common hydraulic fittings used in PileDriver dozer blade hydraulic systems. The icon and numbers are used for reference in the routing diagrams on the following pages. Please note, this particular fit-up may not use all fitting types shown in the reference chart below.

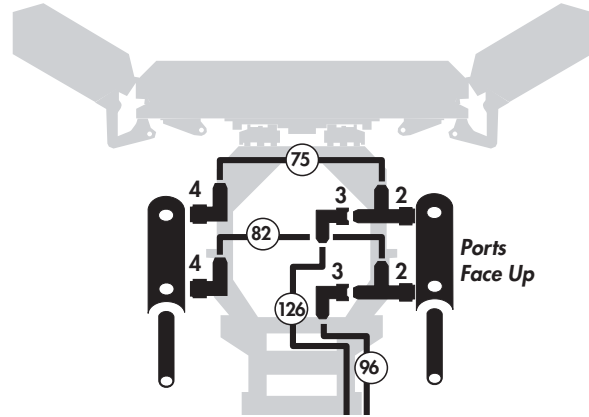
<p>1</p> <p>141068- Relief Valve</p>  <p>248385 - Plug, Kinecor</p>	<p>2</p>   <p>141527 - Tee 3/4 JIC-m x JIC-m x ORB</p>	<p>3</p>   <p>141518 - 90° Elbow 3/4 JIC-m x JIC-f</p>	<p>4</p>   <p>141504 - 90° Elbow 3/4 m JIC x ORB</p>	<p>5</p>   <p>141501- Tee 3/4 JIC-m</p>	<p>6</p>   <p>141515 - Connector 3/4 m JIC x ORB</p>
	<p>7</p>   <p>141618 - Nipple, 3/4 JIC x 1-1/16 ORB</p>	<p>8</p>   <p>141674 - Flush Face Quick Coupler -m</p>	<p>9</p>   <p>141675 - Flush Face Quick Coupler -f</p>	<p>10</p> <p>11</p>  <p>117546 - Star Washer 117545 - Jam Nut 3/4</p>	<p>12</p>   <p>141620 - 45° Elbow 3/4 JIC-m x f-sw</p>
	<p>13</p>   <p>141581 - Quick Coupler-m - 3/4 ORB</p>	<p>14</p>   <p>141577 - Dust Cap Coupler-m</p>	<p>15</p>   <p>141560 - 90° Elbow, 3/4 JIC-m x 9/16 ORB</p>	<p>16</p>   <p>141561 - Nipple, 3/4 JIC-m x 9/16 ORB</p>	<p>17</p>   <p>141573 - Flush Face Coupler, 3/4 ORB</p>

Hydraulic Routing

LIFT CYLINDERS ROUTING

123470 - Cylinder, 4-1/2 x 20 x 2 (2)

- ⑦⑤ 126566 - Hose, 1/2 x 75 (1)
- ⑧② 126561 - Hose, 1/2 x 82 (1)
- ⑨⑥ 126691 - Hose, 1/2 x 96 (1)
- ⑫⑥ 126566 - Hose, 1/2 x 126 (1)
- 2  141527 - Tee 3/4 JIC-m x JIC-m x ORB (2)
- 3  141518 - 90° Elbow, 3/4 JIC-m x JIC-f (2)
- 4  141504 - 90° Elbow, 3/4 JIC-m x ORB (2)



Refer to Front Hydraulic Connection Detail for connection options.

WING ANGLE CYLINDERS ROUTING

123503 - Cylinder, 3-1/2 x 8 x 2 (2)

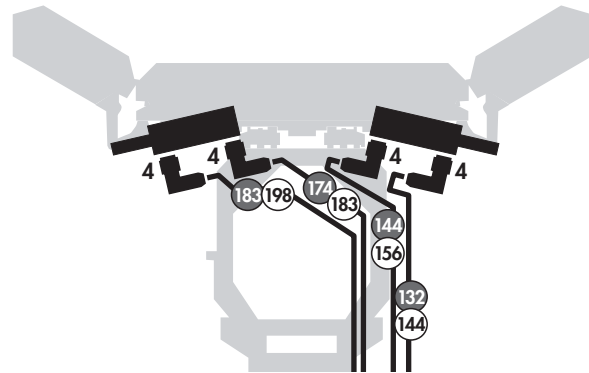
Models with 8ft Center Section

- ⑬② 126511 - Hose, 1/2 x 132 (1)
- ⑭④ 126563 - Hose, 1/2 x 144 (1)
- ⑰④ 126600 - Hose, 1/2 x 174 (1)
- ⑱③ 126567 - Hose, 1/2 x 183 (1)

Models with 10ft Center Section

- ⑭④ 126563 - Hose, 1/2 x 144 (1)
- ⑮⑥ 126571 - Hose, 1/2 x 156 (1)
- ⑱③ 126567 - Hose, 1/2 x 183 (1)
- ⑲⑧ 126555 - Hose, 1/2 x 198 (1)


- 4  141504 - 90° Elbow, 3/4 JIC-m x ORB (4)

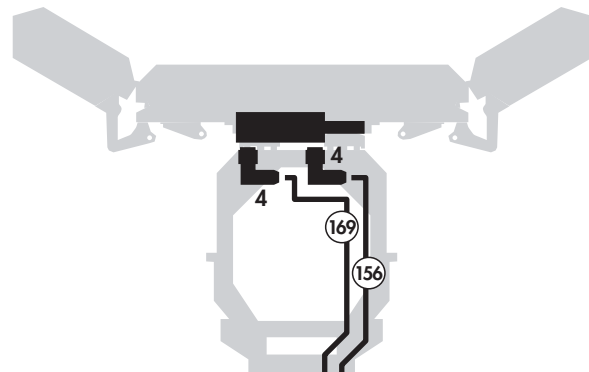


Refer to Front Hydraulic Connection Detail for connection options.

TILT CYLINDER ROUTING

123490 - Cylinder, 4 x 6 x 2 (1)

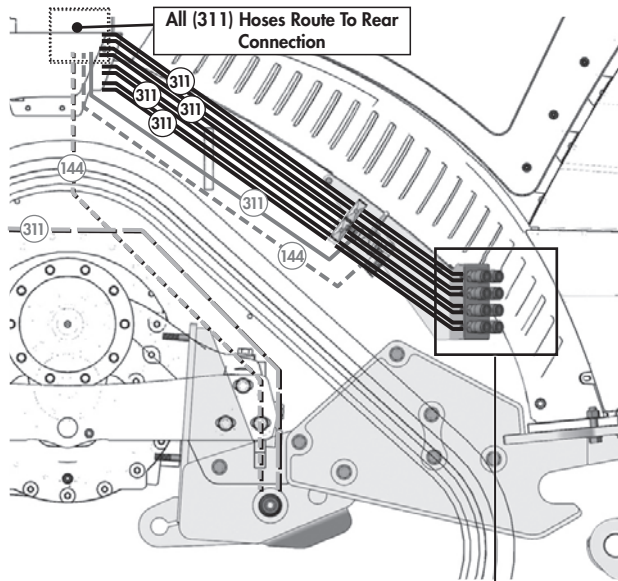
- ⑮⑥ 126571 - Hose, 1/2 x 156 (1)
- ⑰⑨ 126572 - Hose, 1/2 x 169 (1)
- 4  141504 - 90° Elbow, 3/4 JIC-m x ORB (2)



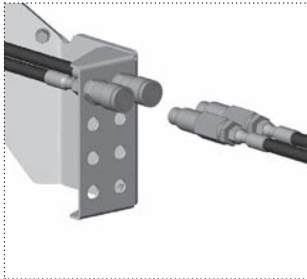
Refer to Front Hydraulic Connection Detail for connection options.

Hydraulic Routing

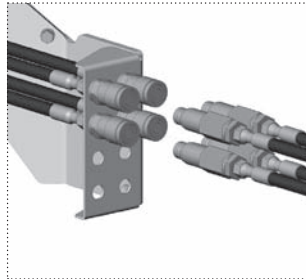
FROM FRONT CYLINDER HOSE ROUTING



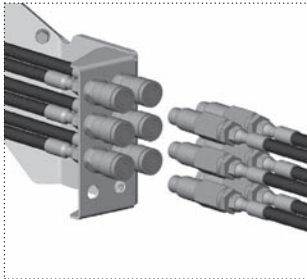
Hydraulic Lift Only



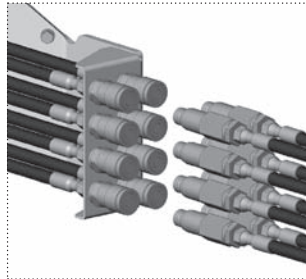
Hydraulic Lift & Tilt



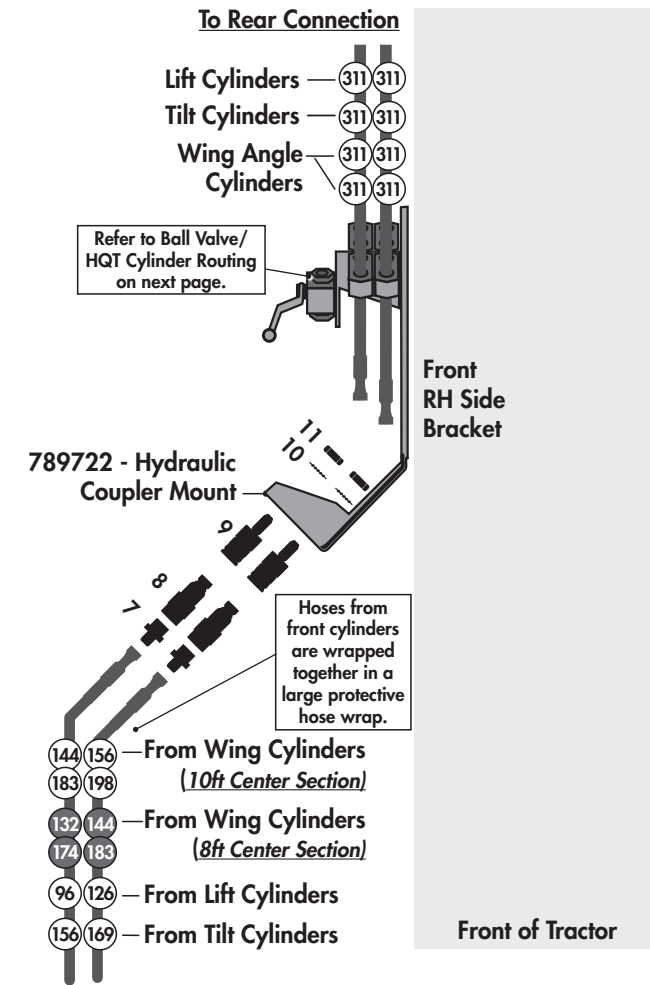
Hydraulic Lift & Wings



Hyd. Lift, Tilt, & Wings



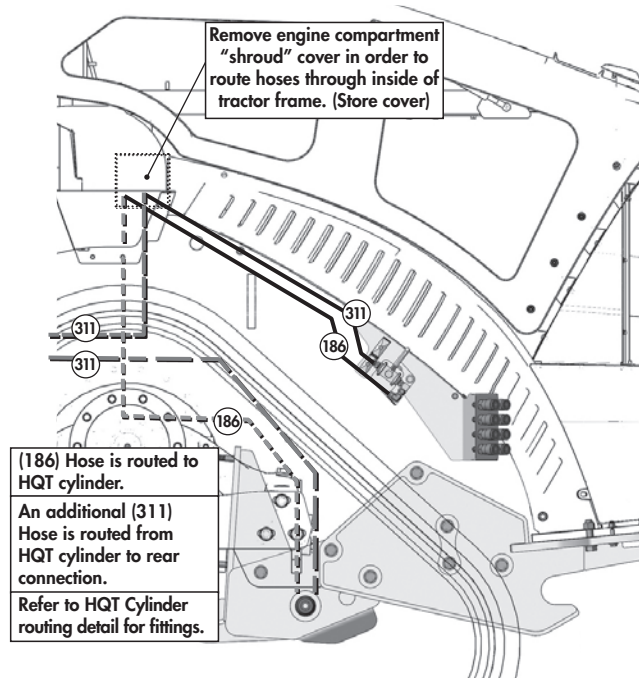
FRONT HYDRAULIC CONNECTION DETAIL



From Front Cylinders

- | | |
|----|---|
| 7 | 141618 - Nipple, 3/4 JIC-m x 1-1/16 ORB (2-8) |
| 8 | 141674 - Flush Face Quick Coupler-m (2-8) |
| 9 | 141675 - Flush Face Quick Coupler-f (2-8) |
| 10 | 117546 - Star Washer (2-8) |
| 11 | 117545 - Jam Nut 3/4 (2-8) |

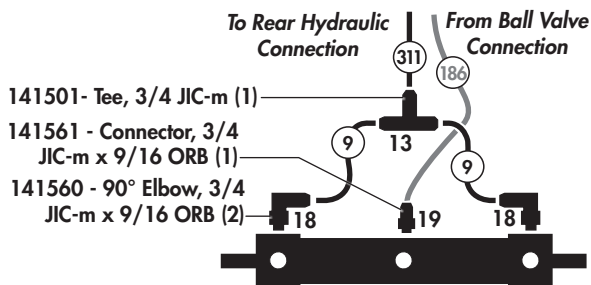
Hydraulic Routing



HQT (HYDRAULIC QUICK-TACH) ROUTING

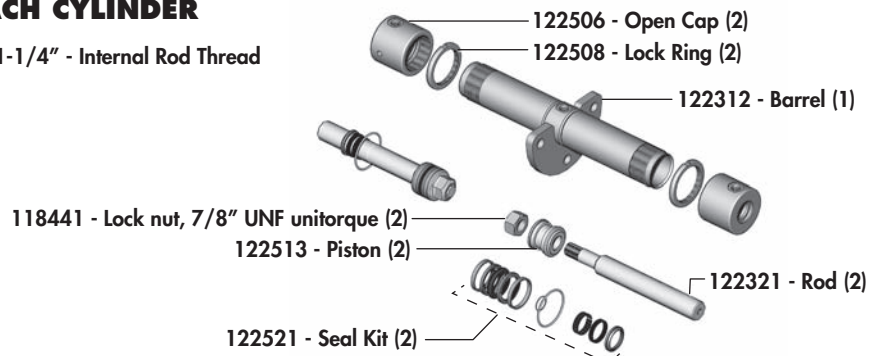
122320 - Cylinder, 2" x 5-5/8" x 1-1/4" - Internal Rod Thread

- ⑨ 126578 - Hose, 3/8 x 9 (2)
- ③①① 126610 - Hose, 1/2 x 311 (1)



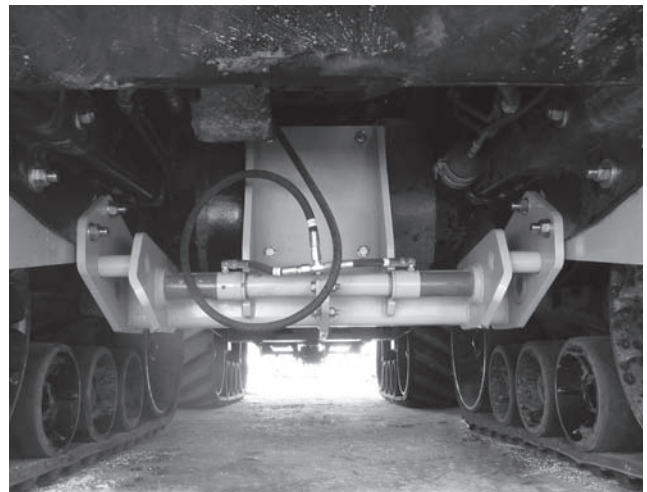
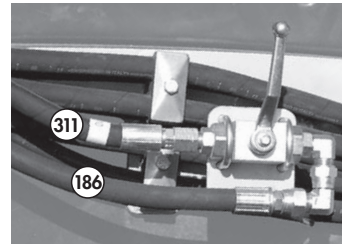
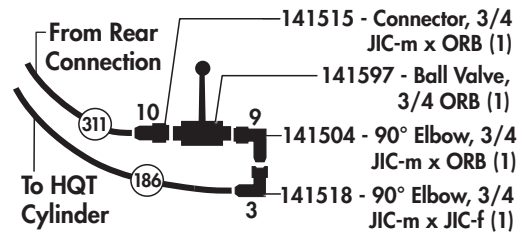
HYDRAULIC QUICK-TACH CYLINDER

122320 - Cylinder, 2" x 5-5/8" x 1-1/4" - Internal Rod Thread



BALL VALVE ROUTING

- ①⑧⑥ 126612 - Hose, 1/2 x 186 (1)
- ③①① 126610 - Hose, 1/2 x 311 (1)



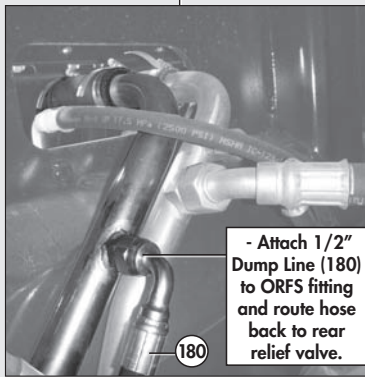
Hydraulic Routing

REAR HOSE ROUTING DETAIL

RELIEF VALVE DUMP LINE CONNECTION



- Tank Line Located on LH Side in front of main articulation point.
- Remove existing ORFS Cap.



- Attach 1/2" Dump Line (180) to ORFS fitting and route hose back to rear relief valve.

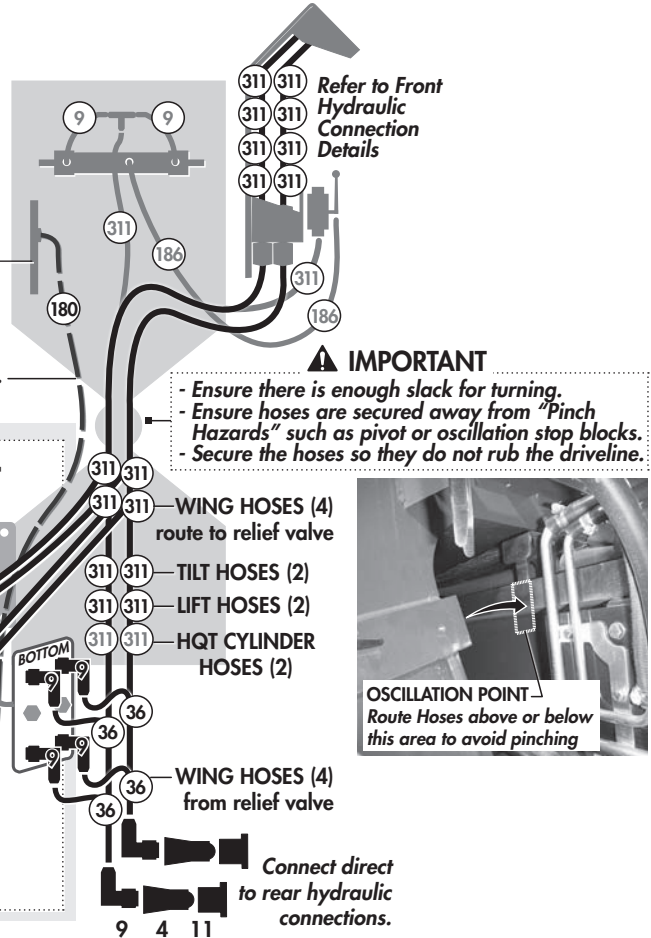
Connect to tractor's hydraulic tank drain line located on inside of frame.

IMPORTANT
MUST be zero pressure in return line.

IMPORTANT

Relief valve MUST be used on Wing Angle Hyd System

WING ANGLE SYSTEM ONLY
Hoses from wing angle cylinders must connect to rear relief valve system. Tank drain line (180) must also be properly installed.



All Models - (quantity depends on options)

- 311 126610 - Hose, 1/2 x 311 (2 - 8)
- 4 141581 - Quick Coupler-m - 3/4 ORB (4 - 10)
- 9 141504 - 90° Elbow, 3/4 JIC-m x ORB (4 - 18)
- 11 141577 - Dust Cap Coupler-m (4 - 10)

Hydraulic Wing Angle Models - (also require:)

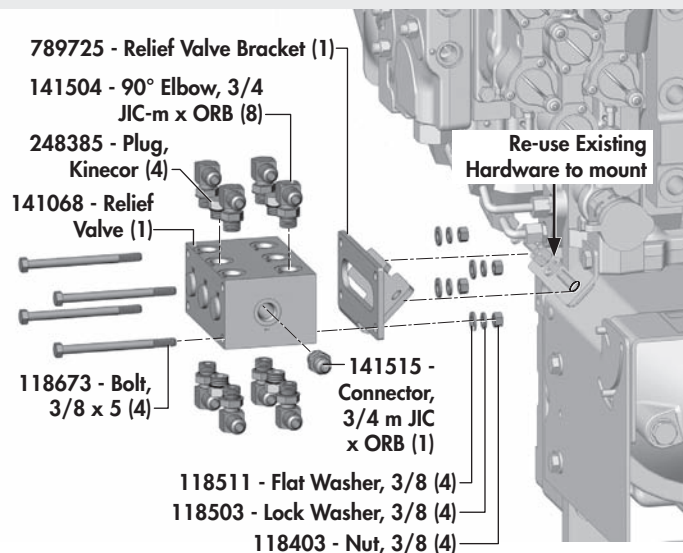
- 36 126570 - Hose, 1/2 x 36 (4)
- 180 126688 - Hose, 1/2 x 180 (3/4 JIC F-SW, 10 ORFS EL) (1)
- 1 141068 - Relief Valve (1)
- 6 141515 - Connector, 3/4 JIC-m x ORB (1)
- 18 248385 - Plug, Kinecor (4)



RELIEF VALVE COMPONENTS (HYD. WING ANGLE OPTION)

IMPORTANT

Relief Valve MUST be used on Wing Angle Hydraulic System

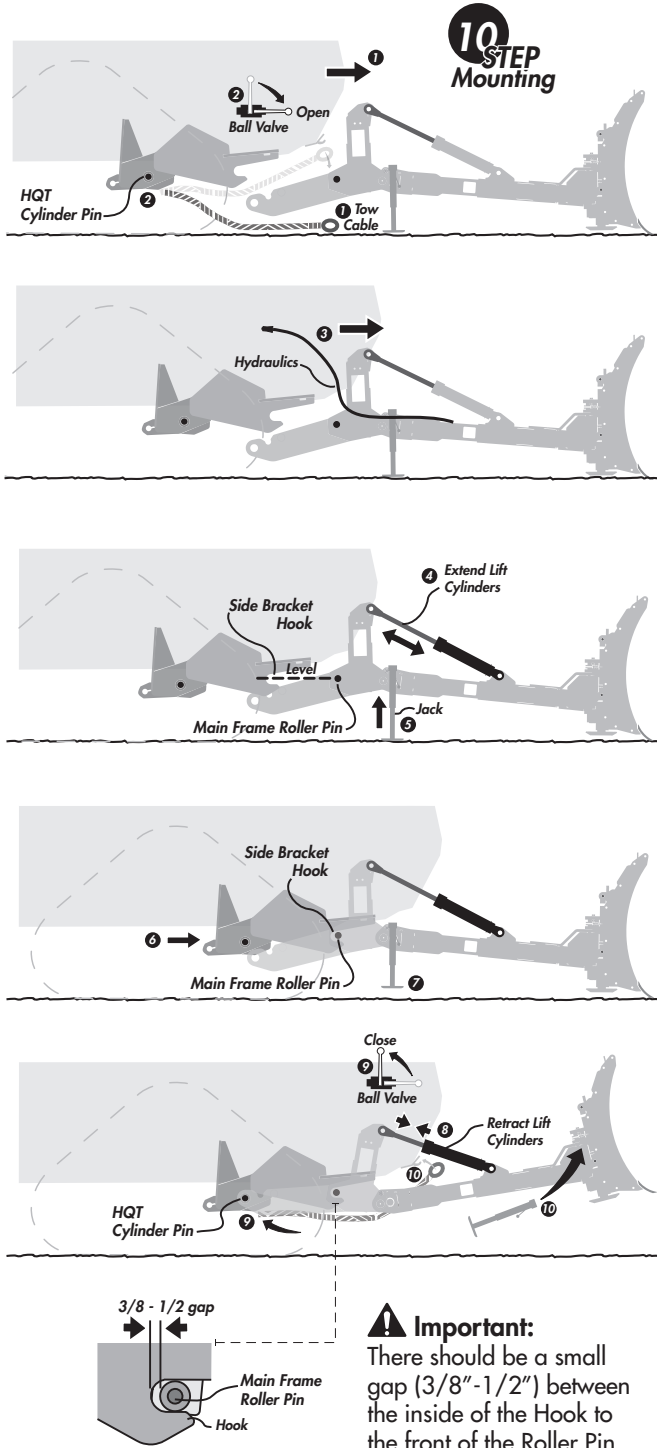


Mounting

HYDRAULIC QUICK-TACH



Please note: The brackets and frame assembly for your particular fit-up may differ significantly from those used in the diagram, however, the basic mounting procedure should remain the same. (Refer to the "10 STEP MOUNTING" procedure and diagram below)



10 STEP MOUNTING PROCEDURE

Procedure to mount blade:

1. Align the tractor behind the main frame. (Unhook & lower front Tow Cable - if applicable)
 2. Open the HQT (Hydraulic Quick-Tach) circuit ball valve. Check and ensure HQT Cylinder pins are retracted.
 3. Drive forward close enough to connect the hydraulics. Hook up the hydraulics.
 4. Extend the lift cylinders fully.
 5. Jack up frame until the main frame "roller pins" are lifted up level with the side bracket hooks.
 6. Drive forward to engage the side bracket hooks.
 7. Lower roller pins onto side bracket hooks with jacks until the jack base(s) are approximately 4" to 6" off the ground.
 8. Retract the lift cylinders bringing the rear main frame connection into position. (By retracting the lift cylinder, the weight of the front of the blade swings the back frame upward, positioning the HQT Cylinder pins)
 9. Activate the HQT Cylinder and ensure both axle pins are engaged and fully secured.
- ⚠ IMPORTANT:** Close the ball valve to prevent accidental operation of this circuit.
10. Remove frame jacks and place in their storage positions on back of blade. (Re-attach front Tow Cable on front bracket hook - if applicable)

UNHOOKING - REMOVING BLADE

⚠ DANGER IMPORTANT: You must retract the lift cylinders to lift blade before disengaging the HQT (Hydraulic Quick-Tach) cylinder pins! This transfers the weight to the side bracket hooks from the rear axle. Otherwise, the whole assembly may come crashing down.

Procedure to remove blade:

1. Retract lift cylinder to lift blade.
2. Open the HQT circuit Ball Valve. Activate the HQT Cylinder to Fully Retract both HQT pins.
3. Lower blade by extending the lift cylinders. (Main frame will disengage from axle bracket)
4. Install frame jacks. Raise jack to fully support frame. Roller pins should be raised slightly from hooks in order to back out.
5. Close **Ball Valve**, disconnect **Hydraulics** and front **Tow Cable** (if applicable). Check that connection points are disconnected and clear to back out.
6. Back tractor out. (Re-attach tow cable - if applicable)

Warranty

2 Year Limited Warranty

Degelman Industries Ltd. ("Degelman") warrants to the original purchaser of any new Degelman equipment, purchased from an authorized Degelman dealer, that the equipment will be free from defects in material and workmanship for a period of two (2) years from the date of delivery, for non-commercial use (including farm, institutional, government, and municipality) and (1) year from the date of delivery for commercial use. The obligation of Degelman to the purchaser under this warranty is limited to the repair or replacement of defective parts in the first year and to the provision, but not the installation of replacement parts in the second year. Degelman reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This warranty limits its replacement or repair coverage to what is consistent with the warranty of Degelman's suppliers of purchased components. Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of delivery of such part or the expiration of the applicable new equipment warranty period, whichever ever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Degelman dealer during regular working hours. Warranted replacement parts will either be replaced or rebuilt at Degelman's discretion.

Disclaimer of implied warranties & consequential damages

This warranty shall not be interpreted to render Degelman Industries Ltd. liable for injury, death, property damage or damages of any kind, whether direct, consequential, or contingent to property. Without limiting the generality of the foregoing, Degelman shall not be liable for damages resulting from any cause beyond its reasonable control, including, without limitation, loss of crops, any expense or loss of labour, supplies, rental machinery or loss of use.

No other warranty of any kind whatsoever, express or implied is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale. This exclusion shall not apply in any jurisdiction where it is not permitted by law.

This limited warranty shall not apply:

1. If, in the sole opinion of Degelman, the unit has been subjected to misapplication, abuse, misuse, negligence, accident or incorrect installation.
2. To any goods that have sustained damage or deterioration attributable to a lack of routine maintenance (eg. Re-torque of mounting hardware.)
3. If parts not made or supplied by Degelman have been used in the connection with the unit, if, in the sole judgement of Degelman such use affects its performance, safety, stability or reliability.
4. If the unit has been altered or repaired outside of an authorized Degelman dealership in a manner which, in the sole judgement of Degelman, affects its performance, safety, stability or reliability.
5. To expendable or wear items such as cutting edges, skid shoes, and any other items that in the company's sole judgement is a wear item.

No employee or representative of Degelman Industries Ltd. is authorized to change this limited warranty in any way or grant any other warranty unless such change is made in writing and signed by the Degelman Service Manager.

This limited warranty is subject to any future availability of supply, which may directly affect Degelman's ability to obtain materials or manufacture replacement parts.

Degelman reserves the right to make improvements in design or changes in specifications at any time, without incurring obligations to owners of equipment previously delivered.

This limited warranty is subject to compliance by the customer to the enclosed *Retail Customer's Responsibility Under Degelman Warranty*.

Make certain the warranty registration card has been forwarded to:

**Degelman Industries Ltd.
Box 830
272 Industrial Dr.
Regina, SK, Canada
S4P 3B1**

