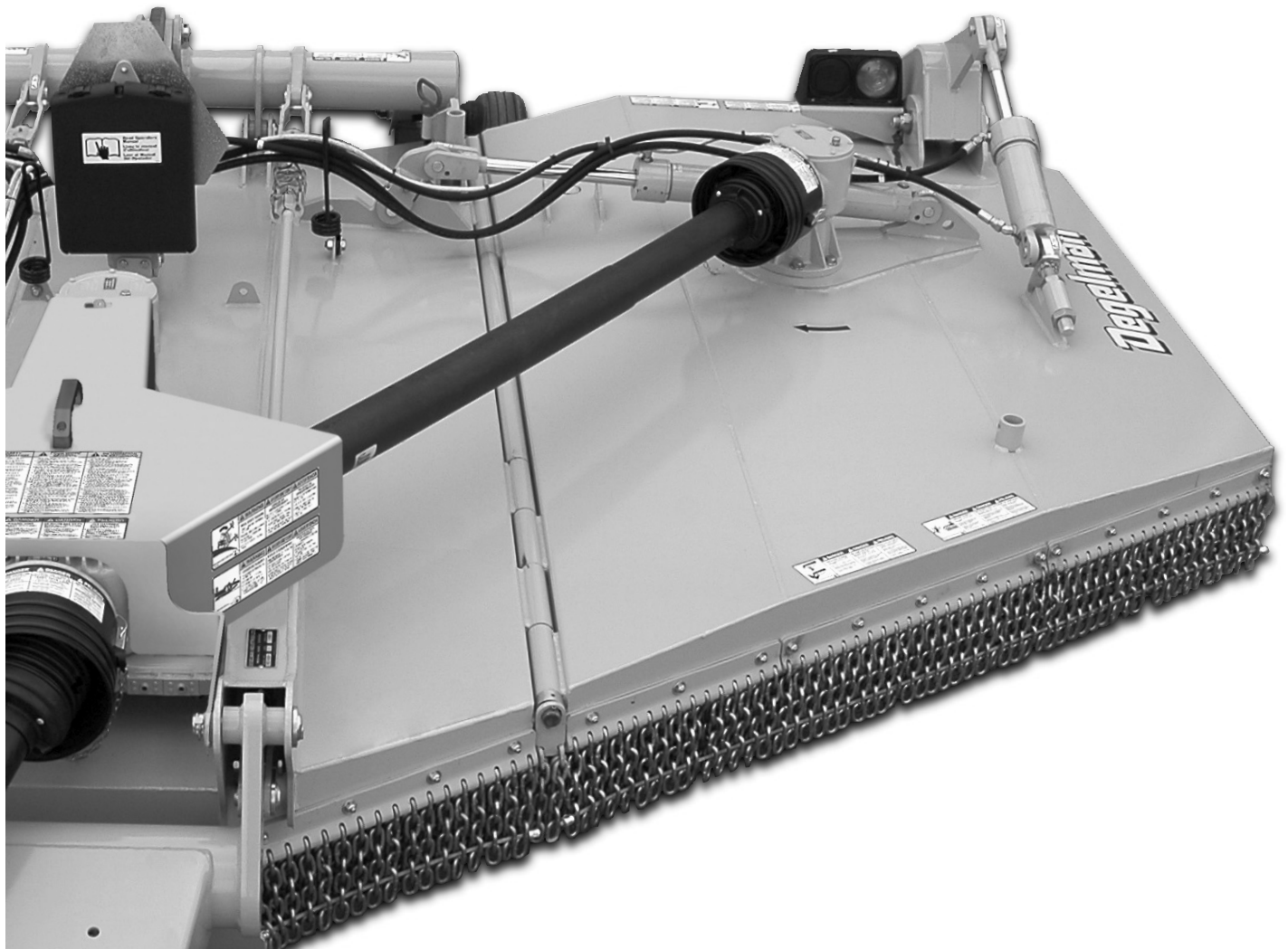

rotary cutter

1020/1520



DEGELMAN INDUSTRIES LTD.

BOX 830-272 INDUSTRIAL DRIVE,
REGINA, SK, CANADA, S4P 3B1
FAX 306.543.2140 PH 306.543.4447
1.800.667.3545 DEGELMAN.COM

143245 v1.3

Degelman

rotary cutter

1020/1520

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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 1020 & 1520 Rotary Cutter.

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

About This Manual

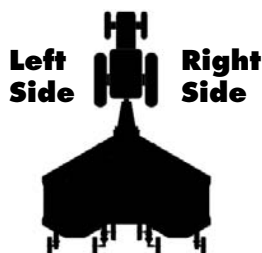
This manual has been designed to help you with three extremely important issues: **Operation, Safety, and Maintenance**. It is strongly recommended that you read through the entire manual and review it annually for:

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

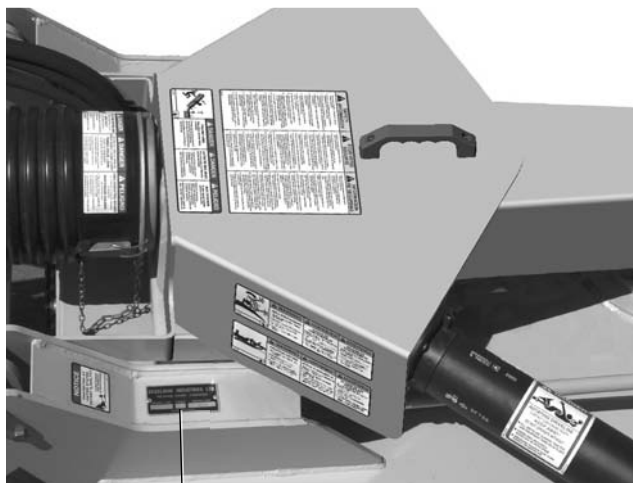
Your authorized Degelman dealer can be contacted for ordering any replacement parts, decals, or manuals. Since many of our parts are specially designed specifically for this Rotary Cutter we strongly recommend you always replace them with genuine Degelman parts only.

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 attached to the cutter on the front left side of the cutter near the driveline shield (shown in the photo above).

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

Serial Number _____

Owner _____

Model _____

PTO Speed ☐ 540 RPM ☐ 1000 RPM

Description

The **1020 Rotary Cutter Model** consists of a center assembly and one wing section. The over all cutting width is 10 feet 2 inches.

The **1520 Rotary Cutter Model** consists of one center assembly and two wing sections. The overall cutting width is 15 feet.

Wing angle and machine cutting height are independantly controlled with hydraulic cylinders. The cutter maintains a level cut at all cutting heights with our self-leveling system and unique double acting suspension.

Specifications and Options

ROTARY CUTTER RC1520 & RC1020

1020 model specs. shown in ()'s.

Field Position:

| | |
|----------------|-------------|
| Cutting Height | 1" to 17" |
| Cutting Width | 180" (122") |
| Overall Width | 188" (135") |
| Overall Length | 191" |

Transport Position:

| | |
|-----------------------------|-------------|
| Overall Height | 86" |
| Overall Width (no wheels) | 90" (87") |
| Overall Width (with wheels) | 120" (102") |
| Overall Length | 180" |

Ground Clearance:

| | |
|--|-----|
| | 16" |
|--|-----|

Weight: Standard

| | |
|--|---------------------|
| | 5985 lbs (6100 lbs) |
|--|---------------------|

Hitch Weight:

| | |
|--------------------|---------------------|
| Field Position | 2100 lbs (2125 lbs) |
| Transport Position | 1950 lbs (1975 lbs) |

Wing Flex:

| | |
|--|------------------|
| | 24° down, 85° up |
|--|------------------|

Deck Thickness - Double Frame Construction:

| | |
|-------------|-------------------------------------|
| Top Deck | 3/16" |
| Bottom Deck | (High Impact Resistant Steel) 3/16" |

Skid Shoes:

| | |
|----------------|---------------------|
| Wing | 3/8" x 3" AR400 |
| Center Section | 3/8" x 5-1/2" AR400 |

Deck Rings:

| | |
|--|--------------------|
| | 1/2" x 3" Standard |
|--|--------------------|

Side Skirt Thickness:

| | |
|--|-----------------------------|
| | Laminated up to 7/16" thick |
|--|-----------------------------|

Chain Shield:

| | |
|------------------------------|-------------|
| Standard Double Row | 5/16" GR 30 |
| Optional Cable through Chain | 1/4" Cable |

Minimum Tractor PTO Power:

| | |
|--|-------|
| | 65 hp |
|--|-------|

Recommended Tractor PTO Power:

| | |
|--|-------|
| | 85 hp |
|--|-------|

Drivelines:

| | |
|--|--|
| | |
|--|--|

540 RPM Machine Gearcases

| | |
|-------------------------|-------------------|
| Tractor to Transfer | CAT 6 with 80° CV |
| Transfer to Center/Wing | CAT 4 |

1000 RPM Machine Gearcases

| | |
|-------------------------|-------------------|
| Tractor to Transfer | CAT 4 with 80° CV |
| Transfer to Center/Wing | CAT 4 |

Driveline Protection: Preset Friction Torque Limiters

Gearcase Power Rating:

| | |
|--------------------|--------------------------------------|
| Transfer Gearcase: | 200 hp - continuous 240 hp - peak |
|--------------------|--------------------------------------|

| | |
|---------------------------|--------------------------------------|
| Center and Wing Gearcase: | 175 hp - continuous 190 hp - peak |
|---------------------------|--------------------------------------|

Brush Cutting Capacity: 3-1/2"

Blade Holder:

| | |
|----------|--------------------------|
| Standard | 3/4" Blade Carrier |
| Optional | 1/4" Reinforced Skid Pan |

Blades: Milled, 6-1/4" Overlap

| | |
|----------|-----------|
| Standard | 1/2" x 5" |
| Optional | 1/2" x 4" |

Blade Tip Speed:

| | |
|-----------------|------------------|
| 540 PTO | |
| Center | 15,500 ft/minute |
| Wing | 15,700 ft/minute |
| 1000 PTO | |
| Center | 16,750 ft/minute |
| Wing | 15,950 ft/minute |

Wing Lift Hydraulics: (Routing for combined circuit included)

| | |
|----------|-----------------------------------|
| Standard | Single acting individual circuits |
|----------|-----------------------------------|

Hitch: Self-leveling

| | |
|----------|----------------------------------|
| Standard | 1-1/4" Precision Clamping System |
| Optional | 1-1/8" Clevis Hitch |

Suspension:

| | |
|-----------------|--------------------------------|
| Center: | Walking Axle and Rubber Spring |
| Wings: Standard | Single Wheel and Rubber Spring |
| Optional | Walking Axle and Rubber Spring |

Wheels/Tires:

| | |
|----------|--------------------------------------|
| Standard | 5 Bolt 20x5.5 Laminated |
| Optional | 5 Bolt 22x6.6 Aircraft (foam filled) |
| Optional | 5 Bolt 22x6.6 Aircraft (air filled) |

Optional Accessories:

| | |
|-----------|-----------|
| Light Kit | Winch Kit |
|-----------|-----------|

Tow Hitch

Wing Gauge Wheel

Toolbox

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** identifies important safety messages applied to the Rotary Cutter mower 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.



The **Safety Alert Symbol** means:
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

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.

Safety

General Safety

! Peligro: Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

! Danger: Si vous ne comprenez pas l'anglais, demanderiez à quelqu'un qui comprend l'anglais pour traduire tous les messages de sécurité qui se trouve dans ce manuel.



! Danger: Do not operate the tractor or rotary cutter until you have fully read and completely understand this operators manual, your tractor's operators manual, and all the safety messages found within these manuals, on the products, or other included materials.

Prepare for Emergencies

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.



- Keep emergency numbers for doctor, hospital, ambulance, and fire department near your phone.

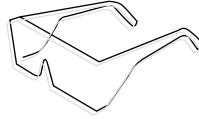
Doctor _____

Ambulance _____

Hospital _____

Fire Department _____

Wear Protective Equipment



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

Note: Always stop tractor engine and wait for all moving parts to stop before approaching equipment.

- 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 or rotary cutter.

Safety

Read and Understand all Safety Decals BEFORE Operating

Safety Decals



Important:

- Understanding and following the information found on these safety decals can save your life and extend the life expectancy of your cutter.
- Keep safety signs and decals clean and legible at all times.
- If safety signs or decals are missing or illegible they must be replaced.
- If repair work causes any decals to be damaged or removed they must be replaced.
- Safety decals for replacement are available by request. Call toll free: 1.800.667.3545

Decal Part # - 143124

| DANGER | DANGER | PELIGRO |
|---|--|---|
| THROWN OBJECTS Can cause serious injury or death. • Always keep bystanders and co-workers a minimum of 300 ft (100m) away. • Keep all chain guards and shields in place and in good repair. • Clear mowing area of debris. | LES OBJETS EJECTES Pourraient causer des blessures graves ou la mort. • Ne laissez jamais les spectateurs ou vos collaborateurs approcher l'appareil de moins de 100m (300pieds). • Gardez les chaînes et les boucliers sur place et en bon état. • Éliminez les débris du terrain à faucher. | OBJETOS ARROJADOS Pueden causar heridas graves o la muerte. • Mantener siempre a los espectadores y trabajadores a un mínimo de 300 pies (100 metros) de distancia. • Mantener todas las cadenas de resguardo y escudos de protección en su lugar y en buen estado. • Limpiar el área a segar de desechos. |

Decal Part # - 143126

| DANGER | DANGER | PELIGRO |
|--|---|---|
| ROTATING DRIVELINE CONTACT CAN CAUSE DEATH KEEP AWAY! DO NOT OPERATE WITHOUT- • All driveline, tractor and equipment shields in place. • Drivelines securely attached at both ends. • Driveline shields that turn freely on driveline. | LE CONTACT AVEC LA PRISE DE FORCE POURRAIT CAUSER LA MORT TENEZ-VOUS LOIN! AVANT DE DÉMARRER LE MOTEUR VÉRIFIEZ QUE • Les bouches de l'essieu, du tracteur et des dispositifs sont installés. • Les essieux sont bien attachés à chaque extrémité. • Les bouches de l'essieu moteur tournent librement sur l'essieu. | LINEA CONDUCTORA ROTANTE EL CONTACTO PUEDE CAUSAR LA MUERTE MANTENGASE ALEJADO! NO OPERAR SIN - • Toda la línea, tractor y equipo de protección en su lugar. • Las líneas firmemente aseguradas en ambos extremos. • Las protecciones de las líneas girando libremente en la línea. |

Decal Part# - 143127

| DANGER | DANGER | PELIGRO |
|---|--|---|
| FALLING WING Can cause serious injury or death. • Always secure wing transport locks before transporting, servicing, or parking the cutter. • Stand clear when lowering or raising wings. | LA CHUTE DES AILES Pourrait causer des blessures graves ou la mort. • Toujours fixez la serrure sur l'aile avant de transporter, entretenir ou stationner la faucheuse. • Tenez-vous loin lorsque les ailes montent ou descendent. | ALA CAYENDO Puede causar heridas graves o la muerte. • Asegurar siempre los seguros de transporte de las alas antes de transportar, someter a servicio o estacionar la máquina cortadora. • Manténgase alejado cuando se están subiendo o bajando las alas. |

Decal Part # - 143129

| DANGER | DANGER | PELIGRO |
|--|--|--|
| ROTATING BLADES Can cause serious injury or death. • Stay clear of rotating parts. • Blades may rotate for several minutes after power shut off. • Do not place hands or feet under or into cutter. | LES LAMES EN ROTATION Pourraient causer des blessures graves ou la mort. • Tenez-vous loin des pièces qui tournent. • Des lames continuent à tourner pendant plusieurs minutes après l'arrêt du moteur. • Ne placez jamais les mains ou les pieds dessous ou dans la faucheuse. | CUCHILLOS ROTANTES Pueden causar heridas graves o la muerte. • Manténgase alejado de las partes rotantes. • Los cuchillos pueden girar por varios minutos después que la electricidad ha sido cortada. • No poner manos o pies bajo o en los cuchillos. |

Decal Part # - 143171

| DANGER | DANGER | PELIGRO |
|--|--|--|
| DAMAGED BLADES Can cause serious injury or death. • Inspect blades daily for chips, cracks, wear, and abnormal bends. • Replace blades with genuine Deere/Delman blades only. • Unbalanced blades are dangerous. Replace blades in pairs. | LAMES ENDOMMAGÉES Pourraient causer des blessures graves ou la mort. • Examinez les lames quotidiennement pour vérifier les fissures, les éclats, l'usure et les torsions anormales. • Remplacez les lames uniquement par des lames authentiques de marque Deere/Delman. • Des lames déséquilibrées sont dangereuses. Remplacez les par paires. | CUCHILLAS DAÑADAS Pueden causar heridas graves o la muerte. • Inspeccionar diariamente las cuchillas por soldaduras, torceduras, desgaste y curvaturas anormales. • Reemplazar las cuchillas con genuinas cuchillas Deere/Delman solamente. • Las cuchillas no balanceadas son peligrosas. Reemplazar las cuchillas en pares. |

Decal Part # - 143125

| WARNING | AVERTISSEMENT | ADVERTENCIA |
|---|---|--|
| ROLL OVER HAZARD Can cause serious injury or death. • Decrease speed when turning. • Be careful on slopes with wings raised. • Do not operate with raised wings. | RISQUE DE RENVERSEMENT Pourrait causer des blessures graves ou la mort. • Diminuez la vitesse en tournant. • Soyez prudent sur les pentes lorsque les ailes sont levées. • Ne manipulez jamais la faucheuse lorsque les ailes sont levées. | PELIGRO DE DESLIZAMIENTO Puede causar heridas graves o la muerte. • Bajar la velocidad al doblar. • Tener cuidado en declives con las alas elevadas. • No operar con las alas elevadas. |

Decal Part # - 143128

| WARNING | AVERTISSEMENT | ADVERTENCIA |
|---|---|---|
| CRUSHING HAZARD Can cause serious injury or death. • Engage transport locks. • Block up before servicing. • Purge all air from hydraulic system before attempting to raise or lower implement. | RISQUE D'ECRASEMENT Pourrait causer des blessures graves ou la mort. • Employez les verrous de sûreté pour le transport. • Bloquez l'appareil avant l'entretien. • Avant d'essayer de lever ou baisser l'appareil, vérifiez que tout air est purgé du système hydraulique. | PELIGRO DE SER APLASTADO Puede causar heridas graves o la muerte. • Enganchen los seguros de transporte. • Bloquear antes de someter a servicio. • Evacuar todo el aire del sistema hidráulico antes de intentar subir o bajar el instrumento. |

Decal Part # - 143130

| WARNING | AVERTISSEMENT | ADVERTENCIA |
|---|--|--|
| HIGH PRESSURE FLUID Can pierce skin causing serious injury or death. • Relieve pressure on system before repairing or adjusting. • Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. • Keep all components in good repair. | LIQUIDE À HAUTE PRESSION Pourrait percer la peau, causer des blessures graves ou la mort. • Avant de procéder à la réparation ou mise au point, éliminez la pression du système. • Lorsque vous cherchez pour une fuite, protégez vos yeux et vos mains adéquatement. Utilisez le bois ou le carton au lieu de vos mains. • Gardez tous les composants en bon état. | LIQUIDO A ALTA PRESION Puede perforar la piel causando heridas graves o la muerte. • Bajar la presión del sistema antes de reparar o ajustar. • Usar protección adecuada en manos y ojos al buscar escapes. • Utilizar madera o cartón en vez de las manos. • Mantener todos los componentes en buen estado. |

Decal Part # - 142557 - Amber Reflecter 2" x 9"

Decal Part # - 142556 - Red Reflecter 2" x 9"

Decal Part # - 142280 - Red Reflecter 2" x 6-1/4"

Decal Part # - 143146

| CAUTION | ATTENTION | CUIDADO |
|--|---|---|
| 540 PTO • ONLY • SEULEMENT • SOLAMENTE | 1000 PTO • ONLY • SEULEMENT • SOLAMENTE | 1000 PTO • ONLY • SEULEMENT • SOLAMENTE |

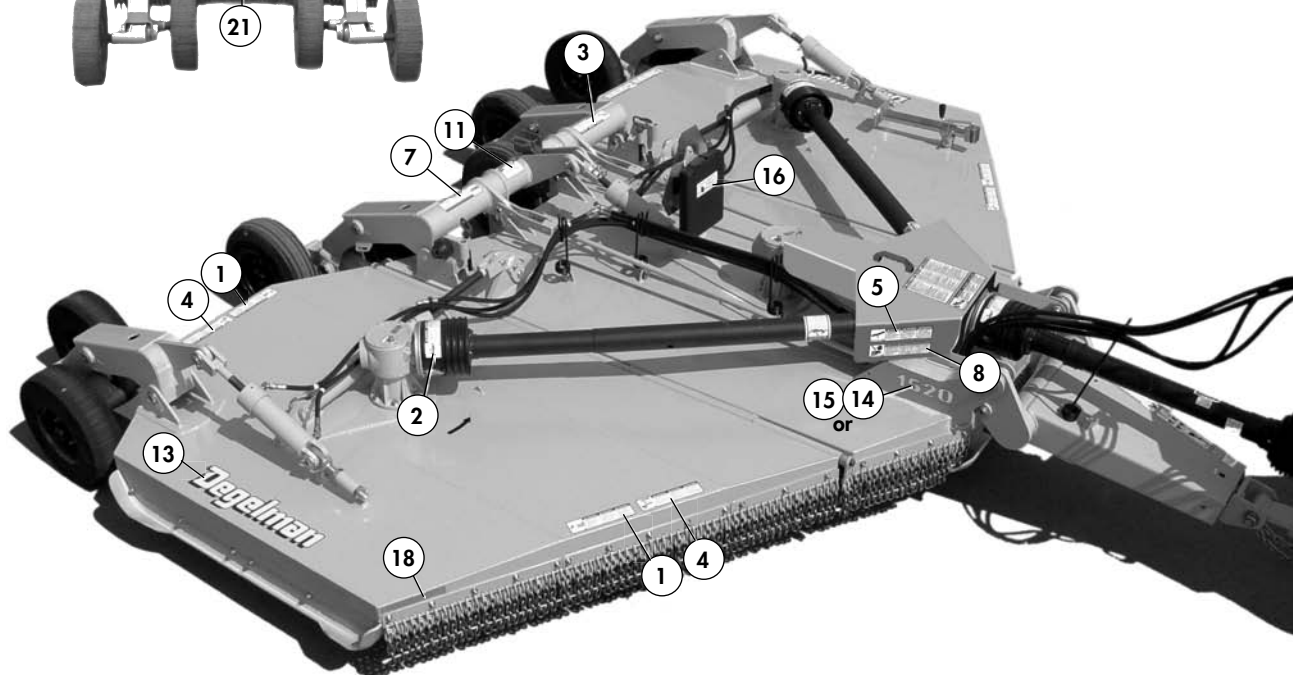
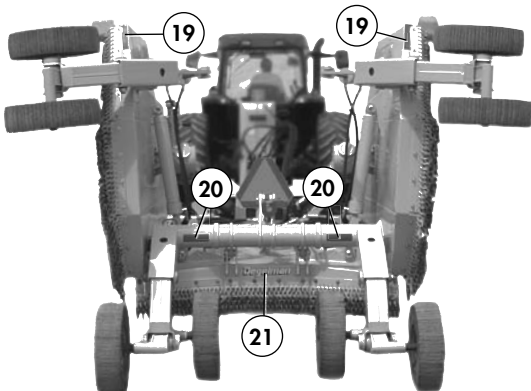
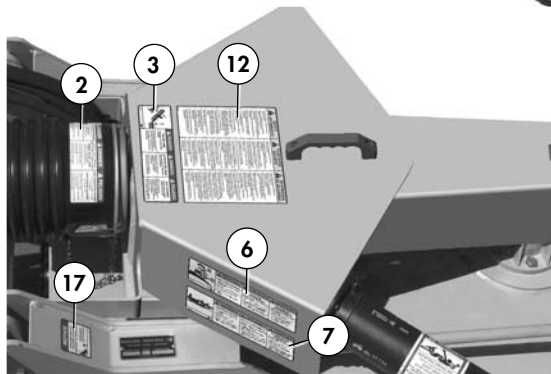
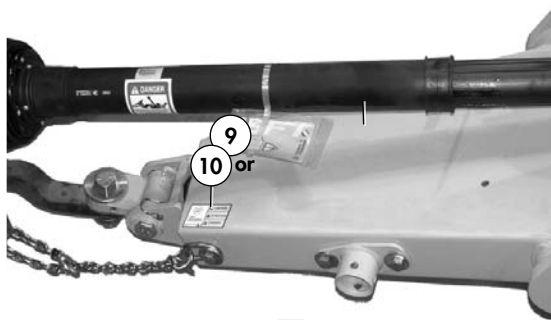
Decal Part # - 143147

Decal Part # - 143148

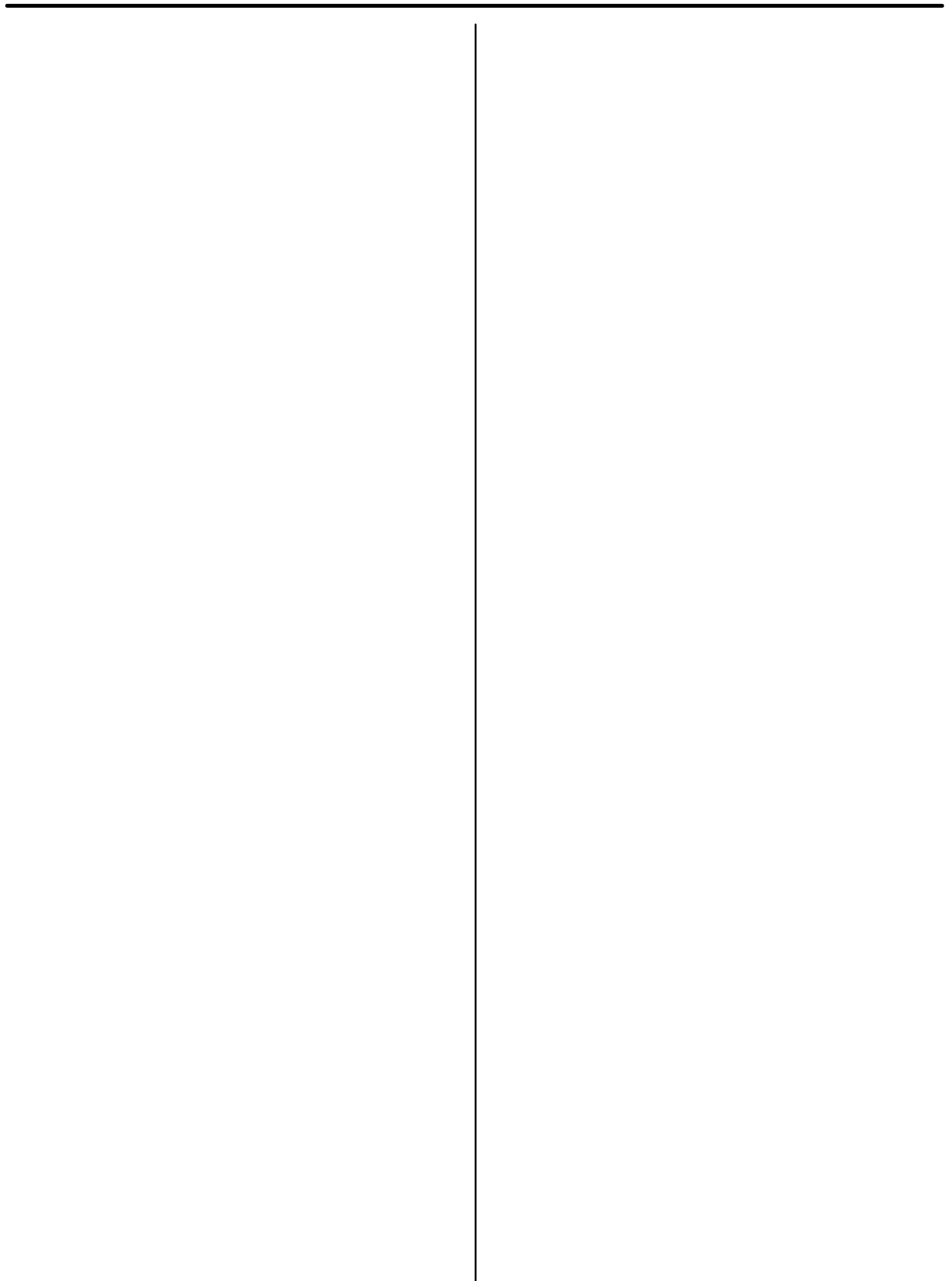
| SAFETY INFORMATION | POUR VOTRE SÉCURITÉ | INFORMACION DE SEGURIDAD |
|--|---|--|
| <ol style="list-style-type: none"> Read and understand Operator's Manual. Review annually. Always keep bystanders and co-workers a minimum of 300 ft (100m) away. Perform routine inspections and corrective / preventative maintenance. Keep all shields and guards in place. Operate only with tractor equipped with ROPS and seatbelts. Before leaving seat: Set brake, stop engine, remove key and wait until all moving parts have stopped. Always inspect the area before mowing. Remove all foreign debris. Never allow riders, especially children, on tractor or equipment. Stay clear of rotating or moving parts. Never allow the mower blades to contact solid objects or foreign material. Inspect blades daily for chips, cracks, wear, and abnormal bends. Unbalanced blades are dangerous. Replace damaged blades in pairs with genuine Deere/Delman blades only. Do not operate in the raised position. Purge all air from hydraulic system before attempting to raise or lower this implement. Lower the implement and relieve pressure before working on hydraulic systems. Use a piece of wood or cardboard when searching for leaks. Securely block up implement on firm ground before working from unit. Transport with clean reflectors, SMV and working lights as required by federal, provincial/state, and local laws. Ensure transport safety chain and all hitch components are secure and in proper working order at all times. Engage all safety locks before transporting. Decrease speed when turning, be careful on slopes or uneven terrain with wings in raised position. | <ol style="list-style-type: none"> Apres la et comprenez le manuel d'utilisateur. Réviser annuellement. Ne laissez jamais les spectateurs ou vos collaborateurs approcher l'appareil de moins de 100m (300pieds). Effectuer inspections de routine y maintenance corrective/préventive. Maintenir toutes les protections et éléments de protection en son lieu. Ne travaillez qu'avec un tracteur muni du cadre de protection ROPS. Attachez votre ceinture. Avant de laisser votre siège: bloquez l'appareil au frein, retirez la clé, attendez que toutes les pièces arrêtent de bouger. Avant de faucher, vérifiez que les débris sont éliminés du terrain. Ne laissez personne, surtout aucun enfant, monter sur le tracteur ou les dispositifs. Tenez-vous loin des pièces qui tournent ou bougent. Ne laissez jamais les lames de la faucheuse toucher des objets durs ou une matière étrangère. Examinez les lames quotidiennement pour vérifier les fissures, les éclats, l'usure et les torsions anormales. Des lames déséquilibrées sont dangereuses. Remplacez les lames endommagées en paires uniquement par les lames authentiques de marque Deere/Delman. Ne manipulez pas une faucheuse en position levée. Avant d'essayer de lever ou baisser l'appareil, laissez sortir l'air du système hydraulique. Avant l'entretien du système hydraulique, abaissez la machine et relâchez la pression. Pour le dépannage des fuites utilisez un morceau de bois ou de carton. Avant de travailler en dessous de la faucheuse, fixez-la à un sol ferme. Transportez l'appareil avec des réflecteurs propres et visibles, le panneau de véhicule SMV et le feu avant conformément aux règlements fédéraux, provinciaux et municipaux. Vérifiez à ce que la chaîne de sûreté et les composants de sécurité sont bien fixés et qu'ils fonctionnent correctement en tout temps. Avant de transporter l'appareil, employez tous les verrous de sûreté. Diminuez la vitesse en tournant. Soyez prudent sur les pentes et les terrains accidentés lorsque les ailes sont levées. | <ol style="list-style-type: none"> Leer y entender el Manual de Operación. Revisar anualmente. Mantener siempre a los espectadores y trabajadores a un mínimo de 300 pies (100 metros) de distancia. Effectuar inspecciones de rutina y mantenimiento correctivo/preventivo. Mantener todos los resguardos y elementos de protección en su lugar. Operar solamente con tractor equipado con ROPS y cinturón de seguridad. Antes de dejar el asiento: parar el motor, sacar la llave y esperar hasta que todas las partes móviles hayan parado. Inspeccionar siempre el área antes de segar. Remover todo desecho extraño. No permitir jamás pasajeros, especialmente niños en el tractor o equipo. Manténgase alejado de partes rotantes o móviles. Los cuchillos de la segadora nunca deben tocar objetos duros o materiales extraños. Inspeccionar diariamente las cuchillas por soldaduras, torceduras, desgaste y curvaturas anormales. Reemplazar las cuchillas dañadas en pares con genuinas cuchillas Deere/Delman solamente. No operar en la posición elevada. Desahogar todo el aire del sistema hidráulico antes de intentar elevar o bajar el instrumento. Bajar el instrumento y disminuir la presión antes de trabajar en el sistema hidráulico. Usar un trozo de madera o cartón al buscar escapes. Bloquear seguramente el instrumento en terreno firme antes de trabajar debajo de la unidad. Transportar con reflectores limpios, SMV y luces en funcionamiento como es requerido por las leyes federales, provinciales, estatales y locales. Asegurar que los cerrojos de seguridad de transporte y todos los componentes de enganche estén seguros y en condiciones de operación apropiadas todo el tiempo. Enganchen todos los cerrojos de seguridad antes de transportar. Bajar la velocidad al doblar, tener cuidado en terrenos inclinados o desiguales con las alas en posición elevada. |

Safety

Decal Placement



| Item | Part# | Quantity | Description |
|-------------|--------|----------|--------------------------------------|
| 1520 (1020) | | | |
| 1 | 143124 | 4 (2) | Danger - Thrown Objects |
| 2 | 143126 | 3 (2) | Danger - Rotating Driveline |
| 3 | 143127 | 2 (2) | Danger - Falling Wing |
| 4 | 143129 | 4 (3) | Danger - Rotating Blade |
| 5 | 143171 | 1 (1) | Danger - Damaged Blades |
| 6 | 143125 | 1 (1) | Warning - Rollover Hazard |
| 7 | 143128 | 2 (2) | Warning - Crushing Hazard |
| 8 | 143130 | 1 (1) | Warning - High Pressure Fluid Hazard |
| 9 | 143146 | 1 (1) | Caution - Use 540 RPM PTO Only |
| 10 | 143147 | 1 (1) | Caution - Use 1000 RPM PTO Only |
| 11 | 143131 | 1 (1) | Important - Before Transporting |
| 12 | 143148 | 1 (1) | Mower Safety Instructions |
| 13 | 142008 | 2 (1) | Degelman Decal - 6" x 25-3/4" |
| 14 | 143237 | 2 (0) | 1520 |
| 15 | 143233 | 0 (2) | 1020 |
| 16 | 143162 | 1 (1) | Read Operators Manual |
| 17 | 143172 | 1 (1) | Patented - Rotary Cutter |
| 18 | 142557 | 2 (1) | Amber Reflector Decal - 2" x 9" |
| 19 | 142556 | 2 (1) | Red Reflector Decal - 2" x 9" |
| 20 | 142280 | 2 (2) | Red Reflector Decal - 2" x 6-1/4" |
| 21 | 142010 | 1 (1) | Degelman Decal - 2-3/4" x 12" |



How To Set Your Tractor

Tractor Requirements

We recommend a tractor with all of the following requirements:

- A full cab or at least one with ROPS (Rollover Protective System).
- A working seat belt.
- At least 65 PTO HP.
- A minimum static vertical load rating of drawbar of 2100 lbs or greater.

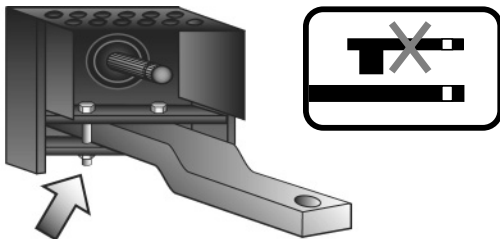
Correct PTO Speed

The rotary cutter is available in either a 540 rpm PTO speed or a 1000 rpm PTO speed. Many tractors are equipped with both 540 and 1000 rpm PTO modes. Be sure that the PTO speed of the tractor matches the rotary cutter's gearbox speed.

⚠ Caution: Under no circumstances should you try to operate a 540 rpm PTO cutter with a 1000 rpm PTO tractor, and likewise do not operate a 1000 rpm PTO cutter with a 540 rpm PTO tractor. Do not use PTO adapters. PTO adapters will cause driveline failure and possible tractor damage, it will also invalidate your warranty.

Positioning Tractor Drawbar

1. Remove drawbar side locking pins and move drawbar into center position.
2. Install drawbar locking pins.
3. Remove clevis or hammer strap assembly, if equipped.



Correct Drawbar Length

The rotary cutter's driveline is equipped with a constant velocity joint enabling the cutter to operate at difficult angles. For this reason we recommend the drawbar length for **all** PTO modes to be set at **14 inches** (typically specified for a 540 rpm PTO). Do not use a distance shorter than 14 inches or slider damage may result.



This shorter distance will reduce the hitch loading and stress on your drawbar.

(Please consult your tractor's operator manual for correct drawbar adjustment procedures.)

⚠ Caution: To prevent damage to the tractor drawbar, avoid travelling at high speeds and over rough terrain. Heavy drawn equipment such as this cutter can place excessive strain on the drawbar.

3 Point Quick Coupler Hitch Removal

⚠ Caution: To prevent machine damage during turns, the 3 point quick coupler hitch must be removed and the draft link height be adjusted.

1. Remove quick coupler hitch from tractor.
2. To clear driveline during turns, adjust draft link to provide highest lift possible.



Wheel Tread Width Settings

It is important to increase the tractor rear wheel tread width to maintain tractor stability when working on inclines or rough ground.

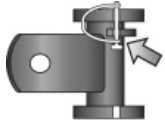

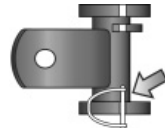

(Please consult your tractor's operator manual for correct adjustment procedures.)

⚠ Caution: Rear tires may be damaged if hitch is contacted during turns. Check for tire clearance at hitch uprights when making tight turns.

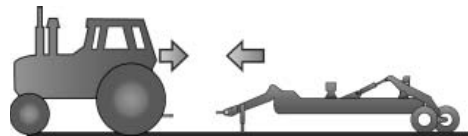
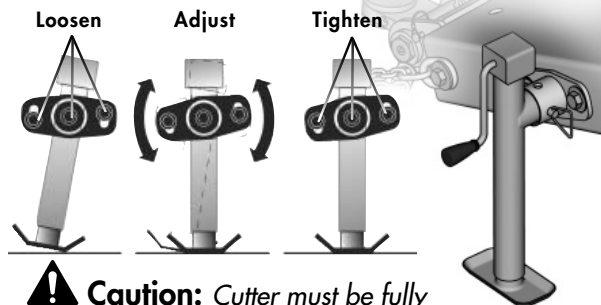
How To Hook-Up Your Cutter

Attaching Cutter to Tractor Drawbar





CLEVIS HITCH HOOK-UP

1. Ensure the settings in the "How To Set Your Tractor" section have been completed.
 2. Pin cutter clevis into the supported position for hook-up using the clevis support pin. 
 3. Adjust cutter height with jack to allow enough height for tractor drawbar. 
 4. Remove hitch pin from tractor drawbar or cutter hitch.
 5. Clear the area of bystanders, back up tractor to cutter, aligning tractor drawbar with cutter hitch.
 6. Engage tractor parking brake and/or place transmission in "Park", shut off tractor engine, and remove key.
 7. Remove hitch clevis support pin and place into its storage position.
 8. Install and secure drawbar pin. Lower cutter onto drawbar. 
 9. Remove jack and place in proper storage position. 
- Note:** You may wish to adjust jack mount angle prior to jack removal and storage.
(refer to "Jack Mount Adjustment" diagram below).
10. Install Safety Chain, refer to the "Installing Safety Chain" section (pg.10).

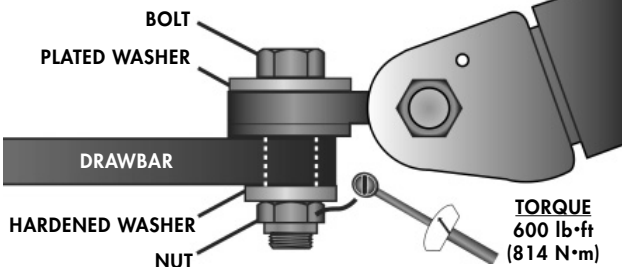
JACK MOUNT ADJUSTMENT



PRECISION HITCH HOOK-UP

1. Ensure the settings in the "How To Set Your Tractor" section have been completed.
 2. Pin hitch into the supported position for hook-up using the hitch support pin. 
 3. Adjust cutter height with jack to allow enough height for tractor drawbar. 
 4. Remove hitch pin from tractor drawbar and/or cutter hitch.
 5. Clear the area of bystanders, back up tractor to cutter, aligning tractor drawbar with cutter hitch.
 6. Engage tractor parking brake and/or place transmission in "Park", shut off tractor engine, and remove key.
 7. Remove cutter hitch support pin and place into its storage position.
 8. Lower cutter onto drawbar. Install and secure hitch bolt. (refer to "Precision Hitch Installation" diagram below) 
 9. Remove jack and place in proper storage position. 
- Note:** You may wish to adjust jack mount angle prior to jack removal and storage.
(refer to "Jack Mount Adjustment" diagram on left).
10. Install Safety Chain, refer to the "Installing Safety Chain" section (pg.10).

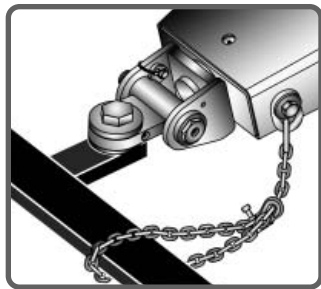
PRECISION HITCH INSTALLATION



How To Hook-Up Your Cutter

Installing Safety Chain

Attach the safety chain to the tractor drawbar support or other specified anchor locations. (Refer to your tractor's operator manual). Provide only enough slack in chain to permit turning.



Fasten chain back to itself with hook latch and ensure chain is properly and securely attached.

⚠ Caution: Do not use safety chain by itself for towing. Replace entire chain if any link or end fitting is broken, stretched or otherwise deformed. If replacing, use a chain with the strength rating greater than the gross weight of the cutter.

Attaching Driveline to PTO

⚠ Danger: Shut off tractor engine before attaching PTO driveline. Entanglement in rotating driveline can cause serious injury or death.

1. Shut off tractor engine and remove key.
2. Check that the driveline telescopes easily and that the shield rotates freely.
3. Lift tractor PTO shield.
4. Support driveline, pull back on collar, align splines by rotating cutter driveline, and push driveline onto tractor PTO shaft until collar snaps into place.
5. Push and pull yoke several times to ensure driveline is locked. Do not pull collar, as this will release the lock.
6. Lower tractor PTO shield back into place.

Attaching Hydraulics

1. Clean off dust covers and ends of hoses.
2. Firmly push in appropriate hoses into tractor receptacles according to user preference.
3. Secure hoses as to not interfere with or contact moving parts.

Connecting Lights (optional)

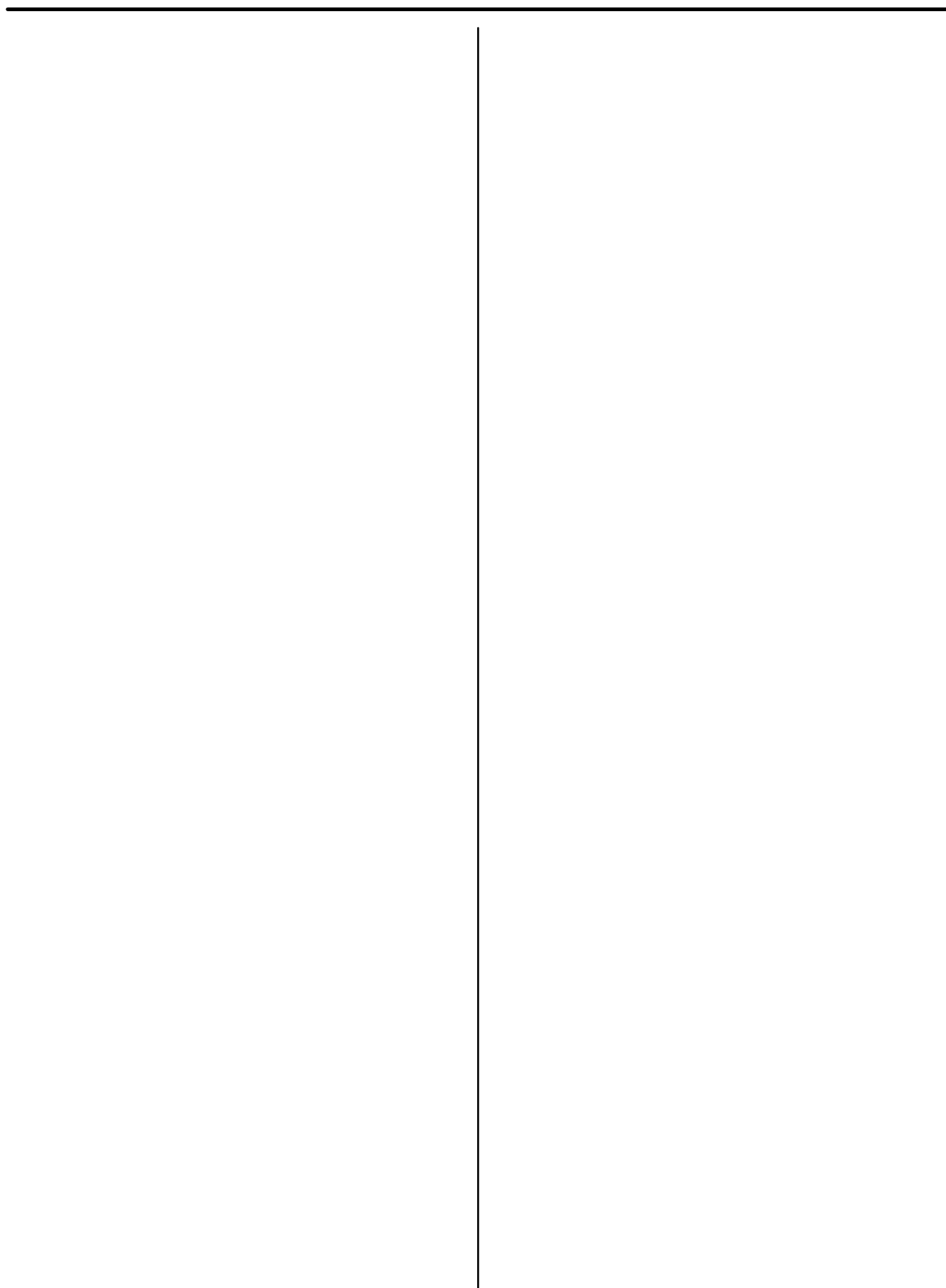
1. Connect cutter light plug into appropriate tractor receptacle.
2. Ensure light cable does not interfere with or contact moving parts.

Detaching Cutter From Tractor

1. Park cutter on a level, hard surface.
2. Raise cutter to full height. Wings may be in either the raised or lowered position.
3. Engage tractor parking brake and/or place transmission into "Park".
4. Shut off tractor engine and remove key.
5. Make sure transport locks are engaged. (refer to pg.19)
- Note:** If wings are lowered only center transport lock can be engaged.
6. Block wheels to prevent machine from rolling after detaching from tractor.
7. Take cutter's jack from storage position on cutter and secure it onto the jack mount bracket located on the cutter hitch.

Note: If parking tractor on soft ground, place a board under the base of the jack to prevent it from sinking.

8. Raise cutter using jack to transfer the weight from the tractor drawbar to the jack.
9. Lift tractor PTO shield.
10. Support driveline, pull back collar, and slide driveline off tractor PTO shaft. Set driveline down onto the support block located on the cutter hitch.
11. Lower tractor PTO shield back into place.
12. Disconnect safety chain from tractor.
13. Remove hitch pin or bolt.
14. Start tractor engine and retract lift cylinder carefully to place weight of cutter on transport lock.
15. Relieve hydraulic pressure in the system according to your tractor's operator manual.
16. Disconnect hydraulic hoses and light plug (if equipped) from tractor receptacles.
17. Carefully drive tractor away.
18. If cutter will not be used for awhile, perform procedures as listed in the Cutter Storage section. (refer to pg.32)



Cutter Preparation

Preparation Checklist



- ☐ Read and understand the Rotary Cutter Operator's Manual and all safety decals.
- ☐ Check that all safety locks, guards and shields are in place and secure.
- ☐ Lubricate all grease fittings and check the oil level in all gear cases. (Refer to the "Maintenance" section - pg.27)
- ☐ Check that all hardware is in place and properly tightened. (Refer to the "Maintenance" section - pg.26-30)
- ☐ Inspect all tires and check that they are in proper working condition. (Refer to the "Maintenance" section - pg.27)
- ☐ Inspect all blades and blade hardware for wear or damage. (Refer to the "Maintenance" section - pg.26)
- ☐ Check that the cutter is properly levelled and the cutting depth is set. (Refer to the "How to Set Your Cutter" section - pg.14-16)
- ☐ Make sure the driveline clutches are not seized and have been properly adjusted. (Refer to the "How to Set Your Cutter" section - pg.13)

⚠ Caution: The driveline clutches will not operate properly, and damage to the internal components may occur if the procedures under "Engaging Driveline Clutch (pg.13)" are not followed.

Cutting Banding Strap

⚠ Danger: If the wings of the rotary cutter are banded together, ensure wing transport locks are in place and secured and the area is clear of bystanders before cutting banding strap. Serious injury or death could result from a falling wing.



⚠ Important: Before proceeding, complete the procedures under the sections "How to Set Your Tractor" - pg.8, "How to Hook up Your Cutter" - pg.9-10, and the cutter "Preparation Checklist".

Removing Transport Locks & Lowering Wings

Note: If the "Restricted Transport Width" procedure was used, follow the reverse instructions described in that section before proceeding.

1. Park cutter and tractor on level ground.
2. Raise cutter center section by extending lift cylinder. Retract the wing cylinders to take pressure off transport locks.
3. Engage tractor parking brake and/or place transmission into "Park".
4. Shut off tractor engine and remove ignition key.
5. Disengage center and wing transport locks. Place lock pins into proper storage locations.

⚠ Caution: Falling wings can cause serious injury or death. Stay clear of wings when raised with transport locks disengaged.

6. Start tractor engine and move control lever(s) to lower wing(s) without entering the float position.
7. When wings are fully lowered, move control lever(s) into float position.
8. Retract lift cylinder to lower cutter to the ground.
9. Adjust cutter as required. Refer to the "How to Set Your Cutter" section - pg.13-16.

Setting Hydraulic Flow Speed

⚠ Important: Excessive operating speed may result in machine damage. Be sure hydraulic flow indicators are adjusted properly.

Note: Before adjusting hydraulic flow speed ensure all transport locks are removed and area is clear of all bystanders.

- Dual selective control valves are required.
- Set hydraulic flow control for center section until cutter fully raises or lowers in two seconds.
- Set hydraulic flow control for wings to the slowest possible speed.

Note: Refer to your tractor's operator's manual for proper hydraulic flow control adjustment.

How To Set Your Cutter

Important Setting Information

This Rotary Cutter is designed and built to handle a wide variety of cutting conditions. You may wish to adjust your cutter specifically to the conditions you are dealing with. With this in mind, some adjustments can be **extremely sensitive** and greatly affect your cutting performance. In order to achieve a proper cut, it is important to understand all the following cutter adjustment procedures :

- **Phasing Cylinders**
- **Engaging Driveline Clutch**
- **Levelling Front to Back**
- **Levelling Side to Side**
- **Setting Cutting Depth**
- **Wheel Tread Width Settings**

Phasing Cylinders

In order to synchronize the raising and lowering of the cutter, a hydraulic phasing system has been implemented to provide uniform and level lifting.

In order to achieve this, a re-phasing groove has been added to the internal cylinder walls. When the cylinders are fully extended, this re-phasing groove allows oil to slowly transfer over the piston's main seal to the next cylinder in the series.

During normal operation small amounts of oil may leak past piston seals causing cylinders to fall out of synchronization.


Note: In order to restore synchronization, fully extend lift cylinders and hold the circuit open for a short period of time.

Engaging Driveline Clutch

This mower is equipped with preset friction disc torque limiters or "driveline clutches". They are located under the driveline shield at the front of the mower and are attached to the splitter box.



These clutches are provided with 4 socket head screws that relieve some of the pressure on the linings to reduce the chance of "sticking".

 Important: These clutches are shipped in the released position, and therefore **will not** operate properly, and damage to the internal components may occur unless the following procedure is completed:

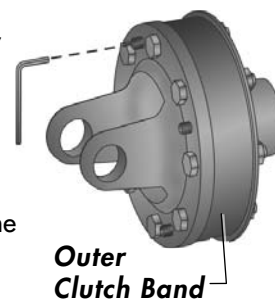
1. Turn off tractor, remove key, and wait for all moving parts to stop. Check the drivelines and ensure the manufacturer's instructions along with a hex wrench for clutch adjustments have been removed and stored in the manual storage box.

Note: Do not attempt to operate drivelines with these items attached.

2. With tractor at idle speed, engage PTO for 2-3 seconds to make the clutch slip. **Do not allow the clutch to slip for more than 2-3 seconds at a time to prevent damage to the lining.** If the clutch does not slip, repeat the procedure 2 or 3 times.

(If the clutch does not slip after 2 or 3 attempts, stop the tractor, remove the key, and wait for all moving parts to stop. Disassemble the clutch, clean up all contact surfaces and replace any damaged components - Refer to "Maintenance" section, pg.31)

3. Turn off tractor, remove key, and wait for all moving parts to stop. Using the hex wrench provided, fully loosen all 4 of the socket head screws. They will not unscrew completely out of the clutch. This will restore pressure to the linings for proper operation.



4. Grasp the smooth outer clutch band with your hand and try to turn it or move it side-to-side. It should be fairly hard to turn, or not at all.

(If it turns easily and/or moves side-to-side it must be tightened. Evenly tighten all eight bolts on the clutch until they are fairly snug and the band is tight. This smooth outer band acts as a stop so the clutch cannot be over-tightened. Now back each nut off 1/4 of a turn. Re-check band.)

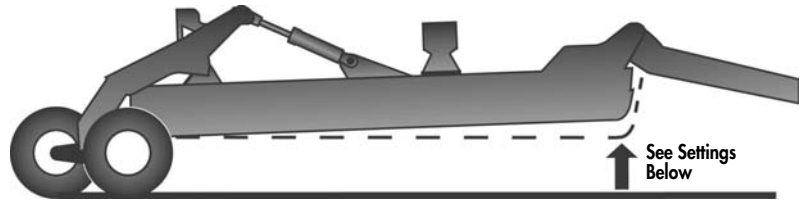
5. The clutch is now ready for use.

Note: At the end of the season, or before any long period of non-use, fully tighten the socket head screws to relieve pressure on the linings. For best performance, keep the clutch in a dry place to help prevent sticking.

How To Set Your Cutter

Recommended Deck Height

- The rotary cutter must be adjusted every time a different tractor is used due to varying drawbar heights.
- The cutter usually performs best with the front raised higher than the rear. (Refer to recommended settings.)

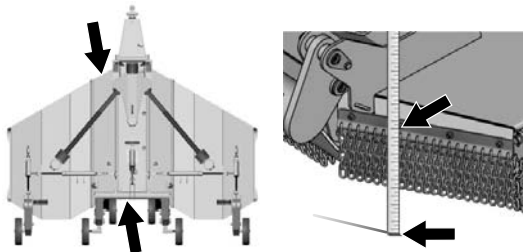


| Mowing Condition | Recommended Settings |
|----------------------|---------------------------------|
| Sparse, Dry or Short | Level to 1 inch higher on front |
| Dense, Lush or Tall | 2 to 3 inches higher on front. |

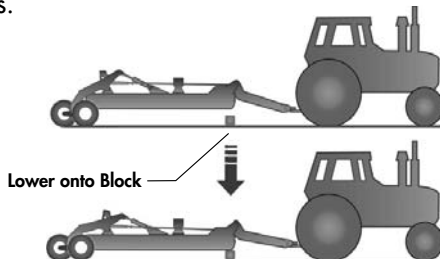
Deck Height Adjustment

Setting Front to Back Deck Angle:

1. Follow steps 1-7 under "Removing Transport Locks and Lowering Wings" (pg. 12).
2. Fully raise the cutter by extending the lift cylinders and hold lever for a few seconds to ensure phasing cylinders are synchronized. (Refer to "Phasing Cylinders" section - pg. 12).
3. On a level surface, lower the cutter to preferred cutting height.
4. Measure and compare the height from the center of a bolt on the safety chain bar to the level ground on the front and back of the cutter.

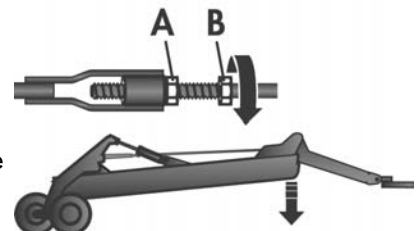


5. If the cutter needs to be adjusted: Raise the deck, place a block under the center section skid shoes and lower the deck to remove all tension from the tie-bars.



! Important: The tie-bars **must** be loose in order to properly adjust the deck angle, or possible damage to the threads on the tie-bars could result.

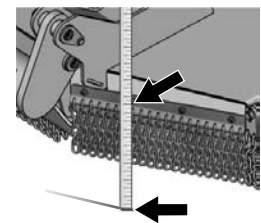
6. Loosen the jam nut (A) on the tie-bars. Lengthen tie-bar (B) if the front of the cutter deck needs to be lowered.



Shorten the tie-bar (B) if the front of the cutter needs to be raised.
(For every 1/4 inch the tie-bar length is adjusted, the deck height changes by approximately 1 inch).

7. Raise the cutter deck, remove the block and lower to preferred cutting height.

8. Measure and compare front to back height again. If further adjustment is required repeat the procedure until desired height is achieved.



Note: Depending on user preferences, the cutter may be adjusted slightly higher or lower in the front. (See our recommended deck height settings above).

9. Check that the tie-bars are adjusted equally and the tension in the tie-bars is the same. Re-adjust and repeat until tension is uniform.

Note: It is important to adjust the tie-bars evenly to prevent overloading or damaging a single tie-bar.

10. Tighten jam nuts (A).

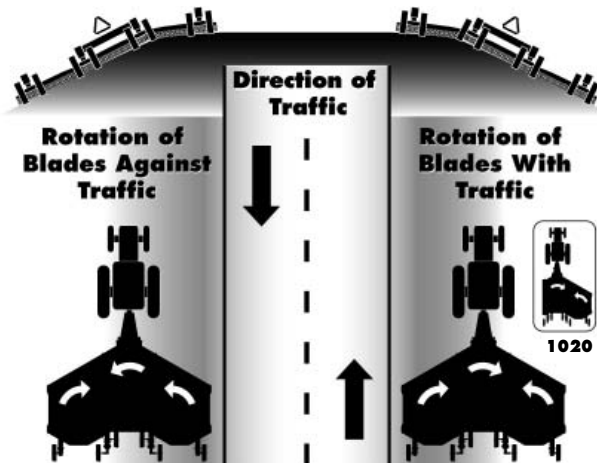
How To Set Your Cutter

Wing Height Adjustment

The rotary cutter is designed to cut either "With Traffic" or "Against Traffic". Check the rotation of the center section arrow decal on the top of the center section deck, near the gearbox. If the arrow is clockwise, and the center blades rotate clockwise, the cutter is designed to cut best with traffic. If the arrow is counterclockwise, and the center blades rotate counterclockwise, the cutter is designed to cut best against traffic.

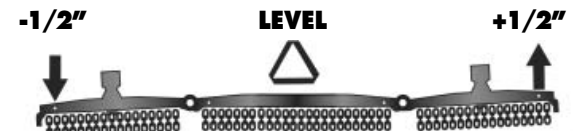
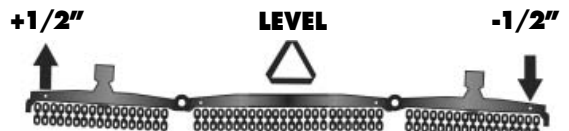
Against Traffic Wing Settings:

Using the wing adjustment system below, raise the left (ditch side) wing $\frac{1}{2}$ inch up from level, and lower the right (road side) wing $\frac{1}{2}$ inch down from level.



With Traffic Wing Settings:

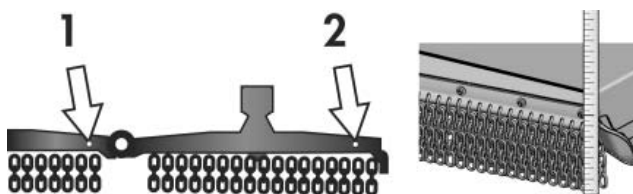
Using the wing adjustment system below, lower the left (road side) wing $\frac{1}{2}$ inch down from level, and raise the right (ditch side) wing $\frac{1}{2}$ inch up from level.



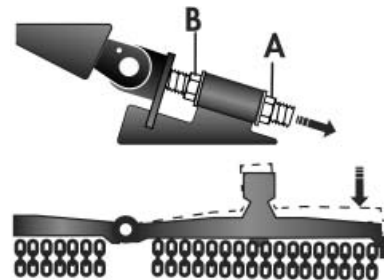
Wing Adjustment System - Levelling Side to Side

⚠ Important: It is important to level front to back before levelling side to side.

1. Follow steps 1-7 under "Removing Transport locks and Lowering Wings". (Refer to pg.12)
2. Fully raise the cutter by extending the lift cylinders and hold lever for a few seconds to ensure phasing cylinders are synchronized. (Refer to "Phasing Cylinders" section - pg.12)
3. On a level surface, lower the cutter to preferred cutting height.
4. Measure and compare the height from the center of a bolt on the safety chain bar to level ground on the center section of the mower (1) and a location on the outer wing section (2).



5. Refer to the above section on recommended wing adjustment settings. If this needs to be adjusted, loosen the jam nut (A) on each wing adjustment support.



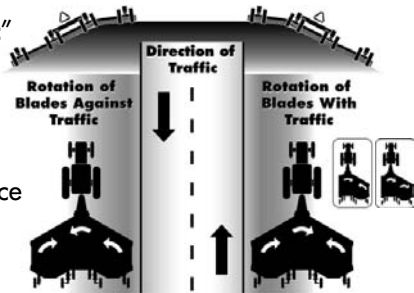
6. Adjust the wing adjustment nut (B) to raise or lower the wing. Measure and compare height, adjust until required height is reached.
7. Tighten jam nut (A).
8. Repeat same procedure for the other wing.

How To Set Your Cutter

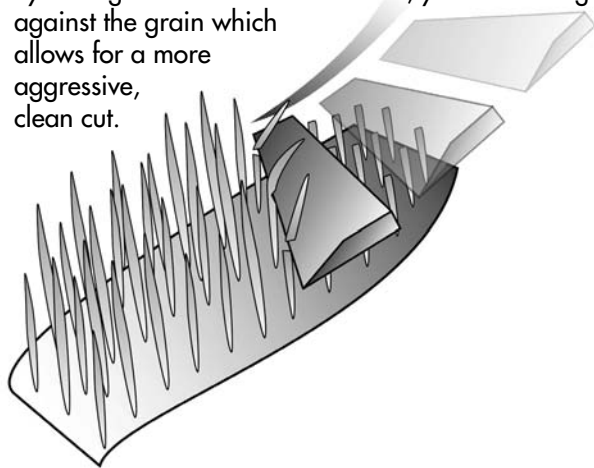
Why Blade Rotation is Important

Blade rotation is an issue that is quite often misunderstood. Proper cutting direction can make the difference between a clean, professional cut or sections and strips of uncut grass.

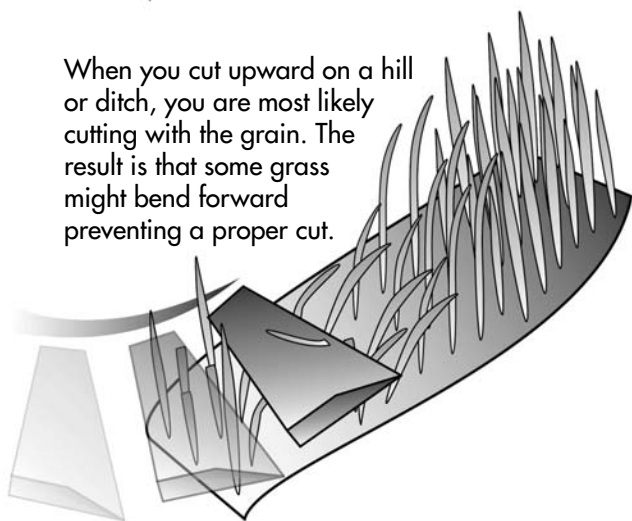
The Degelman 1020 & 1520 Rotary Cutter is a "directional" cutter. The 1520 model comes in either a "With Traffic" or "Against Traffic" rotation. The 1020 model is a "With Traffic" cutter. These options are available since the slope of the ditch can influence the cutting performance.



The reason for this is quite simple, even though the ditch is sloped, most grass grows straight vertically. By cutting in a downward direction, you are cutting against the grain which allows for a more aggressive, clean cut.

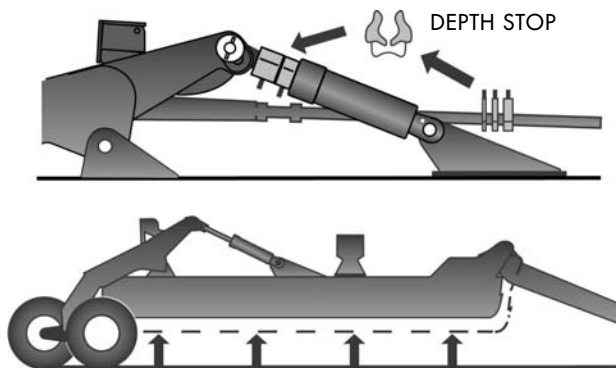


When you cut upward on a hill or ditch, you are most likely cutting with the grain. The result is that some grass might bend forward preventing a proper cut.



Setting Cutting Depth

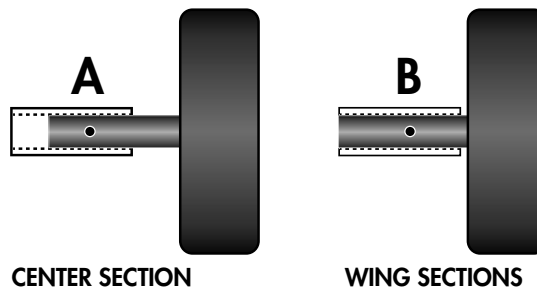
1. Park cutter and tractor on level ground.
2. Raise cutter to desired cutting height by extending or retracting lift cylinder.
3. Install correct number of depth stops on lift cylinder rod to set cutting height.



Notes:

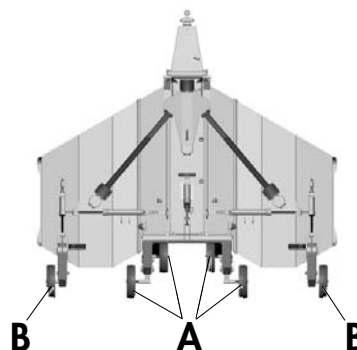
- It is recommended that the 2" depth stop remain on the lift cylinder rod at all times. This does not affect minimum cutting depth.
- By adding depth stops you are raising the cutting height.
- The blade cut height is approximately 1" above the skid shoes.

Wheel Tread Width Settings



For increased stability in the center section the proper setting of the wheels should be at position "A".

The recommended spacing for the wing section wheels is at position "B". This prevents the wheel from following in the same path as the skid shoes and also to improve contouring.



How To Operate Your Cutter

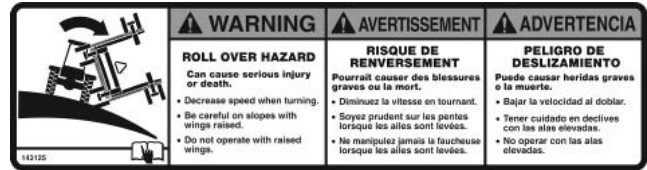
Safe Operating Procedures

Danger:

- Never allow untrained or inexperienced persons to operate this equipment. The operator should wear a hard hat, safety glasses, hearing protection, and safety shoes.
- Before leaving seat: Set brake, stop engine, remove key and wait until all moving parts have stopped.
- Perform routine inspections and corrective/preventative maintenance. Keep all shields and guards in place.
- Never allow persons to ride on the tractor or rotary cutter. Never allow children to operate tractor or rotary cutter.
- Never attempt to operate controls unless properly seated in the tractor seat with seat belt fastened.
- Never dismount a tractor that is moving, or attempt to mount a moving tractor.
- Never adjust machine while in motion.
- Operate only with tractor equipped with ROPS (Roll Over Protective System) and seatbelts.
- Ensure tractor PTO speed (540 or 1000 rpm) matches the rotary cutter gearbox speed or drive components can be damaged.



- Operate tractor at rated PTO speed. Machine may not perform properly if engine speed is too fast or too slow. Excessive PTO speeds may cause driveline or blade failures that may result in serious injury or death.
- Lower machine to ground before starting. Engage tractor PTO and slowly increase speed.
- Familiarize yourself with stopping the tractor and equipment quickly in case of a sudden emergency.
- Normal ground speed range is 0 to 5 mph (8 km/h). Use slower speeds when operating on or near steep slopes, ditches, drop-offs, rough terrain, overhead obstructions, power lines, or when avoiding obstacles and other foreign debris.

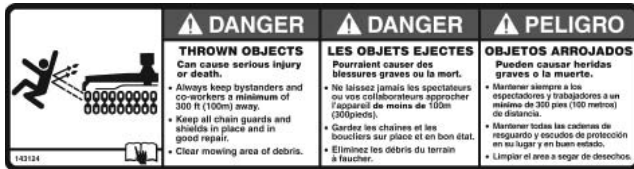


- Never drive into or out of a ditch or on a steep incline with wings in raised position.
- Decrease speed when turning, be careful on slopes or uneven terrain with wings in raised position.
- Never operate cutter in conditions of poor visibility such as fog, darkness, or any conditions that limit your clear visibility to less than 300ft (100m) in front of and to the sides of the mower.
- When conditions make it necessary to slow ground speed, shift to a lower gear rather than reducing engine speed. The engine will maintain rated speed and keep cutter running at optimum cutting speed.
- Only operate cutter in reverse direction when necessary. Use extreme care and only operate at a speed where you can safely control and operate the equipment.
- Never cut an area that has not been inspected for foreign debris and obstacles. Remove any foreign objects and clearly mark any objects that cannot be removed.
- **Stay clear of rotating or moving parts!** Contact or entanglement with moving/rotating parts may result in serious injury or death.

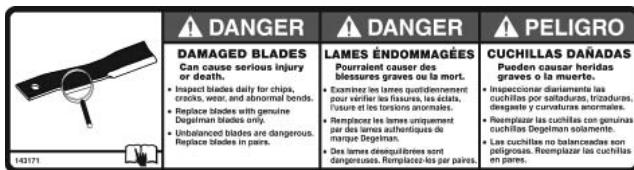


- Never operate mower with co-workers or bystanders in the area. It is possible for objects to be thrown great distances from the cutter. Thrown objects have the potential to cause serious injury or death. Always keep a minimum operating distance of 300ft. (100m) away from any bystanders.

How To Operate Your Cutter



- Do not operate cutter when the deck or wings are raised. Exposed blades create a potential hazard of thrown objects which may lead to serious injury or death.
- Avoid contact with heavy solid objects such as large rocks, guard rails, and concrete obstacles. Impact with these types of objects could damage blades causing broken objects to be projected at high velocities increasing the possibility of property damage, serious injury, or death.
- If blades make contact with a foreign object, stop immediately, repair any damage, and ensure cutter pan is balanced before continuing.



- Inspect blades daily for chips, cracks, wear, and abnormal bends. Unbalanced blades are dangerous. Replace damaged blades in pairs with genuine Degelman blades only.

Raising Wings

⚠ Danger:

- Shut off tractor PTO before raising wings to help prevent bodily injury or death from thrown objects or rotating blades.
- You must be on level ground before attempting to raise wings. Machine instability may be caused by weight shifting from one side to the other while raising wings.

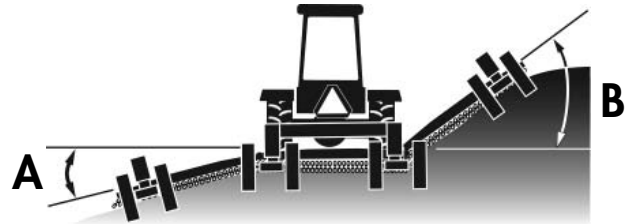


- Falling wings can cause serious injury or death. Clear area of bystanders when raising wings. Wings are held up by hydraulic pressure only, never walk under wings until wing transport locks are in place and secured.

Wing Flotation

Whenever possible, it is recommended to run both wings (if applicable) in the float position. This allows the cylinder to be free to extend or retract enabling the cutter to follow the ground contour.

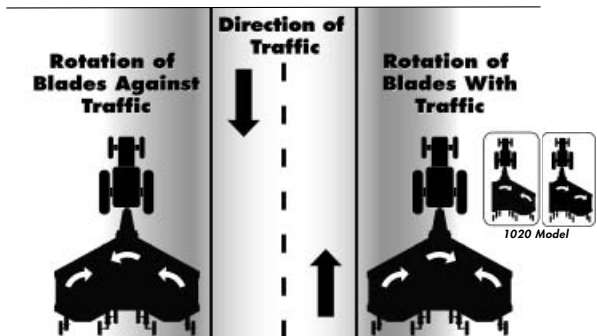
Cutting Angles



The cutter wings can be operated at angles of up to 24 degrees down (A) and 45 degrees up (B). It is not recommended to operate wings at an angle greater than 45 degrees (B) to prevent damage to the drivelines and to help prevent personal injury from thrown objects or debris.

Blade Rotation

The recommended blade rotations for roadway cutting are illustrated in the diagram below. The blade rotation of both wings at the front of the cutter is always directed towards the center of the machine. The blade rotation for the center section at the front of the cutter is always directed towards the ditch (as shown below).



Making Turns

⚠ Important:

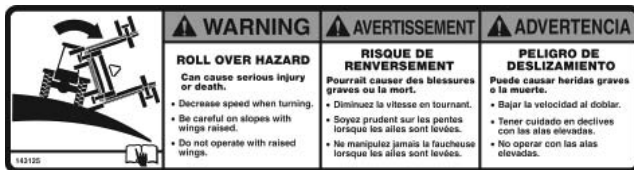
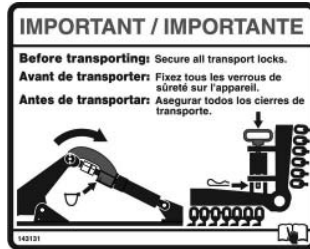
- Do not exceed 80 degrees on driveline while turning. Damage will result to the constant velocity driveline joint.
- To avoid tractor and cutter damage, do not turn too tight and be sure that tractor tires do not contact cutter hitch.

Transporting

Safe Transport Procedures

⚠ Danger: To prevent serious injury or death to you and others, always follow recommended safe transport procedures:

- The cutter is wider than the tractor. Beware of oncoming traffic and roadside obstructions.
- When transporting cutter, always raise wings and install transport locks.
- Use flashing warning lights when travelling on public roads day or night, unless prohibited by law.
- Travel at a reasonable and safe speed. Never travel at a speed which does not allow adequate control of steering and stopping. Do not travel at speeds greater than 20 mph (32 km/h).
- Stop slowly.
- Sound tractor horn before backing cutter up.
- Reduce speed considerably when travelling over rough terrain.



- Stay clear of any large bumps or deep depressions.
- Reduce ground speed when turning. Be sure tractor wheel does not contact cutter during turns.
- Avoid possible loss of control or tractor overturn. Tow only with correctly ballasted tractor.
- Ensure Safety Chain and all components are properly and securely attached. (Refer to the "Installing Safety Chain" section - pg.10)

Note: Do not use safety chain by itself for towing.

⚠ Danger: Keep riders off machine at all times. Riders are subject to injury such as being struck by foreign objects and being thrown off the machine.

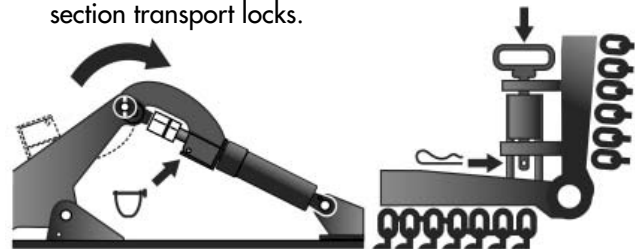
Preparing Cutter for Transport

1. Disengage PTO and wait for all moving parts to stop.
2. Fully raise wings.
3. Raise cutter as high as possible.
4. Engage tractor parking brake and/or place transmission into "Park".
5. Shut off tractor engine and remove ignition key.

⚠ Danger: Falling wings can cause serious injury or death. Stay clear of wings until transport locks are in place and secured.



6. Engage and properly secure center and wing section transport locks.



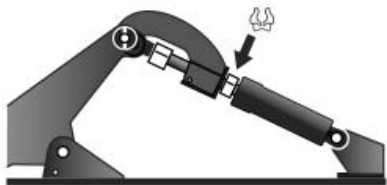
7. Ensure jack is secured in its storage position.
8. Ensure all components are properly and securely attached. Inspect safety chain and hitch. (Refer to the "Installing Safety Chain" section - pg.10)
9. Ensure all reflectors and SMV signs are clean and visible. Ensure all lights are working and visible as required by federal, provincial/state, and local laws.
10. Start tractor engine and retract lift cylinder carefully to place weight of cutter on lock.

Transporting

Restricted Transport Width

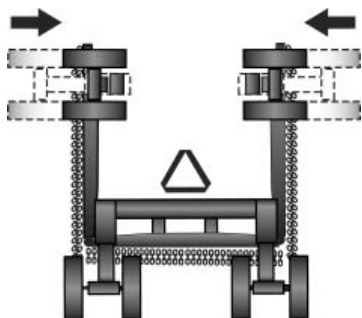
Retracting Wing Wheels

1. Follow steps 1-5 under "Preparing Cutter for Transport".
2. Engage center and wing transport locks.
3. Place a depth control spacer of at least 3/4" wide between the center transport lock and the end of the hydraulic cylinder. (see diagram)



Note: This procedure must be completed quickly, before center cylinder creeps down.

4. Start tractor engine and retract lift cylinder to place weight of cutter on lock.
5. Continue to retract the lift cylinder for several minutes to allow wing cylinders to eventually retract. This will bring the wheels in as far as possible.



Note: In order to prepare the cutter for operation again, the reverse of this procedure must be fully completed.

Troubleshooting

General Operation - Poor Cutting

This section of the troubleshooting deals with some of the more frequently asked questions relating to the general operation or performance of the Rotary Cutter. We have found that most problems are related to overlooked or neglected cutter adjustments. You may wish to review the section on "How To Set Your Cutter" (pg. 11-14) after reading this troubleshooting section.

1. Is the Rotary Cutter the correct PTO speed for your tractor?

Check the decal on the hitch of the cutter.

- 540 RPM
- 1000 RPM

2. Are you cutting in the direction the Rotary Cutter was designed to cut?

This is a directional cutter. Check the center section arrow to verify:

- Against Traffic: Counter-clockwise rotation (drive on the left hand side facing oncoming traffic).
- With Traffic: Clockwise rotation (drive on the right hand side in the same direction as traffic).

3. Are the blades rotating the right direction?

Check the decals on the top of the deck for each section, and verify rotation. (There are clockwise and counterclockwise blades, match the blade to the rotation).

4. How fast are you cutting?

Try slowing down. (In tall, wet or dense conditions, ground speed must be reduced due to the volume of material in the cutting chamber).

5. How high are you cutting?

- For short, dry or sparse vegetation: The lower you cut, the more suction there is and the closer you are to the stiffer base of the plant stalk. (Avoid cutting too low in rocky or uneven terrain).
- For tall, lush or dense vegetation: Cut slightly higher or reduce ground speed to avoid overloading the cutting chamber.

6. Are the blades bent?

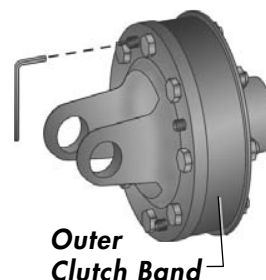
Compare to a new blade. (Bent blades will cause loss of suction and uneven cutting height).

7. Are the blades badly worn or damaged?

Check or compare to a new blade.

8. Have you checked that the clutches are fully engaged?

These clutches have a built in system to release the pressure on the linings for long storage periods to prevent them from becoming seized. Check that the 4 socket head screws on the clutches are loose. (If they are tightened all the way in the clutches will slip). Refer to the "Driveline Clutch Adjustment" section (pg. 14) for proper clutch adjustment.



9. Are the clutches slipping?

Although these clutches are non-adjustable they should be checked periodically to ensure they are set properly. The clutches will slip at a pre-determined torque setting if they are properly maintained.

To check that the clutch is properly set, make sure the tractor is shut off and all parts have stopped moving. Grasp the smooth outer clutch band with your hand and try to turn it or move it side-to-side. It should be fairly hard to turn, or not turn at all. If it turns easily and/or moves side-to-side it must be tightened. Evenly tighten all eight bolts on the clutch until they are fairly snug and the band is tight. This smooth outer band acts as a stop so the clutch cannot be over-tightened. Now back each nut off 1/4 of a turn. Re-check band.

10. Is the cutter leaving one or two uncut strips visible the next day?

This is usually caused by the tractor wheels bending over the stalks of vegetation. The cutter cannot pull them back up again soon enough to completely cut them. Cut debris is distributed on top of the bent over stalk to appear as though it is cut. By the next day the stalk stands back up again.

To minimize this:

- Reduce ground speed. (Slowing down allows more time for the material to lift and more blade passes).
- Lower the cutting height to increase suction and pick up more of the wheel tracks.
- Check that blades are not bent. Compare to a new blade. (Bent blades will cause loss of suction).

Troubleshooting

Operation

| Symptom | Problem | Solution |
|---|---|---|
| Uneven Cut | Excessive ground speed. | Reduce ground speed. |
| | Blades worn, dull, or bent. | Replace blades. (Refer to "Maintenance" section) |
| | Cutter not level side to side. | Adjust. (Refer to "Cutter Adjustments" section) |
| | Improper height adjustment. | Adjust cutter height. (Refer to "Cutter Adjustments" section) |
| | Low tractor tire pressure on one side. | Adjust tire pressure. (Refer to your tractor operator's manual) |
| | Turning too fast. | Reduce ground speed when turning. |
| | Tractor tires push grass down. | Adjust your tractor wheel spacing. (Refer to your tractor operator's manual) |
| | Conditions too wet. | Wait for conditions to dry. |
| | Damaged cutter pan. | Repair or replace as necessary. |
| Uncut Material | Excessive ground speed. | Reduce ground speed. |
| | RPM too low. | Use full PTO speed. (Refer to your tractor operator's manual) |
| | Improper blade for direction of cut. | Install blades so rotation is correct. |
| Poor Shredding | Excessive ground speed. | Raise the front of cutter relative to the rear to hold and circulate material longer. (Refer to the "How to Set Your Cutter" section - Levelling Front to Back) |
| | | Reduce ground speed. |
| | Cutting too high. | Lower cutting height. (Refer to the "How to Set Your Cutter" section - Setting Cutting Depth) |
| Windrowing or Uneven Material Distribution | Material heavy and lush. | Raise the front of cutter relative to the rear. (Refer to the "How to Set Your Cutter" section - Levelling Front to Back) |
| | | Reduce ground speed. |
| Cutter Vibration | Loose blades. | Tighten blade bolts. |
| | One new and one old blade on same cutter pan. | Replace blades in pairs. |
| | One broken blade. | Replace blades in pairs. |
| | Broken or defective U-joint cross bearing. | Repair or replace as necessary. |
| | Driveline bent or damaged. | Repair or replace as necessary. |
| | Bent or damaged PTO shaft or CV. | Repair or replace as necessary. |
| | Bent or damaged Gearbox output shaft. | Repair or replace as necessary. |
| | Cutter pan bent or damaged. | Repair or replace as necessary. |

Troubleshooting

Blades

| Symptom | Problem | Solution |
|-----------------------|---|---|
| Excessive Wear | Cutting too low in abrasive conditions. (ex. sandy or rocky) | Increase cutting height. |
| | | |
| Bolt Loosening | Inadequate torque on blade bolts. | Tighten blade bolts. (Refer to "Maintenance" section) |
| | Lock nut worn out. | Replace lock nut. |
| | Cutting in very wet conditions. | Do not operate in these conditions. |
| | Cutting too low, scalping ground. | Increase cutting height. |
| | Cutting too low in rocky conditions. | Increase cutting height. |
| Breakage | Cutting too low in rocky conditions. | Increase cutting height. |
| | Cutting with damaged or extremely worn blades. | Replace blades. (Refer to "Maintenance" section) |

Gear Boxes

| Symptom | Problem | Solution |
|------------------------------------|--|---|
| Shafts and Gears Break | Slip clutch seized caused driveline to receive high shock loads. | Inspect clutch lining and repair or replace as necessary. (Refer to "Maintenance" section) |
| | Cutting in extremely rocky conditions. | Increase cutting height. |
| | | Avoid hitting large, solid objects. |
| Oil Seal at Blade Pan Leaks | Operating with grass or wire wrapped on shaft in seal area. | Check seal areas regularly and clean off material. |
| | Worn seal. | Replace seal. |
| | Bent or damaged output shaft and/or bearings. | Repair or replace as necessary. |
| | Removing blade pan using heat can damage seal. | Replace seal. Suggest use of puller at next removal of blade holder. |
| Oil Seal Leaks | Worn seal. | Replace seal. |
| | Gear case overfilled. | Fill only to "FULL" line on dipstick |
| | Gear case not vented. | Check that the vent on the dipstick plug is clear. |

Troubleshooting

Driveline Clutches

| Symptom | Problem | Solution |
|-------------------|---|---|
| Overheated | Clutch slipping. | Check for jammed blade or foreign object. |
| | Friction plates worn. | Replace plates. (Refer to "Maintenance" section) |
| | Excessive ground speed in heavy conditions. | Reduce ground speed. |
| | Excessive scalping. | Adjust cutting height. (Refer to "Cutter Adjustments" section) |
| Seized | Prolonged storage in damp conditions. | Free up slip clutch. (Refer to "Maintenance" section) |
| | | Inspect clutch lining and repair or replace as necessary. (Refer to "Maintenance" section) |

Drivelines

| Symptom | Problem | Solution |
|--------------------------------------|---|---|
| Telescoping tube fails | Shock load. | Avoid solid objects. |
| Telescoping tube wears. | Lack of lubrication. | Apply grease daily. (Refer to "Maintenance" section) |
| Yoke or cross fails. | Lack of lubrication. | Apply grease daily. (Refer to "Maintenance" section) |
| | Shock load. | Avoid solid objects. |
| | Slip clutch seized caused driveline to receive high shock loads. | Inspect clutch lining and repair or replace as necessary. (Refer to "Maintenance" section) |
| Twisted | Slip clutch seized caused driveline to receive high shock loads. | Inspect clutch lining and repair or replace as necessary. (Refer to "Maintenance" section) |
| Constant Velocity Joint Fails | Lack of lubrication. | Apply grease as described in the "Maintenance" Section. |
| | Turning too sharp. | Avoid extremely sharp turns and jackknifing. |
| PTO Driveline Bent | Contact with drawbar. | Reposition drawbar. (Refer to "How to Set Your Tractor" Section) |
| | Driveline too long, bottoms outs when operating through deep gullies. | Avoid these conditions. |

Maintenance & Service

Safe Maintenance Procedures

Before adjusting or servicing a cutter connected to a tractor:

1. Park cutter and tractor on level ground.
2. Engage tractor parking brake and/or place transmission into "Park".
3. Disengage PTO.

Wings Up

4. Raise cutter and wing(s).
5. Engage center and wing transport locks.

Wings Down

4. Raise cutter and engage center transport lock.
5. Lower wings completely.
6. Shut off tractor engine and remove ignition key.
7. Place safety stands in secure locations under center body and wing sections, NOT under axles or wheel supports.
8. Start tractor engine and raise cutter.
9. Disengage center transport lock and lower cutter onto stands.
10. Engage tractor parking brake and/or place transmission into "Park".
11. Relieve pressure in hydraulic system. (See tractor Operator's Manual).
12. Shut off tractor engine and remove ignition key.
13. Ensure all moving parts have stopped, then remove PTO driveline from tractor.

⚠ Danger: To prevent serious injury or death to you or others, and to prevent damage to your equipment, always follow these safety messages:

- To prevent personal injury from unexpected movement, ensure cutter is properly supported and on a level surface before performing any service work.

| | | | |
|---|--|--|--|
|  | ⚠ WARNING CRUSHING HAZARD Can cause serious injury or death. <ul style="list-style-type: none">• Engage transport locks.• Block up before servicing.• Purge all air from hydraulic system before attempting to raise or lower implement. | ⚠ AVERTISSEMENT RISQUE D'ECRASUREMENT Pourrait causer des blessures graves ou la mort. <ul style="list-style-type: none">• Employez les verrous de sûreté pour le transport.• Bloquez l'appareil avant l'entretien.• Avant d'essayer de lever ou baisser l'appareil, vérifiez que tout air est purgé du système hydraulique. | ⚠ ADVERTENCIA PELIGRO DE SER APLASTADO Puede causar heridas graves o la muerte. <ul style="list-style-type: none">• Enganchen los seguros de transporte.• Bloquear antes de someter a servicio.• Evacuar todo el aire del sistema hidráulico antes de intentar subir o bajar el instrumento. |
| | <small>143126</small> | | |

- Do not make or allow any alterations or modifications to this rotary cutter, its components, or its functions.
- Never lubricate, adjust, or service machine while it is moving. Ensure tractor engine is off, all moving parts have stopped, and the PTO driveline has been disconnected before servicing.

| | | | |
|--|--|--|---|
|  | ⚠ DANGER ROTATING BLADES Can cause serious injury or death. <ul style="list-style-type: none">• Stay clear of rotating parts.• Blades may rotate for several minutes after power shut off.• Do not place hands or feet under or into cutter. | ⚠ DANGER LES LAMES EN ROTATION Pourraient causer des blessures graves ou la mort. <ul style="list-style-type: none">• Tenez-vous loin des pièces qui tournent.• Des lames continuent à tourner pendant plusieurs minutes après l'arrêt du moteur.• Ne placez jamais les mains ou les pieds dessous ou dans la faucheuse. | ⚠ PELIGRO CUCHILLOS ROTANTES Pueden causar heridas graves o la muerte. <ul style="list-style-type: none">• Manténgase alejado de las partes rotantes.• Los cuchillos pueden girar por varios minutos después que la electricidad ha sido cortada.• No poner manos o pies bajo o en los cuchillos. |
| | <small>143125</small> | | |

- The blades and cutter pan may rotate for several minutes after PTO is shut off. Before working on cutter, look and listen for rotating driveline to stop completely.

| | | | |
|---|--|---|---|
|  | ⚠ DANGER FALLING WING Can cause serious injury or death. <ul style="list-style-type: none">• Always secure wing transport locks before transporting, servicing, or parking the cutter.• Stand clear when lowering or raising wings. | ⚠ DANGER LA CHUTE DES AILES Pourrait causer des blessures graves ou la mort. <ul style="list-style-type: none">• Toujours fixez la serrure sur l'aile avant de transporter, entretenir ou stationner la faucheuse.• Tenez-vous loin lorsque les ailes montent ou descendent. | ⚠ PELIGRO ALA CAYENDO Puede causar heridas graves o la muerte. <ul style="list-style-type: none">• Asegurar siempre los seguros de transporte de las alas antes de transportar, someter a servicio o estacionar la máquina cortadora.• Manténerse alejado cuando se están subiendo o bajando las alas. |
| | <small>143127</small> | | |

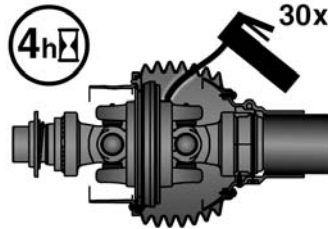
- Always secure wing transport locks before servicing, parking, or transporting cutter. Always keep people a safe distance from the cutter when raising or lowering wings.
- Ensure all guards, shielding, and their components are maintained and in proper working condition. Replace or repair any damaged components.
- Ensure all guards, shielding, and their components are replaced and secured after service is complete.
- Maintain the product safety decals and replace any decals that are damaged, missing or unreadable.

Maintenance & Service

4 Hour

⚠ Important: It is very important to grease the constant velocity body of the PTO driveline with a minimum of 30 shots of grease every 4 hrs.

⚠ Caution: The CV body serves as a reservoir for the lubrication of the centering mechanism. Failure to lubricate may result in machine damage.



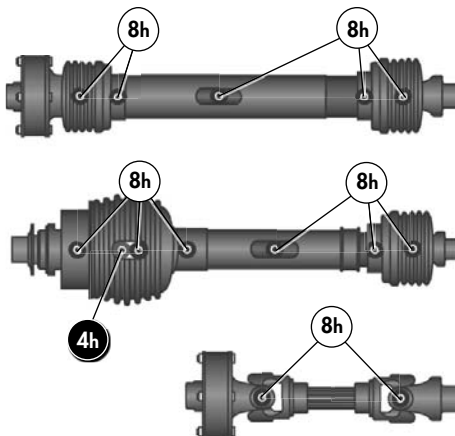
- Visually inspect machine for damage. Repair or replace damaged parts as required.
- Visually inspect all cutter blades for damage. Repair or replace damaged blades or blade hardware as required.

8 Hour (Daily)

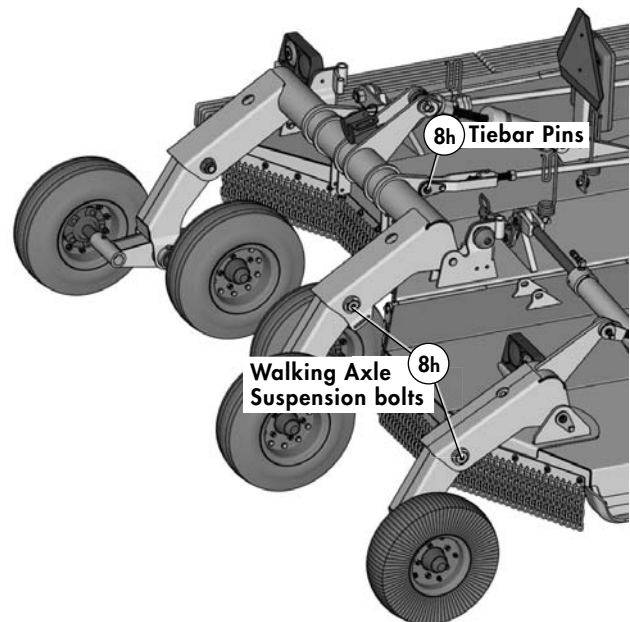
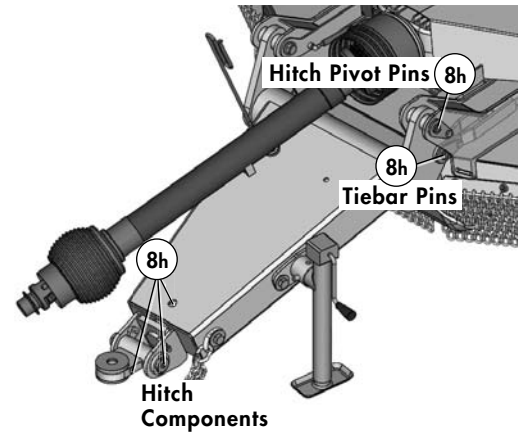
- Fully inspect all cutter blades for chips, cracks, wear, and abnormal bends. Damaged blades can cause serious injury or death.

|  DANGER |  DANGER |  PELIGRO |
|---|--|---|
| DAMAGED BLADES Can cause serious injury or death. | LAMES ENDOMMAGÉES Pourraient causer des blessures graves ou la mort. | CUCHILLAS DAÑADAS Pueden causar heridas graves o la muerte. |
| <ul style="list-style-type: none"> • Inspect blades daily for chips, cracks, wear, and abnormal bends. • Replace blades with genuine Deere/John Deere blades only. • Unbalanced blades are dangerous. Replace blades in pairs. | <ul style="list-style-type: none"> • Examinez les lames quotidiennement pour vérifier les fissures, les éclats, l'usure et les torsions anormales. • Remplacez les lames uniquement par des lames authentiques de marque Deere/John Deere. • Des lames déséquilibrées sont dangereuses. Remplacez-les par paires. | <ul style="list-style-type: none"> • Inspeccionar diariamente las cuchillas por saltaduras, irizaduras, desgaste y curvaturas anormales. • Reemplazar las cuchillas con genuinas cuchillas Deere/John Deere solamente. • Las cuchillas no balanceadas son peligrosas. Reemplazar las cuchillas en pares. |

- Fully inspect all blade hardware and ensure they are all properly tightened and secured.
- Check the tightness of all newly replaced nuts and bolts after the first 8 hours of operation, then weekly.
- Grease all driveline components.
- Check all hardware to ensure they are tight and secure.



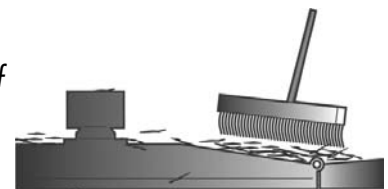
- Grease all hitch components, tiebar pins, and walking axle suspension bolts.



- Clean off deck and gearboxes of debris at the end of every day.

Note: Build up of debris may interfere with driveline and cause gearboxes

to overheat resulting in damaged components. Also a build of wet debris may result in corrosion.



Maintenance & Service

20 Hour

- Check oil levels on all gearboxes (on level ground).

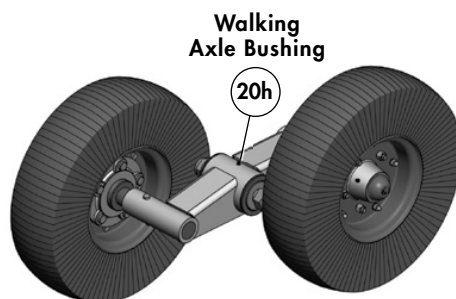
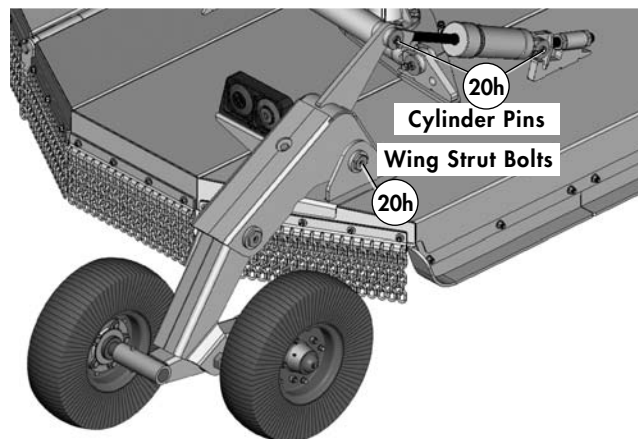


When Checking/Filling:

- The dipstick is located on the vent plug. To get a proper reading when checking oil level, do not screw in the dipstick. Fill until oil reaches the dipstick fill line.
- Use SAE 80w/90 Gear Oil

⚠ Caution: A consistent loss of oil can indicate damaged seals. Damaged seals should be replaced immediately to prevent ruining the gearbox.

- Check the condition of lock pins, cotter pins, and all other fasteners weekly. Replace if necessary.
- Check gearbox bolts. Re-torque if necessary.
- Grease all cylinder pins, walking axle bushings, rockshaft pins, and wing strut pins.



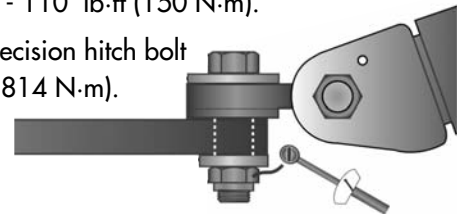
50 Hour

- Replace the oil in new gearboxes after the initial 50 hours of use. Then continue to replace the oil annually.

Note: Before checking level on dipstick Wait approximately 15-20 min. after filling right angle gearboxes to allow oil to settle into the bottom cavity before checking level on dipstick.

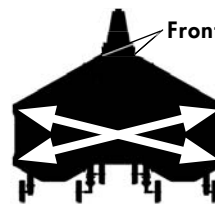
- Check hubs for bearing play and condition of seal.
- Re-torque driveline yoke bolts:
Front - 160 lb·ft (220 N·m)
Wing(s) - 110 lb·ft (150 N·m).

- Re-torque precision hitch bolt to 600 lb·ft (814 N·m).



100 Hour

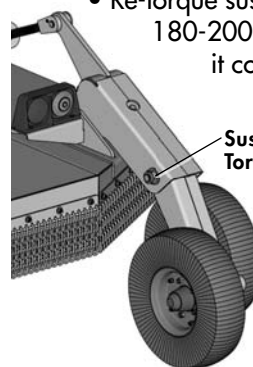
- Grease all axle hub bearings.
- Check tire pressures if using aircraft tires.
- Check skid shoes for excessive wear.



Note: Wing skid shoes can be switched from corner to corner. (1520 Model)

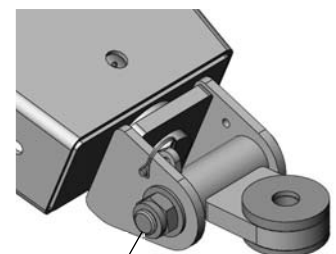
- Pull apart the driveline universal slider shafts and apply grease to all sides.

- Re-torque suspension pivot bolts to 180-200 lb·ft. If too tight or too loose it could cause excessive wear.



Suspension Pivot Bolt
Torque to 180-200 lb·ft.

- Retorque hitch tongue pivot bolt to 75 lb·ft. If too tight or too loose it could cause excessive wear.



Hitch Tongue Pivot
Torque to 75 lb·ft

Maintenance & Service

Annually

- It is recommended that hubs are dismantled, cleaned, inspected, and repacked every year. Whenever a worn or damaged seal is replaced it is also recommended that the bearing assembly be cleaned and repacked with wheel grease.
- Check all gearbox seals for leaks. Replace as required.
- Replace oil in all gearboxes.

⚠ Caution: If the universal joint sliding members are allowed to dry out to the point where the two halves cannot slip freely, damage to the rotary cutter or tractor may result.

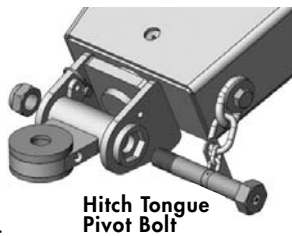
- Pull apart the driveline universal slider shafts and apply grease to all sides.
- The shielding on the drivelines should be removed and the old grease should be removed with a solvent.

Note: Follow the above procedure more frequently in dirty or dusty conditions.

⚠ Warning: High pressure fluid can pierce skin causing serious injury or death. Relieve pressure on system before repairing or adjusting. Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. Keep all components in good repair.

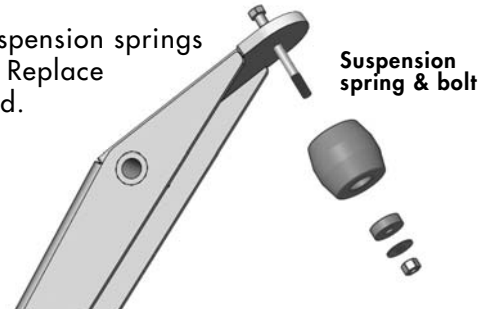
| | | | |
|--|--|---|--|
| | <p>⚠ WARNING</p> <p>HIGH PRESSURE FLUID Can pierce skin causing serious injury or death.</p> <ul style="list-style-type: none"> Relieve pressure on system before repairing or adjusting. Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. Keep all components in good repair. | <p>⚠ AVERTISSEMENT</p> <p>LIQUIDE À HAUTE PRESSION Pourrait percer la peau, causer des blessures graves ou la mort.</p> <ul style="list-style-type: none"> Avant de procéder à la réparation ou mise au point, reliez la pression du système. Lorsque vous cherchez pour une fuite, protégez vos yeux et vos mains adéquatement. Utilisez le bois ou le carton au lieu de vos mains. Gardez tous les composants en bon état. | <p>⚠ ADVERTENCIA</p> <p>LIQUIDO A ALTA PRESION Puede perforar la piel causando heridas graves o la muerte.</p> <ul style="list-style-type: none"> Bajar la presión del sistema antes de reparar o ajustar. Usar protección adecuada en manos y ojos al buscar escapes. Usar madera o cartón en vez de las manos. Mantener todos los componentes en buen estado. |
|--|--|---|--|

- Inspect all hydraulic hoses for cracks, wear, and leaks.
- Remove hitch tongue pivot bolt, clean & inspect, turn 180 degrees to change wear surface, and re-insert. Replace if worn. Torque to 75 lb.-ft.
- Disassemble precision hitch components (if applicable), clean, inspect, and reassemble.



Hitch Tongue Pivot Bolt

- Inspect suspension springs and bolts. Replace if damaged.

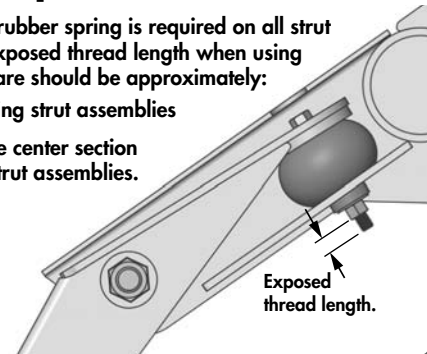


Suspension spring & bolt

Typical Suspension Detail

Preloading of rubber spring is required on all strut assemblies. Exposed thread length when using correct hardware should be approximately:

- 3/8" on wing strut assemblies
- 1/2" on the center section rockshaft strut assemblies.

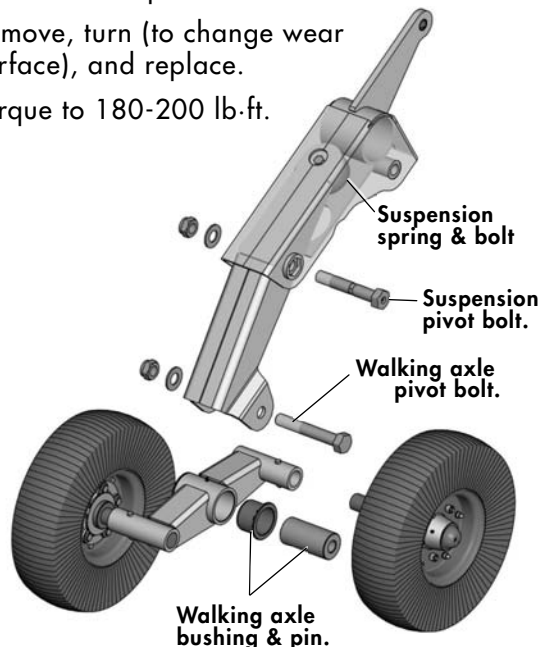


Exposed thread length.

- Inspect suspension and walking axle pivot bolts. Replace if worn.

Remove, turn (to change wear surface), and replace.

Torque to 180-200 lb.-ft.



Suspension spring & bolt

Suspension pivot bolt.

Walking axle pivot bolt.

Walking axle bushing & pin.

- Inspect walking axle bushings and pins. Replace if worn. Remove pin, turn 180 degrees (to change wear surface), and replace.

Maintenance & Service

Blades

⚠ Danger: The blades and cutter pan may rotate for several minutes after PTO is shut off. Before working on cutter, look and listen for rotating driveline to stop completely.



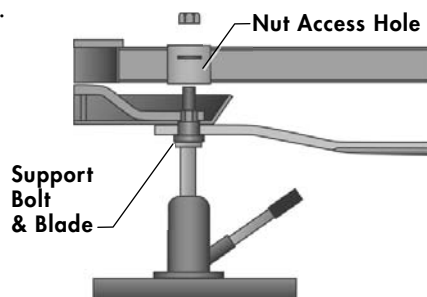
- Blades should be inspected daily for chips, cracks, wear, and abnormal bends. Damaged blades can cause serious injury or death.



- Do not try to modify blades in any way such as sharpening, welding, or straightening. Modifying the blades may reduce the strength of the blade, increasing the risk of broken pieces being thrown from the machine.
- If the blades are dull, bent, worn, chipped, or cracked, replace them in pairs with genuine Degelman blades only.
- Always replace damaged blades in pairs. Unbalanced blades are dangerous and machine damage may result.

Blade Hardware

- Retighten blade mounting hardware daily. Blade hardware should be torqued to 725 lb-ft.
- It is recommended to change blade bolts and locknuts every time the blades are replaced.
- Seat bolt flush against pan with hammer before tightening nut.
- When changing blades with only one person you may wish to support the blade and hex bolt from below to make it easier to tighten the blade locknut from above.

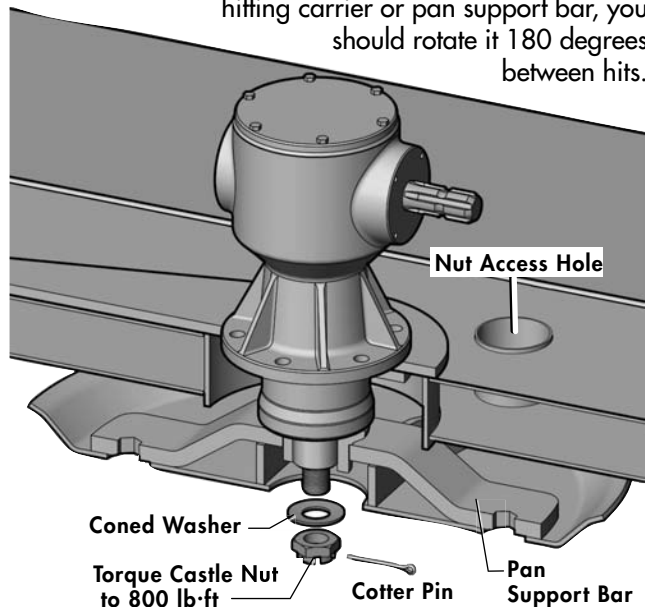


Blade Carrier (or optional Skid Pan)

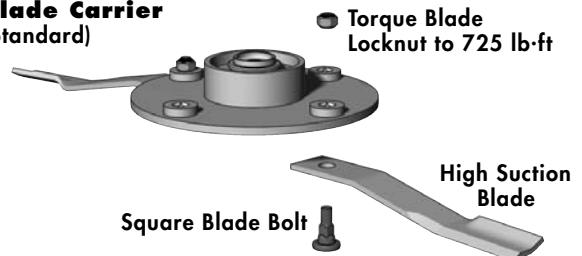
- Blade Carriers (Skid Pans) are secured with castle nuts and cotter pins to the splined shaft on the gearboxes. A coned washer is located between the castle nut and the gearbox shaft. The coned part of the washer should be positioned against the nut.
- It is important to periodically check and retighten the retaining (castle) nut.
- It is important to torque the nut to 800 lb-ft.

⚠ Caution: To prevent personal injury from falling pan, it is important to put blocks under cutter pan when removing retaining nuts.

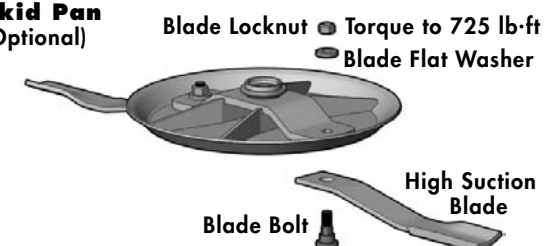
- Blade carriers (Skid Pans) should be removed from the top side by hitting the carrier or pan support bar through the nut access hole on the top deck. When hitting carrier or pan support bar, you should rotate it 180 degrees between hits.



Blade Carrier (Standard)



Skid Pan (Optional)



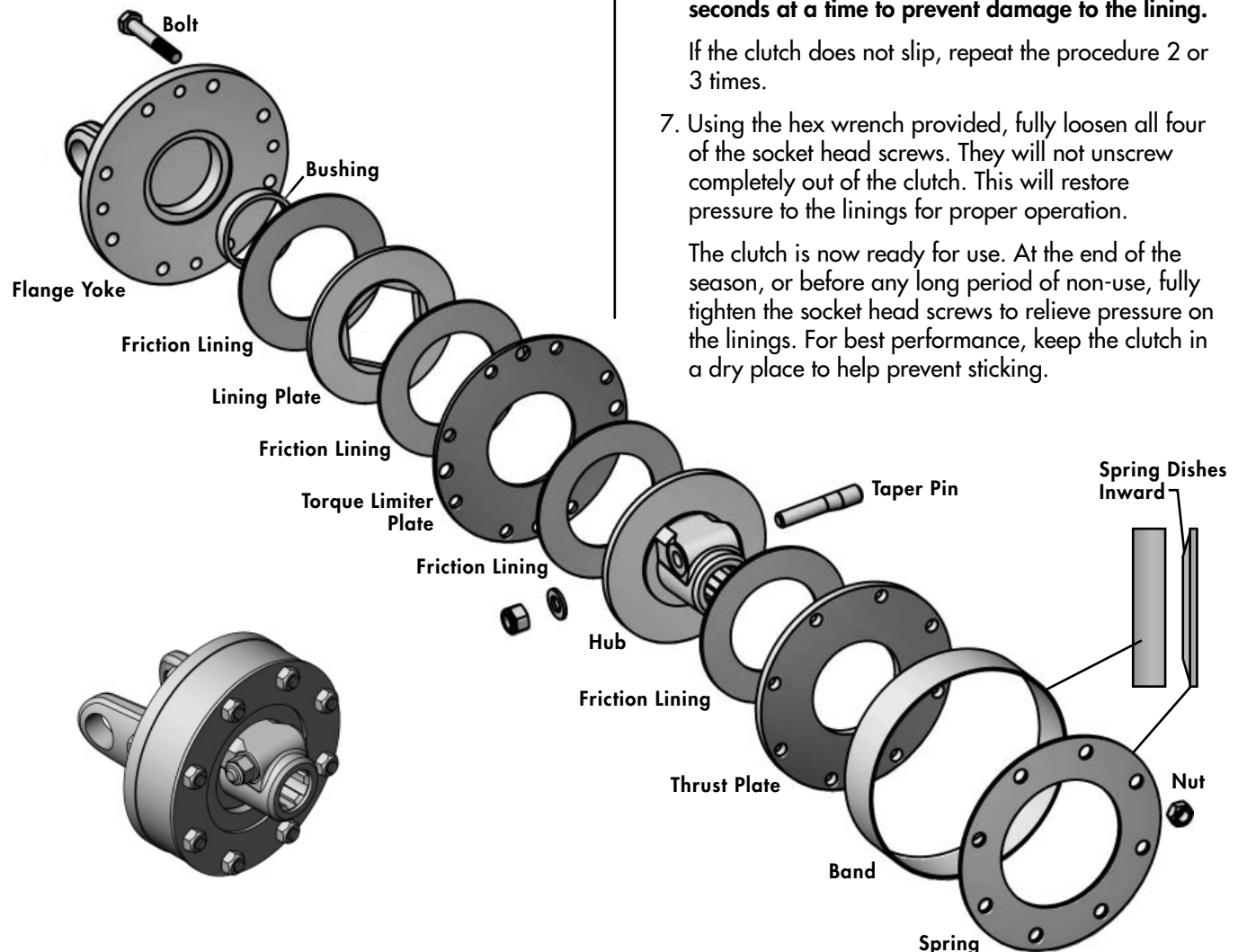
Maintenance & Service

Torque Limiter

Each of the drivelines coming off the splitter gear box is equipped with a friction disc torque limiter to reduce possibility of machine damage. The torque value of each slip clutch (in N·m) is stamped on the face of the flange yoke.

Disassembly and Inspection

1. Remove taper pin.
2. Loosen the bolts evenly and progressively to uniformly reduce the spring load (i.e. do **not** remove each nut completely in sequence).
3. Fully disassemble the clutch and inspect the condition of all the components. New friction linings are 3.2mm thick, if friction linings are worn below 2.5mm, replacement is recommended. (*Replacement part numbers can be found in the parts section of the manual.*) Use brake cleaner and a wire brush as required, to clean the metal contact surfaces. Do not grind or excessively score the surfaces.
4. Inspect hardware and replace as required.



Assembly

1. Assemble the parts as shown in the diagram starting by inserting the bushing into the flange yoke. Avoid grease or oil on any of the surfaces.
2. Install the bolts and tighten the nuts until they contact the spring. **Note: Inspect hardware and replace as required.**
3. Tighten the bolts uniformly in order to compress the spring evenly until the band is firmly tightened between the flange yoke and spring.
4. Loosen off each bolt 1/4 turn to set the spring compression to the proper height and torque setting. The spacer band should rotate slightly.
5. Re-insert taper pin into the hub.
6. With tractor at idle speed, engage PTO for 2-3 seconds to make the clutch slip. After new linings are installed, the torque setting will be low until the linings "seat" against the metal plates. After the first few slips, the torque should rise to the normal setting.

Do not allow the clutch to slip for more than 2-3 seconds at a time to prevent damage to the lining.

If the clutch does not slip, repeat the procedure 2 or 3 times.

7. Using the hex wrench provided, fully loosen all four of the socket head screws. They will not unscrew completely out of the clutch. This will restore pressure to the linings for proper operation.

The clutch is now ready for use. At the end of the season, or before any long period of non-use, fully tighten the socket head screws to relieve pressure on the linings. For best performance, keep the clutch in a dry place to help prevent sticking.

How To Store Your Cutter

Preparing for Storage

When storing the cutter for the season or an extended period of time it is important to follow the following procedures in order to extend the life of your cutter.

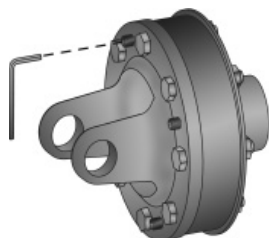
Note: The cutter can be stored in either the wings raised or wings lowered position. If storing with the wings raised position, make sure the wing lock pins are engaged.

1. Thoroughly clean off cutter of all debris and dirt buildup. Clean any accumulated cuttings off of the under side of the deck. Debris and dirt will draw moisture and may cause corrosion.

2. Paint all parts where necessary.

Note: Degelman Yellow Aerosol paint (#133044) is available, ask your dealer.

3. Put cutter in a dry place.
4. Follow procedures in the Maintenance section to fully lubricate the machine.
5. Check the condition of all blades and blade hardware. Replace if necessary.
6. Inspect the safety shields, guards, transport locks, and other components for damage, wear, or missing hardware. Replace if required.
7. Inspect hydraulic hoses and connections. Repair or replace as necessary.
8. Inspect the condition of safety labels and decals. Replace any missing or illegible decals.
9. If cutter is equipped with used aircraft tires, support cutter with safety stands to take weight off tires. Do not deflate tires. If exposed, put covers over tires to protect them from sunlight, oil, and grease.
10. Place PTO on top of hitch in the PTO cradle. Remove front half and store indoors. Keep PTO off ground.
11. Fully tighten socket head screws on the driveline clutches to relieve pressure on the linings. For best performance, keep the clutch in a dry place to help prevent sticking.
12. Apply grease to any exposed hydraulic cylinder rods and any threaded adjustment screws to prevent rusting.



Removing from Storage

1. Review Operator's Manual and check adjustments.
2. Follow procedures in the Maintenance section to check gearbox oil levels and to fully lubricate the machine.
3. Inspect hydraulic hoses and connections. Repair or replace as necessary.
4. If using aircraft tires, check the air pressure (42 PSI).
5. Check all hardware for tightness.
6. Free the driveline clutches. Refer to "Driveline Clutch Adjustments" Section.
7. If any major components have been replaced, make sure they run properly.

Attachments / Accessories

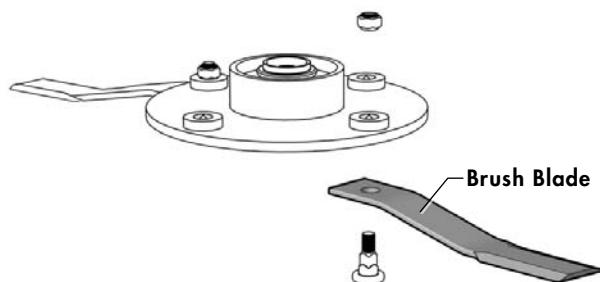
Aircraft Tires (22 x 6.6)

- 131384 Recapped foam filled
131385 Recapped air filled (pneumatic)



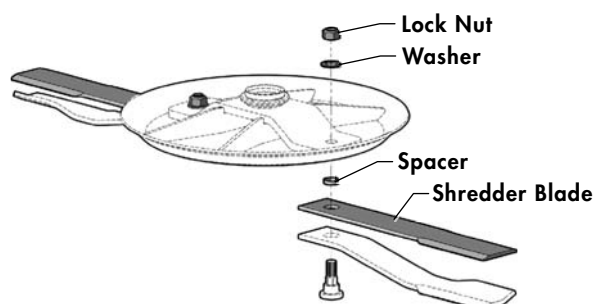
Brush Blade

- 501012 Brush Blade -bidirectional
(2 req'd per blade carrier or skid pan)



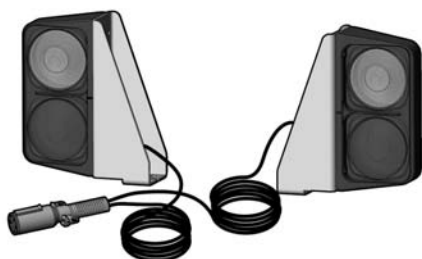
Shredder Blade Kit

- 501532 Shredder Blade Kit -bidirectional
(currently only available for skid pan)



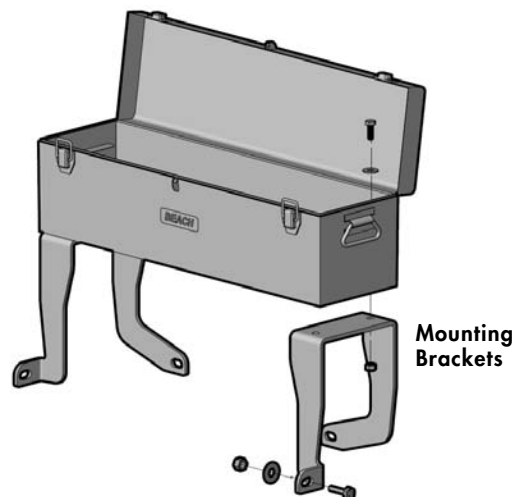
Light Kit

- 501533 Light Kit - (mounting brackets included)



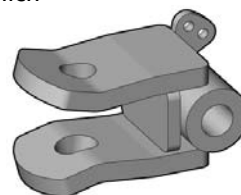
Toolbox & Blade Storage Kit

- 501536 Toolbox - (mounting brackets included)



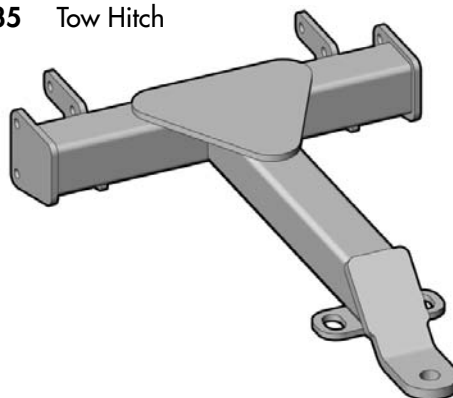
Clevis Hitch

- 500335 Clevis Hitch



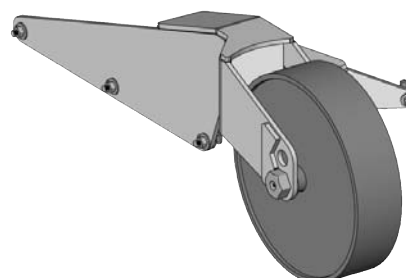
Tow Hitch

- 501535 Tow Hitch



Gauge Wheel

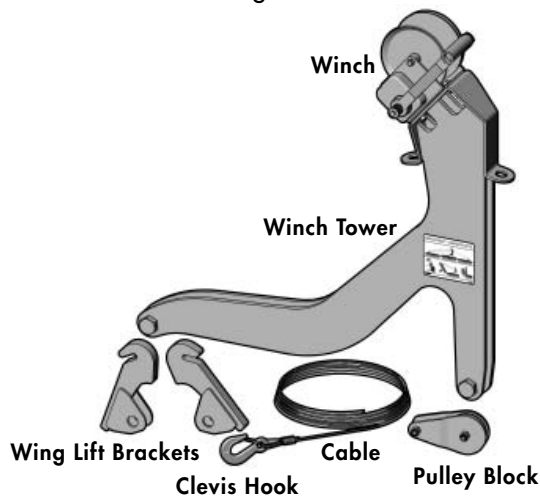
- 501580 Wing Gauge Wheel - RH (shown)
501581 Wing Gauge Wheel - LH



Attachments / Accessories

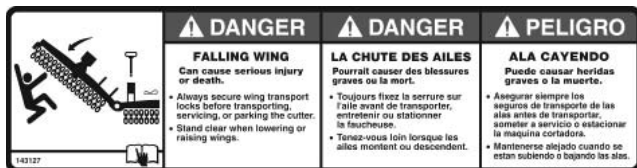
Winch Kit

501534 Manual Wing Winch Kit



Winch Operation

The winch should only be used when the hydraulic wing lift is disabled. The winch is designed to lift only one wing at a time. A pulley block is used to reduce the amount of effort required to crank the winch handle to lift the wing. The winch must always be used with the pulley block. A wing lift bracket needs to be added to each wing cylinder lug prior to operation. These are included with the winch kit.



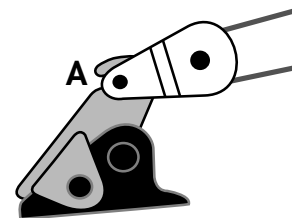
⚠ Danger: Never, at any time, walk near or under the wing while it is being raised until safely secured with the wing transport lock pin. Never allow bystanders near the wing until it is safely secured.

Note: The standard wing lift is a single acting hydraulic cylinder, if this is the case, the hydraulic cylinder may be left attached to the wing. If the rotary cutter is equipped with a double acting hydraulic cylinder, the hydraulic cylinder should be removed and placed on the deck.

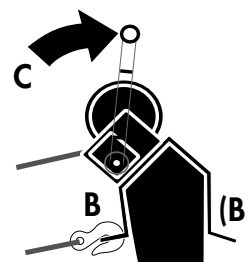
Operation:

- Unhook the clevis hook and pulley block from their storage location on the winch tower.
- Unwind the winch using the crank handle with one hand, while assisting the cable off the spool with the other hand. Try to keep a slight tension on the cable as it unwinds.

- The pulley block has a bolt at one end, slide the bolt into the slot (A) on the wing lift lug and hook the clevis hook end up to the lug on the winch tower (B).

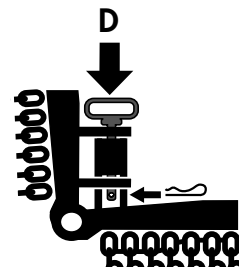


- Crank the handle to get all the slack out of the cable. Re-check that the clevis hook is secure and that the pulley and cable are free to move as required. Crank the winch handle (C) to raise the wing.



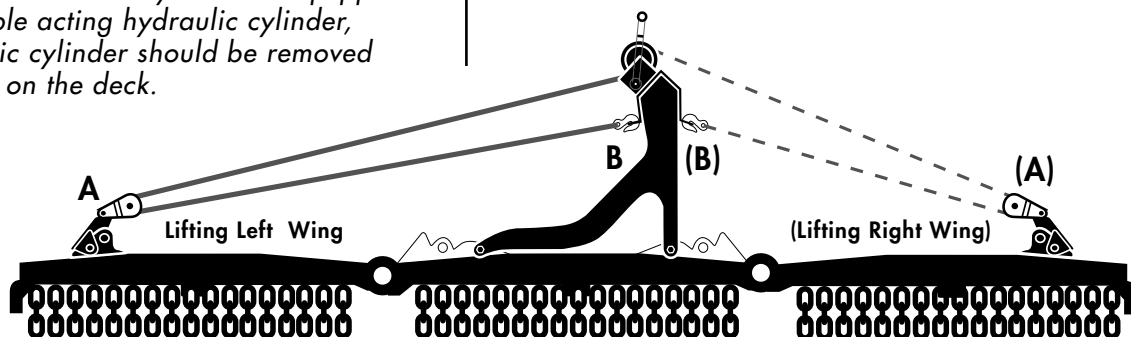
Note: The winch is equipped with an automatic brake while cranking under load. This takes some effort to overcome.

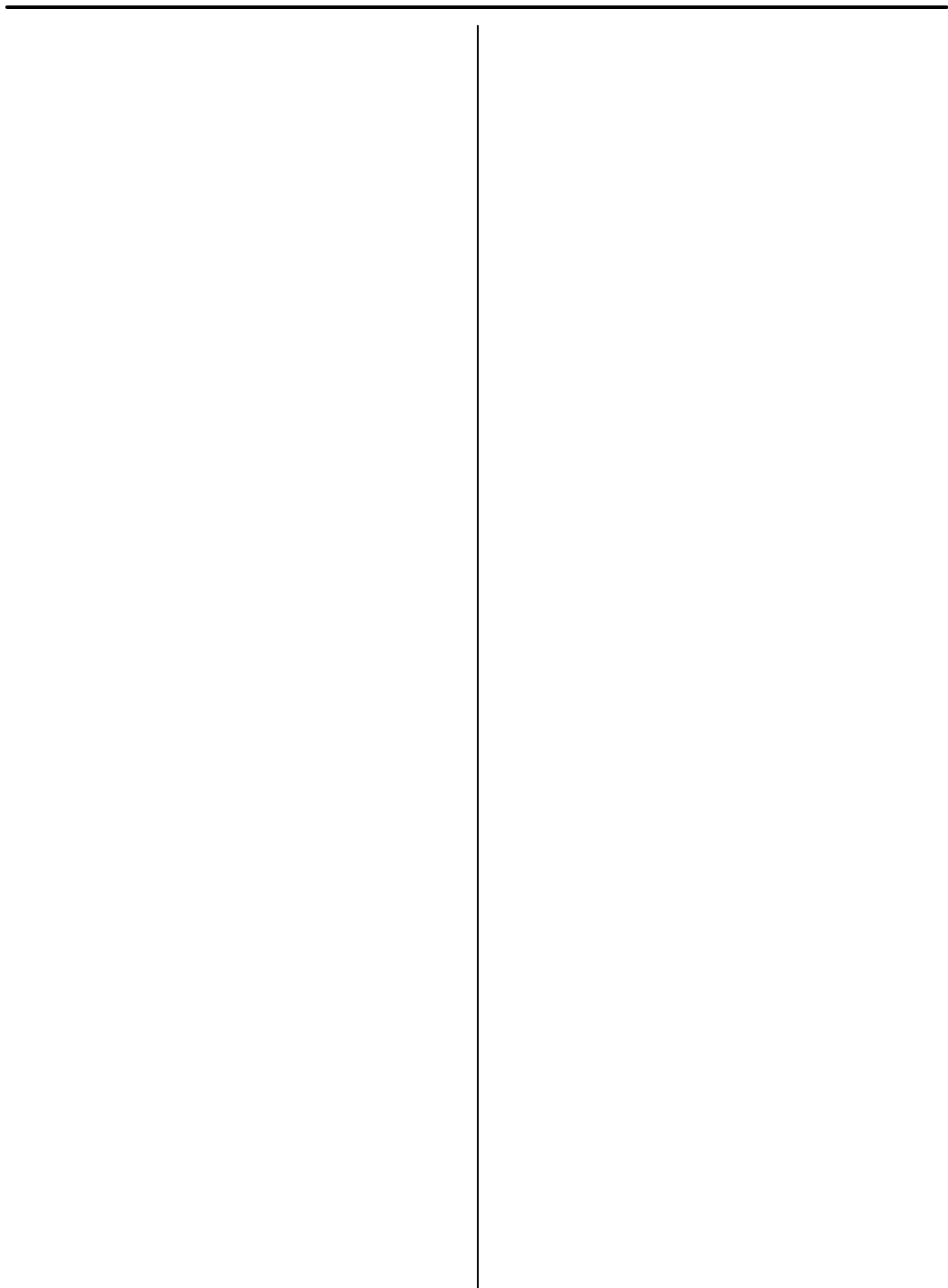
- When the wing is all the way up, engage the wing transport safety lock pin (D).
- Slowly turn the crank the opposite direction to let the wing down onto the transport lock pin.



- Unhook the cable and pulley block and repeat the same procedure on the other wing if necessary.
- Replace the pulley block and clevis hook back into their storage location on the winch tower. Make sure to keep tension on the cable as it is wound back onto the spool.

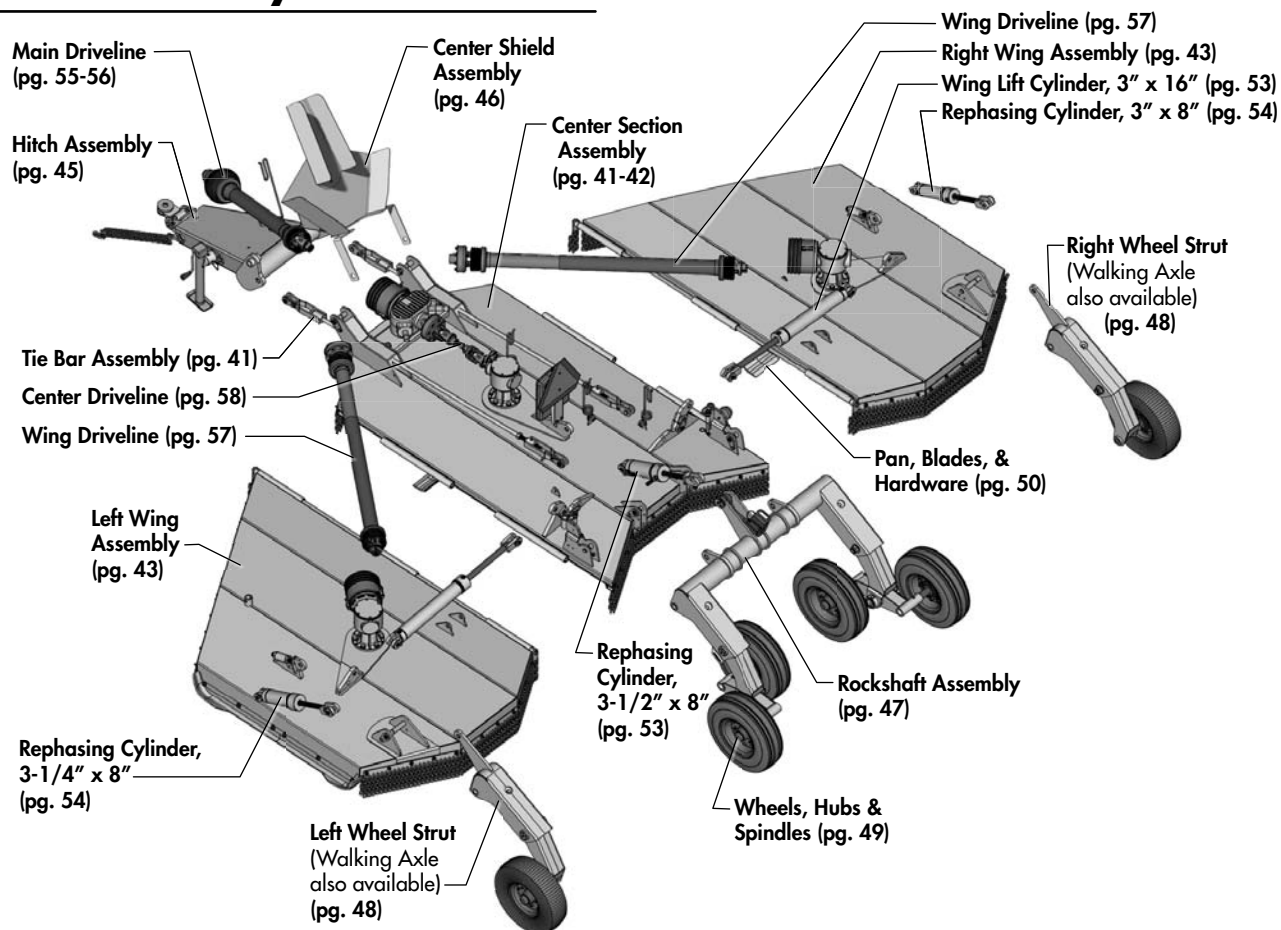
Note: To lower the wing, reverse this procedure.



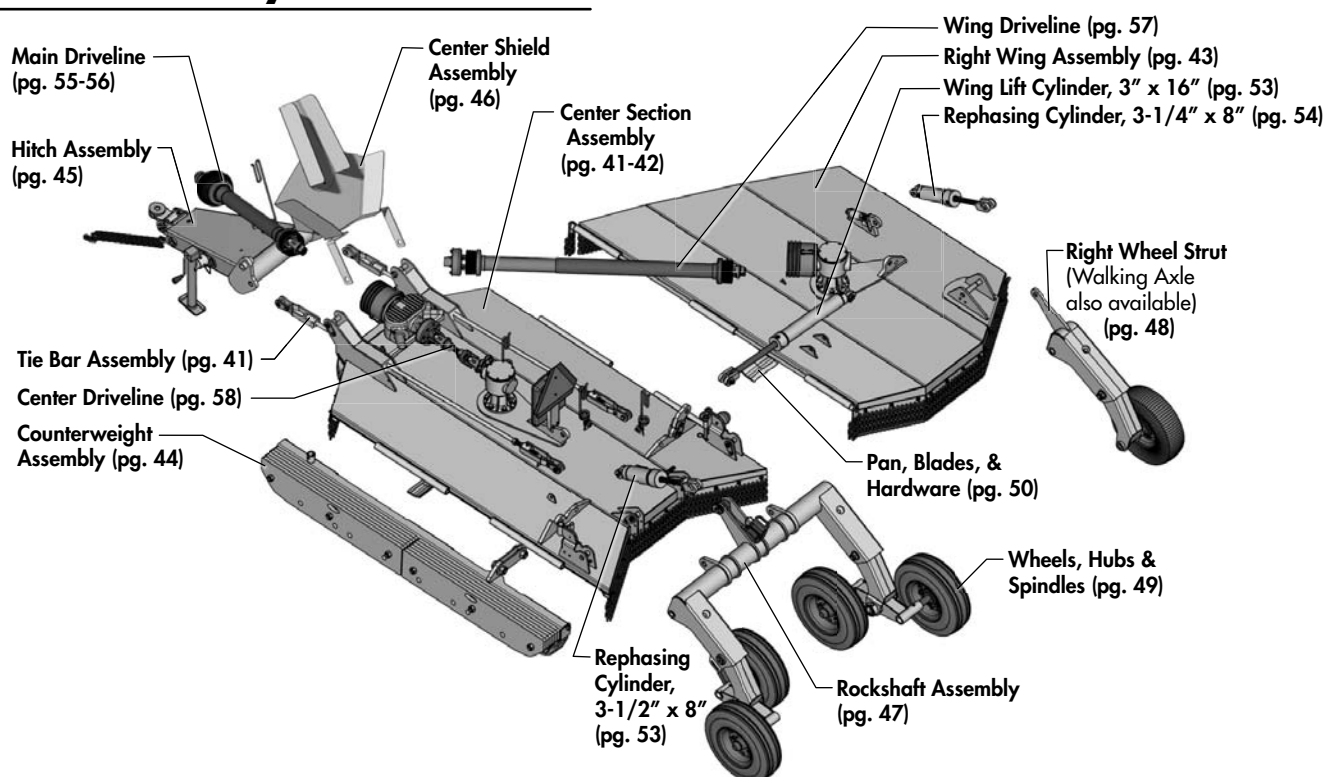


Parts

General Assembly - 1520 Model



General Assembly - 1020 Model



Center Frame Assembly

500800 - Complete Tie Bar, (no pins) (2)

500805 - Tie Bar Clevis, Front (2)

118973 - Bolt, 1/2" x 2-3/4" UNC (4)

500819 - Pin, 1-1/4" x 2-1/16" (4)

118729 - Lock Nut, 1/2" UNC GRC
Unitorque (4)

118110 - Bolt, 5/16" x 1" UNC (4)

118530 - Lock Washer, 5/16" (4)

118731 - Flat Washer, 5/16" SAE (4)

160004 - Cone Shield, 9" Diameter (1)

Use non-removable loctite
when replacing splitter box
bolt hardware.

118843 - Roll Pin,
1/4" x 1-1/2" (2)

118456 - Lock Nut, 1" UNC (2)

131020 - Flat Washer, 1" SAE (2)

500801 - Tie Bar Rod, 1" x 80" (2)

118447 - Locknut, 5/8" (4)

118537 - Flat Washer, 5/8" (4)

117453 - Setscrew, 5/8" x 2-1/2" (4)

170011 - Splitter Gearbox 1000 RPM

OR

170021 - Splitter Gearbox 540 RPM

See
Detail

Center Driveline
160003 - (1000 RPM)
OR
160005 - (540 RPM)

See Detail

118009 - Bolt, 1/2" x 1-1/4" UNC (2)

500813 - Pin, 1-1/4" x 4-7/8" (2)

118729 - Lock Nut, 1/2" UNC GRC Unitorque (2)

118901 - Lynch Pin, 3/16" x 1-1/2" (2)

133088 - Cap,
plastic (1)

See
Detail

118336 - Grease Fitting, 1/4" (2)

118843 - Roll Pin, 1/4"
x 1-1/2" (2)

500804 - Tie Bar Clevis,
Rear - Threaded (2)

118495 - Jam Nut, 1" Heavy (2)

See
Detail

500100 - Center
Frame

See Detail

500910 - Cable, 1/4"
x 18" (1)

500600 - 3 Bolt Chain
Safety Bar (1)

118378 - Bolt, 5/8" x 1-3/4" (6)

118447 - Lock Nut, 5/8" GRC-Unitorque (6)

500853 - Center Skid Shoe (2)

118964 - Carriage Bolt, 3/8" x 3" (23)

118511 - Flat Washer, 3/8" (23)

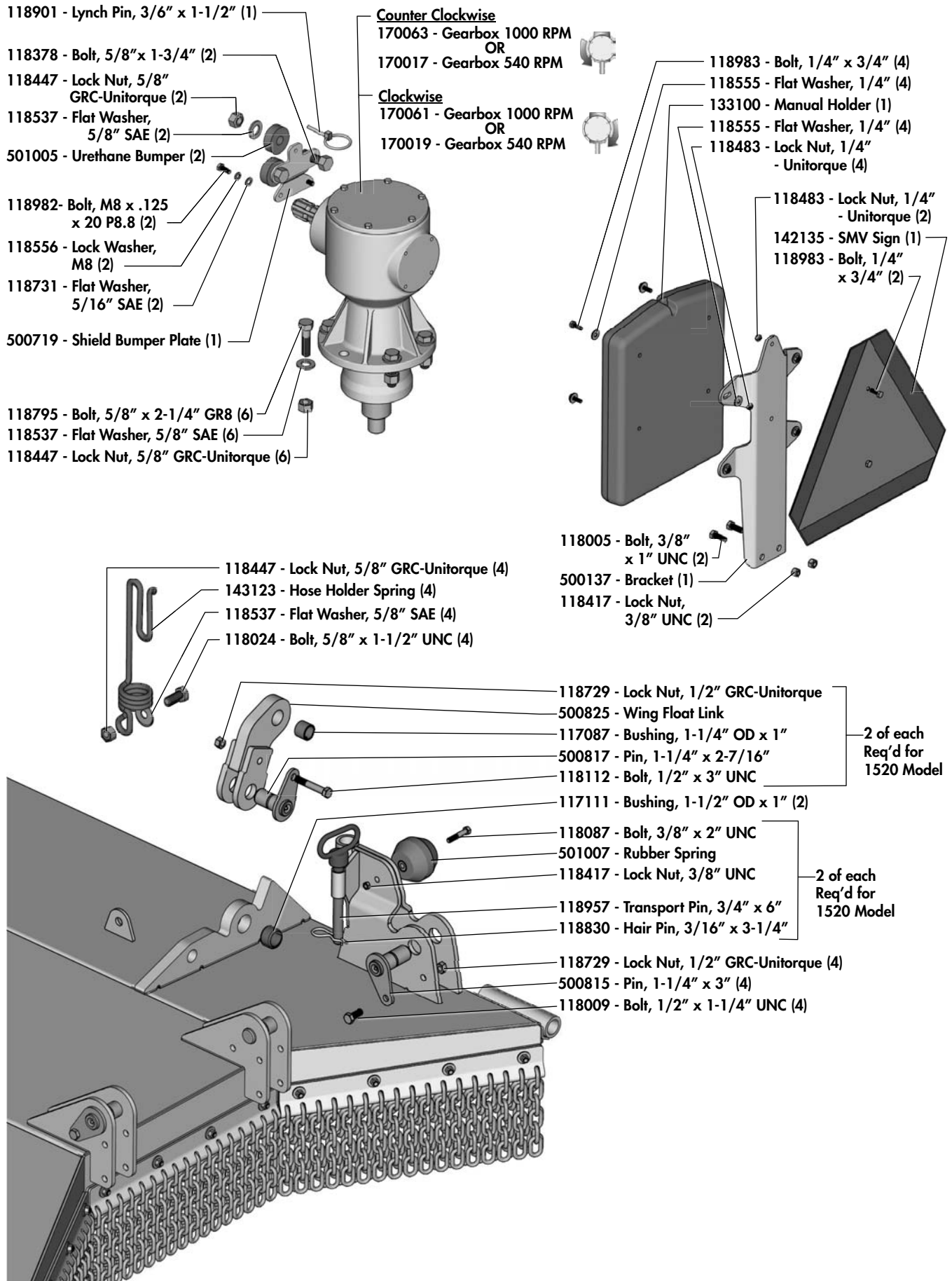
118417 - Lock Nut 3/8" UNC GR5 (23)

500604 - 4 Bolt Chain
Safety Bar (5)

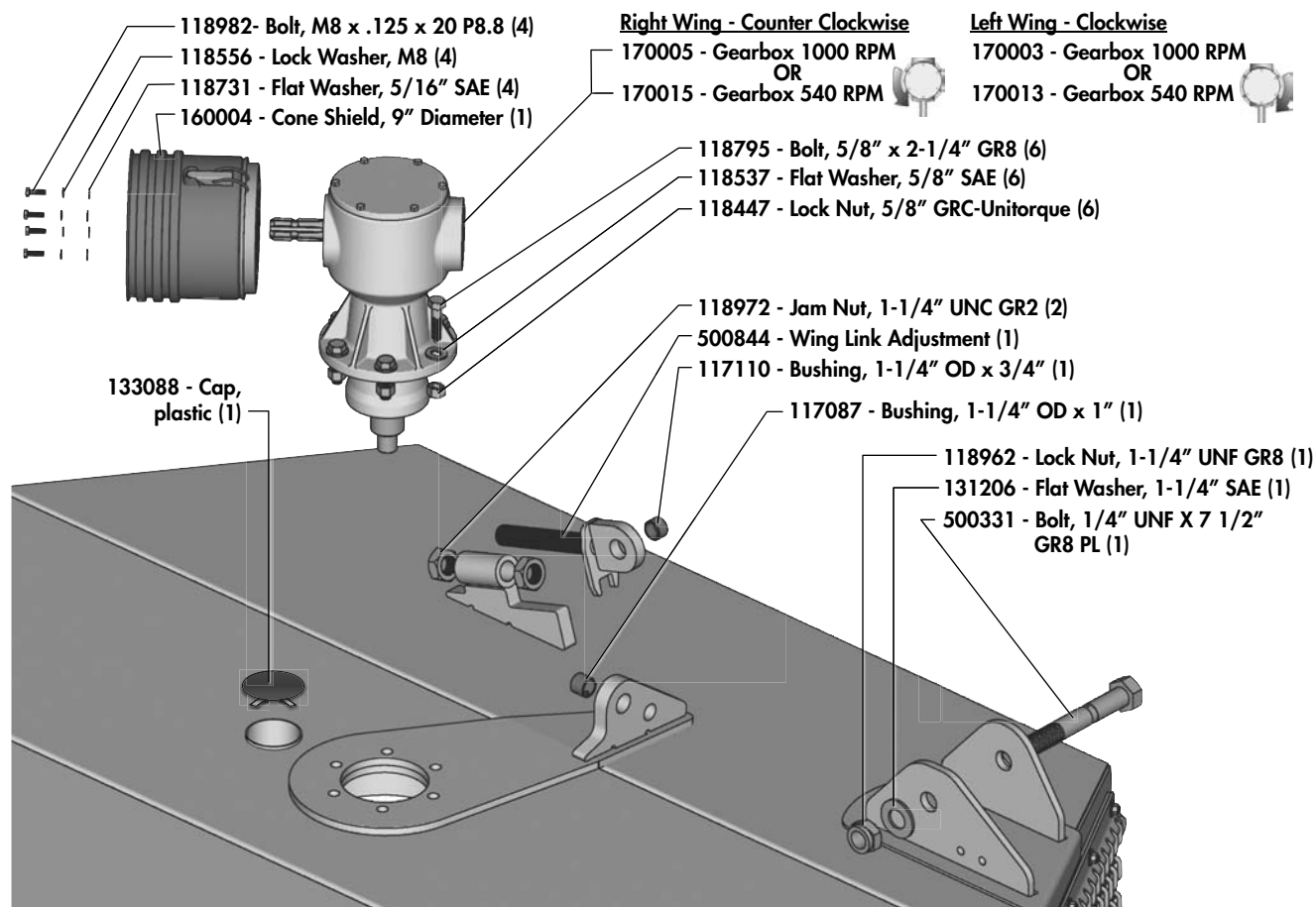
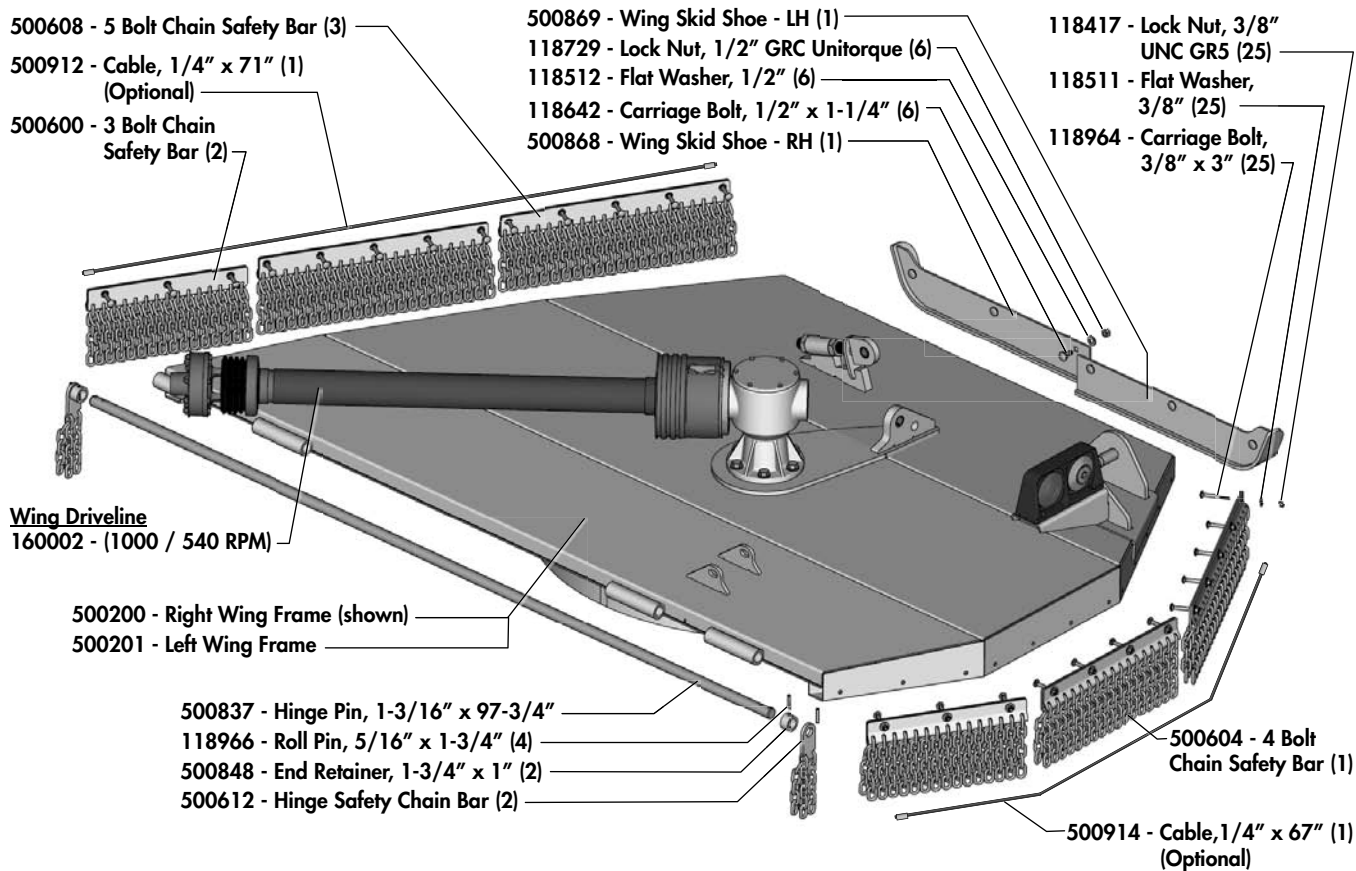
500913 - Cable, 1/4" x 65" (1)
(Optional)

500911 - Cable, 1/4" x 21" (2)
(Optional)

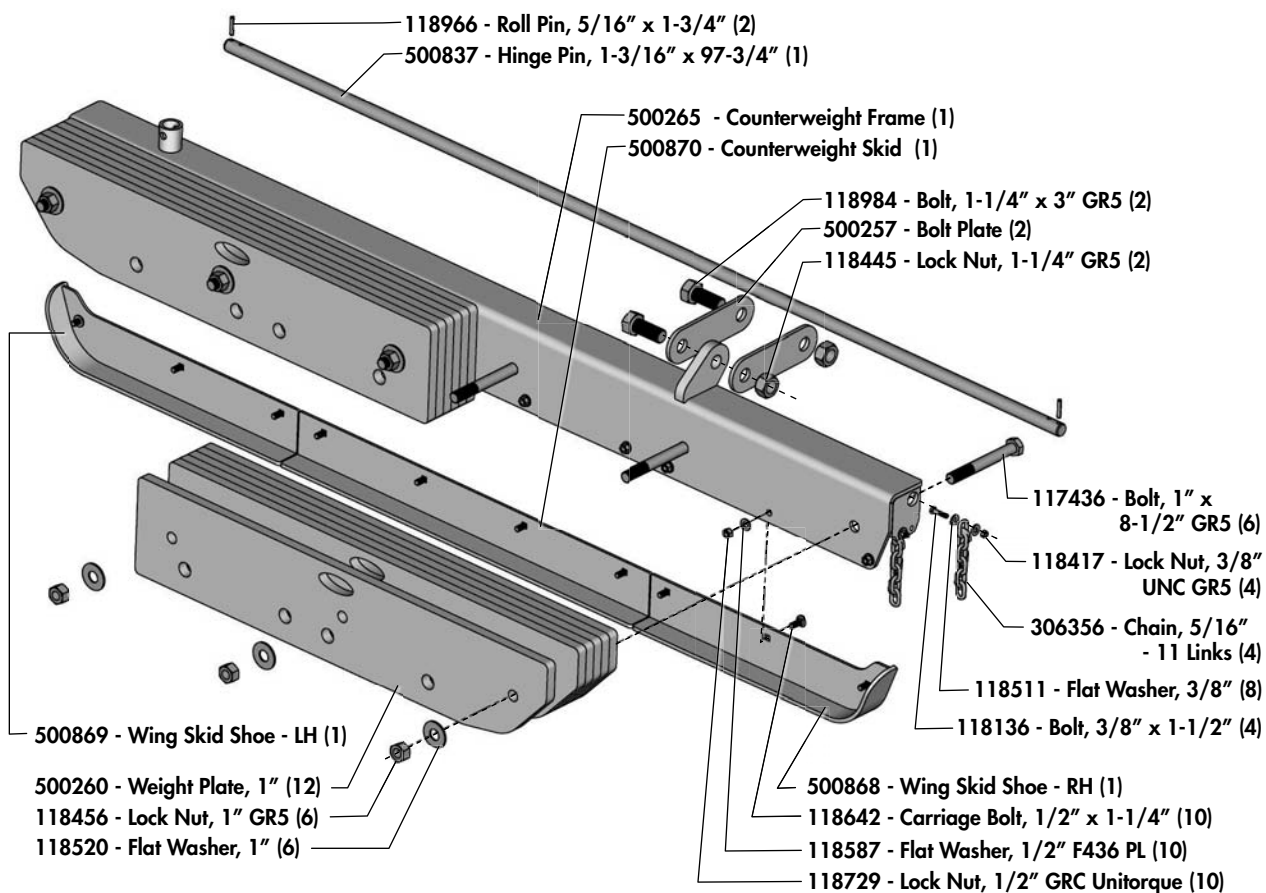
Center Frame Assembly



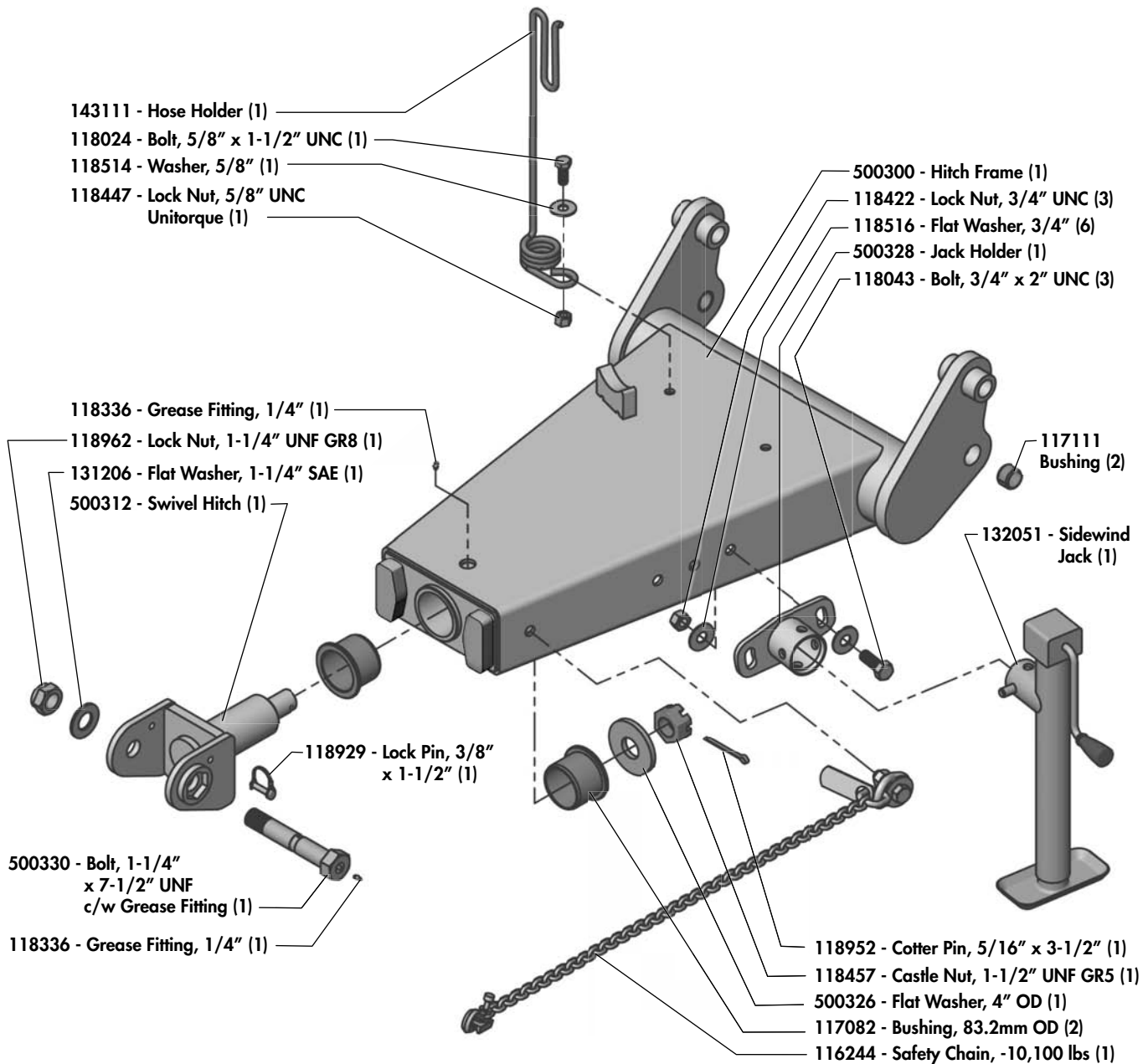
Right / Left Wing Assembly (Right Wing Assembly Shown)



Counterweight Assembly (1020 Model Only)



Hitch Assembly



Precision Hitch Assembly

500340 - Precision Hitch Assembly

- includes -

118965 - Bolt, 1-1/4" x 5-1/2" UNF GR8 (1)

500325 - Washer, 4" OD (1)

118951 - Retaining Ring, 2" Ext. (1)

500318 - Hitch Tongue (1)

- includes -

118950 - Bushing, 2-1/2" OD (1)

118336 - Grease Fitting, 1/4" (1)

500324 - Bushing, 4" OD (1)

500327 - Washer, 3" OD (1)

118962 - Lock Nut, 1-1/4" UNF GR8 (1)

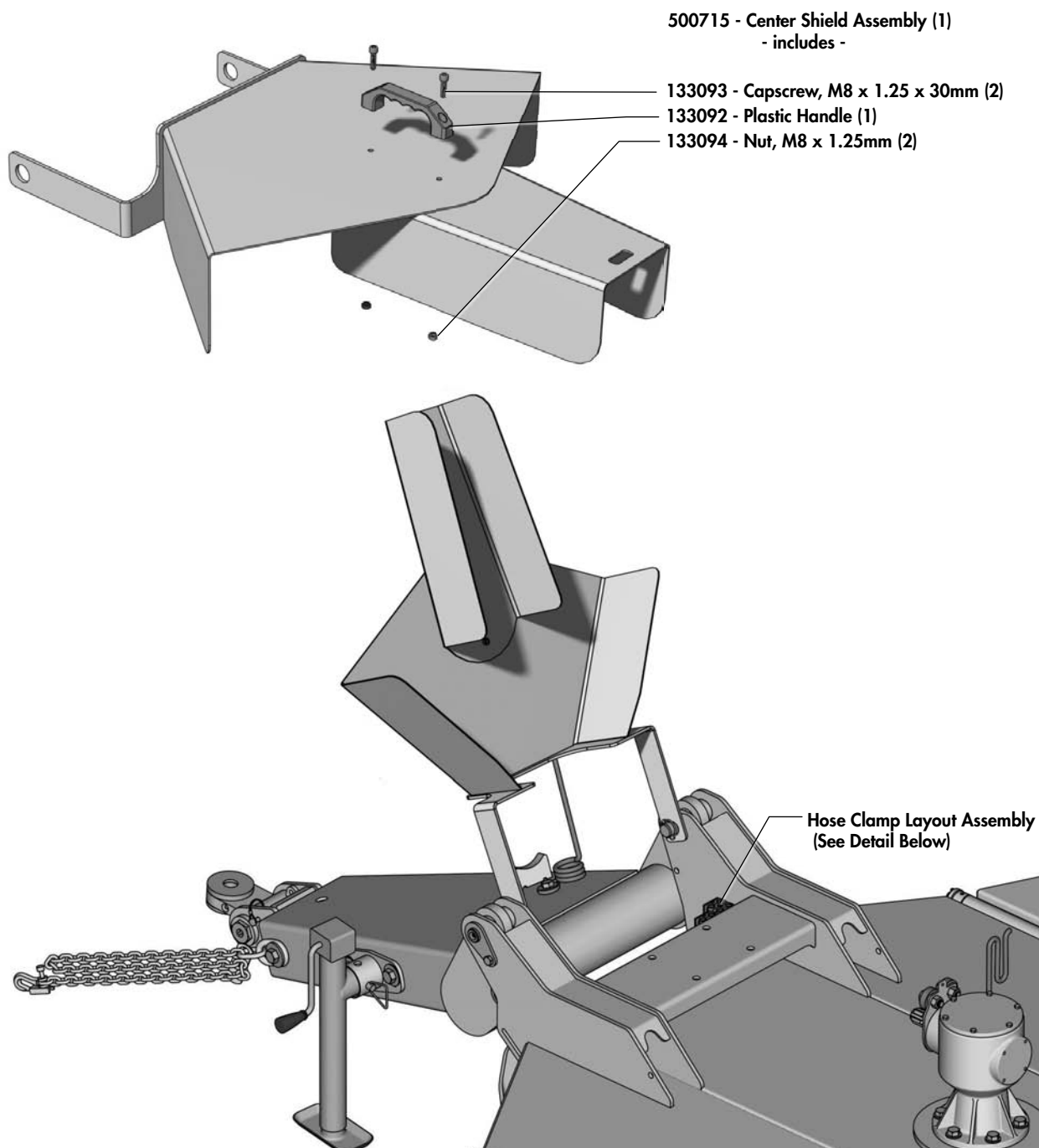
Clevis Hitch Assembly

500335 - Hitch Clevis

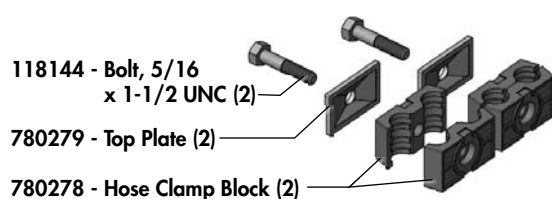
- OR -



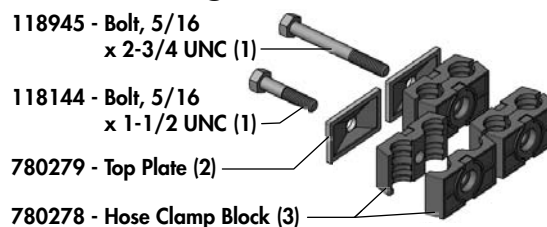
Center Shield and Hydraulic Hose Clamps



Single Acting Hose Clamp Layout



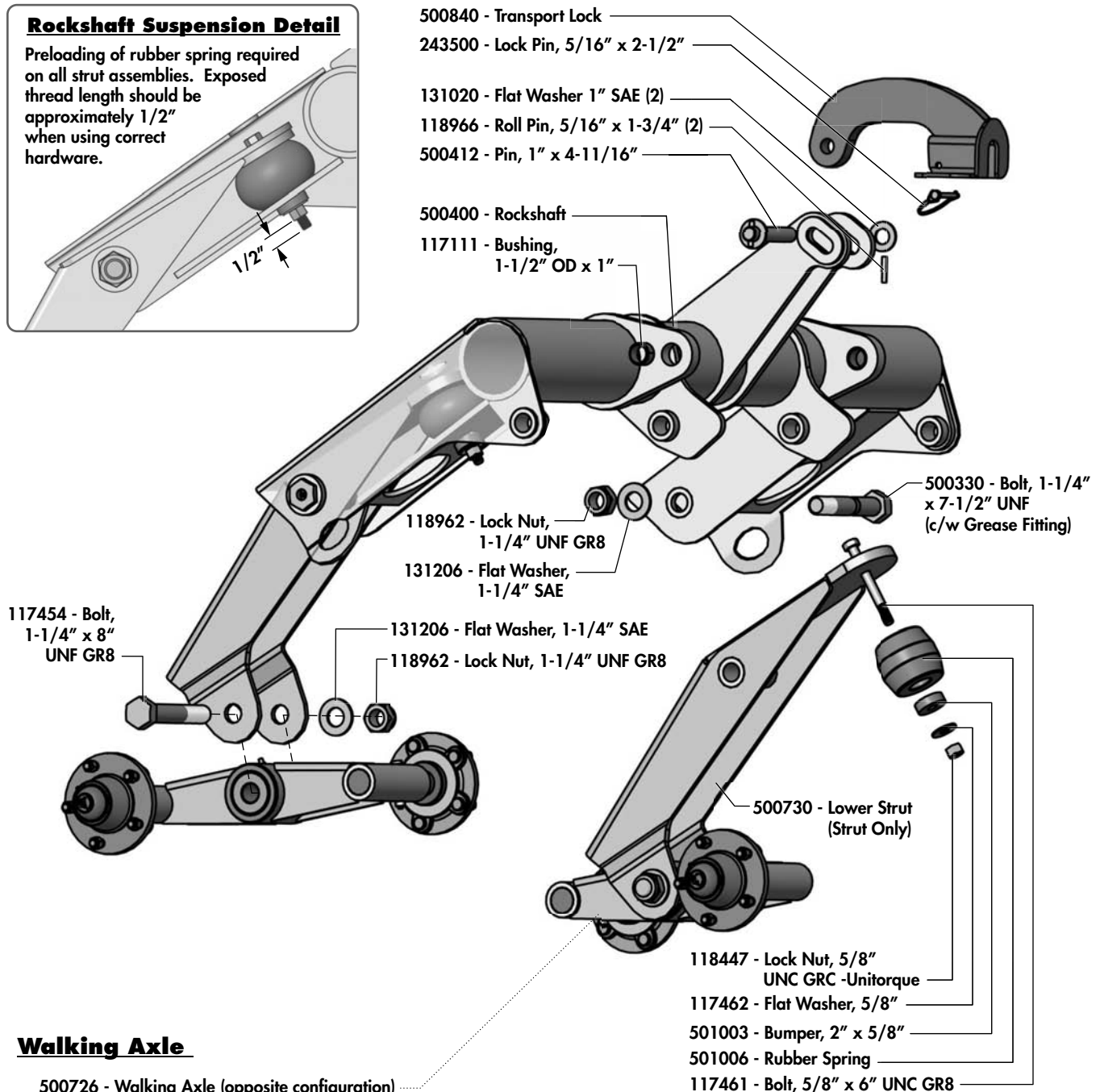
Double Acting Hose Clamp Layout



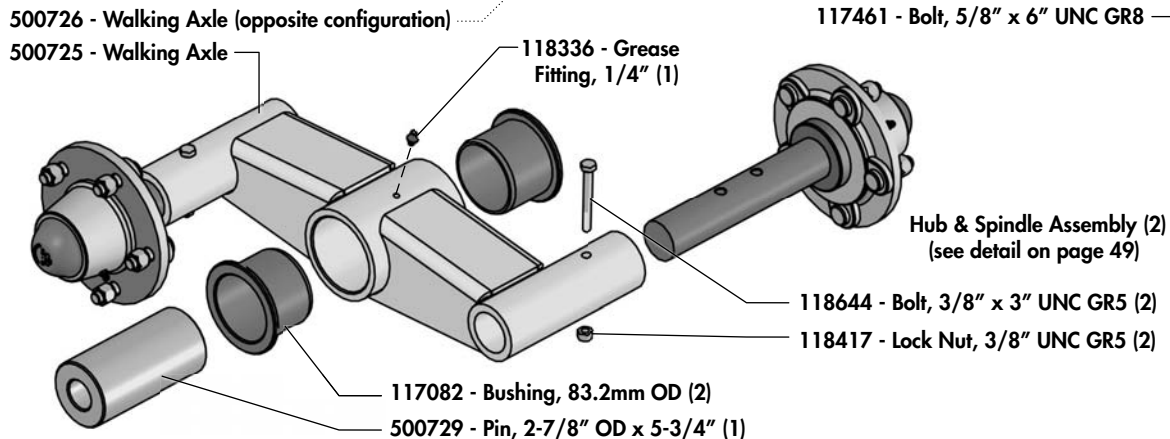
Rockshaft Assembly

Rockshaft Suspension Detail

Preloading of rubber spring required on all strut assemblies. Exposed thread length should be approximately 1/2" when using correct hardware.



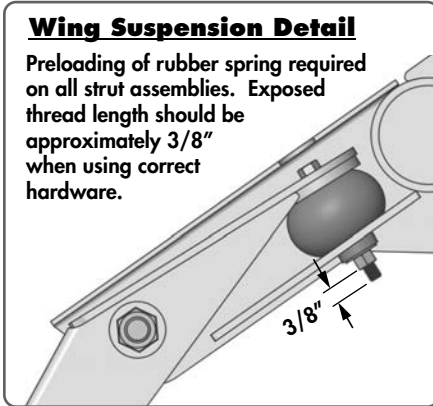
Walking Axle



Wheel Strut Assemblies

Wing Suspension Detail

Preloading of rubber spring required on all strut assemblies. Exposed thread length should be approximately 3/8" when using correct hardware.

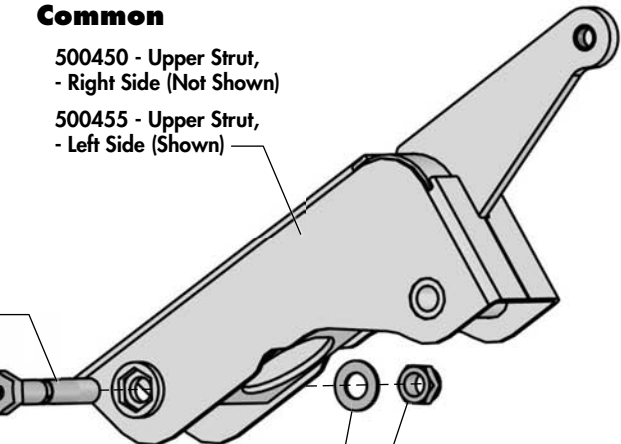


Upper Strut Common

500450 - Upper Strut, - Right Side (Not Shown)

500455 - Upper Strut, - Left Side (Shown)

500330 - Bolt, 1-1/4" x 7-1/2" UNF (c/w Grease Fitting)



131206 - Flat Washer, 1-1/4" SAE

118962 - Lock Nut, 1-1/4" UNF GR8

Suspension Components

117461 - Bolt, 5/8" x 6" UNC GR8

501006 - Rubber Spring

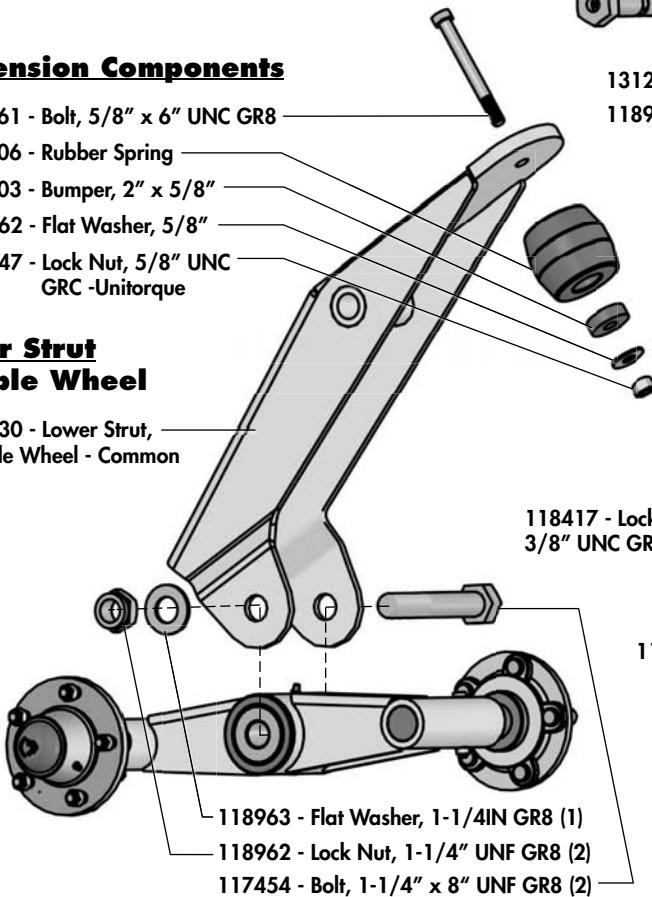
501003 - Bumper, 2" x 5/8"

117462 - Flat Washer, 5/8"

118447 - Lock Nut, 5/8" UNC GRC -Unitorque

Lower Strut Double Wheel

500730 - Lower Strut, Double Wheel - Common



118963 - Flat Washer, 1-1/4IN GR8 (1)

118962 - Lock Nut, 1-1/4" UNF GR8 (2)

117454 - Bolt, 1-1/4" x 8" UNF GR8 (2)

Lower Strut Single Wheel

500735 - Lower Strut, Single Wheel

118417 - Lock Nut, 3/8" UNC GR5

118644 - Bolt, 3/8" x 3" UNC GR5

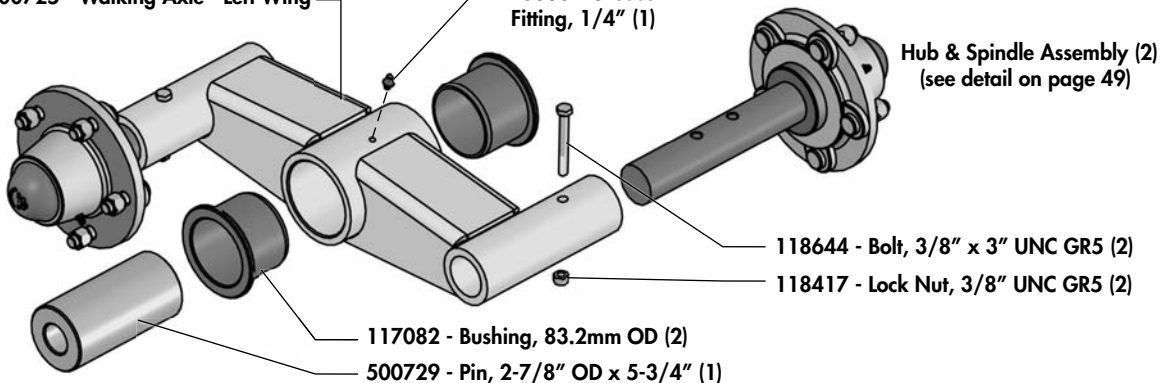
Hub & Spindle Assembly (see Detail on page 49)

Walking Axle

500726 - Walking Axle - Right Wing (not shown)

500725 - Walking Axle - Left Wing

118336 - Grease Fitting, 1/4" (1)



Hub & Spindle Assembly (2) (see detail on page 49)

118644 - Bolt, 3/8" x 3" UNC GR5 (2)

118417 - Lock Nut, 3/8" UNC GR5 (2)

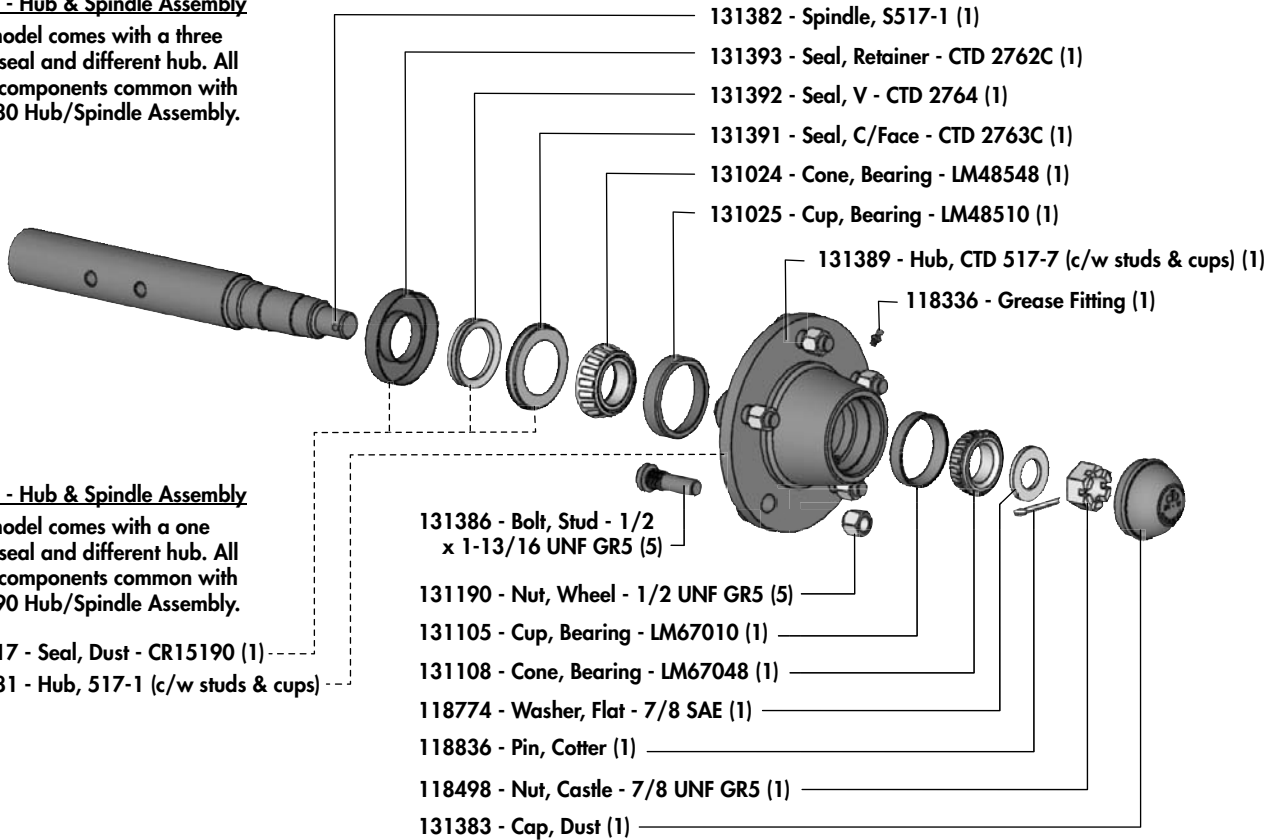
117082 - Bushing, 83.2mm OD (2)

500729 - Pin, 2-7/8" OD x 5-3/4" (1)

Hub & Spindle

131390 - Hub & Spindle Assembly

This model comes with a three piece seal and different hub. All other components common with 131380 Hub/Spindle Assembly.



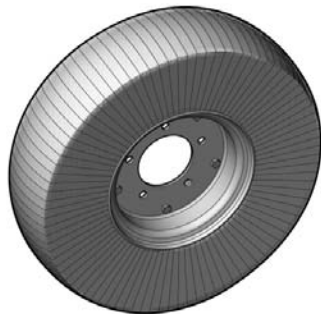
131380 - Hub & Spindle Assembly

This model comes with a one piece seal and different hub. All other components common with 131390 Hub/Spindle Assembly.

131117 - Seal, Dust - CR15190 (1)
131381 - Hub, 517-1 (c/w studs & cups)

Wheels

131315 - Laminated Tire



131384 - Recapped Foam Filled Aircraft Tire

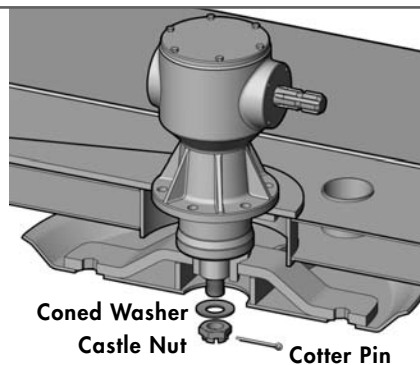
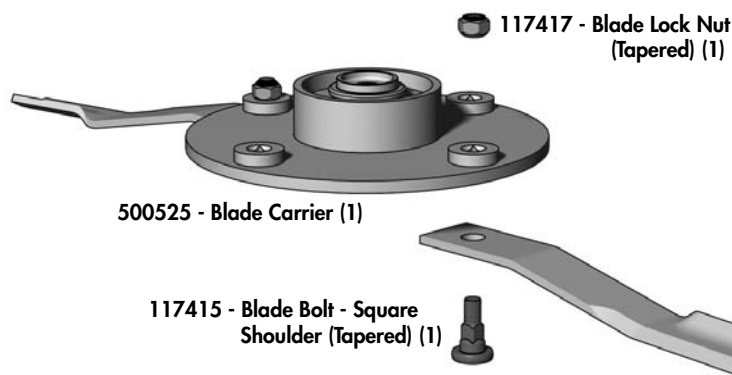
131385 - Recapped Air Filled Aircraft Tire (Pneumatic)



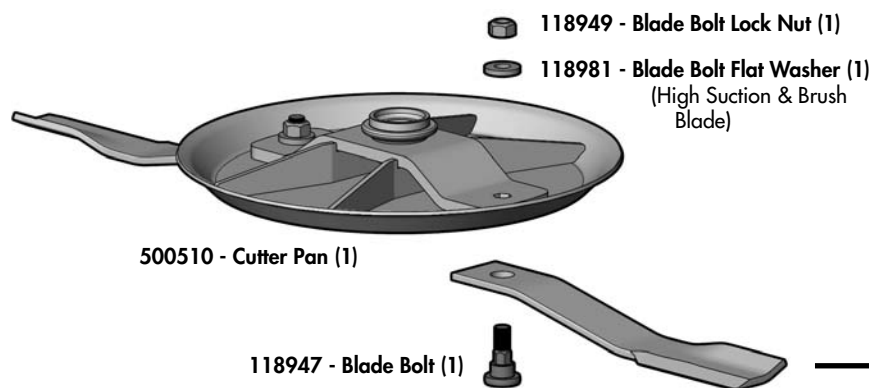
Blades, Pan, & Hardware

Note: See Gearbox Details pg. 60-64 for correct Cutter Pan Mounting Hardware including nuts, coned washers, & cotter pins.

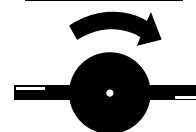
Standard Blade Carrier Assembly



Optional Skid Pan Assembly

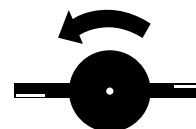


Clockwise Blades



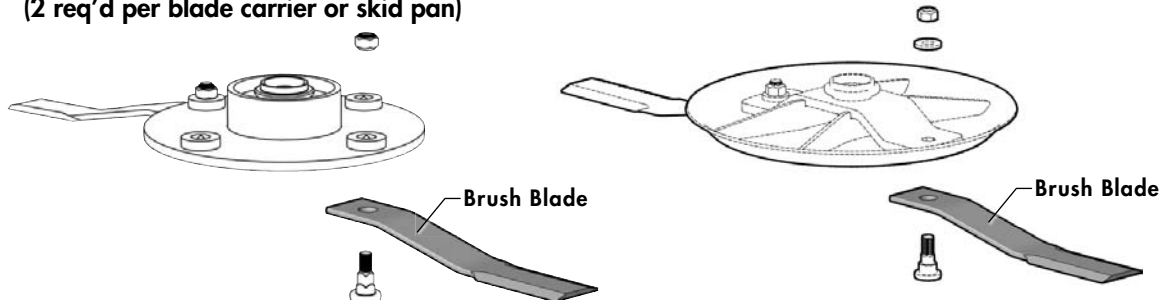
- 501015 - 4" High Suction Blade (1)
- 501029 - 4" High Suction- Twist (1)
- 501025 - 5" High Suction Blade (1)
- 501027 - 5" High Suction- Twist (1)

Counter Clockwise Blades

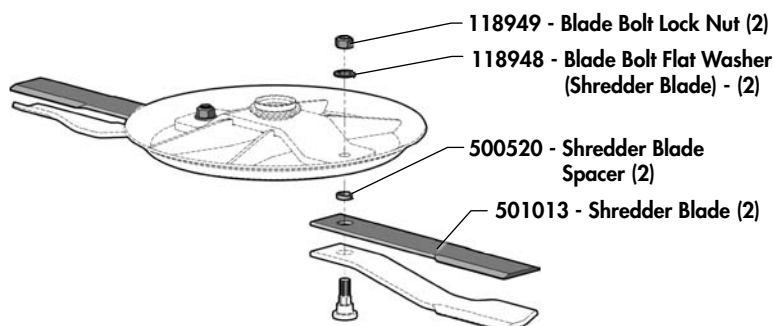


- 501016 - 4" High Suction Blade (1)
- 501030 - 4" High Suction- Twist (1)
- 501026 - 5" High Suction Blade (1)
- 501028 - 5" High Suction- Twist (1)

501012 Brush Blade - bidirectional (2 req'd per blade carrier or skid pan)



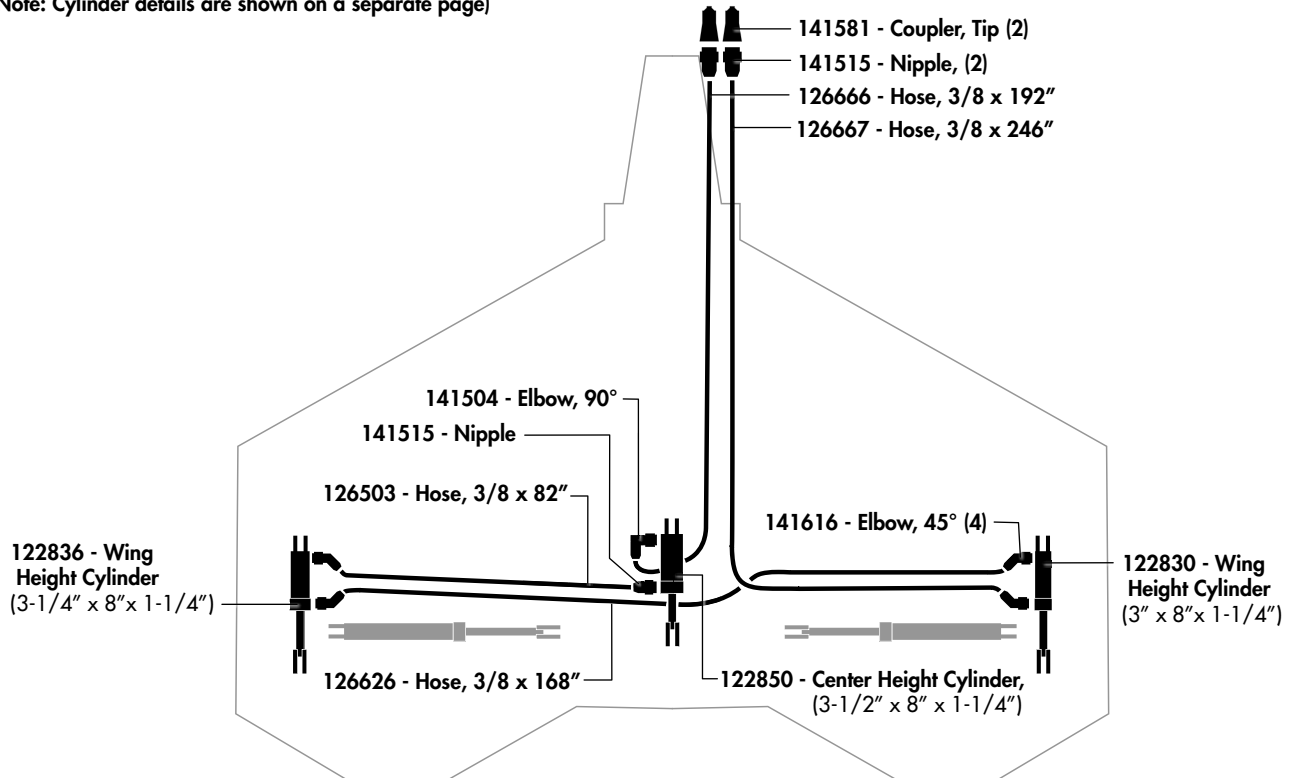
501532 Shredder Blade Kit (skid pan only)



Hydraulic Schematics

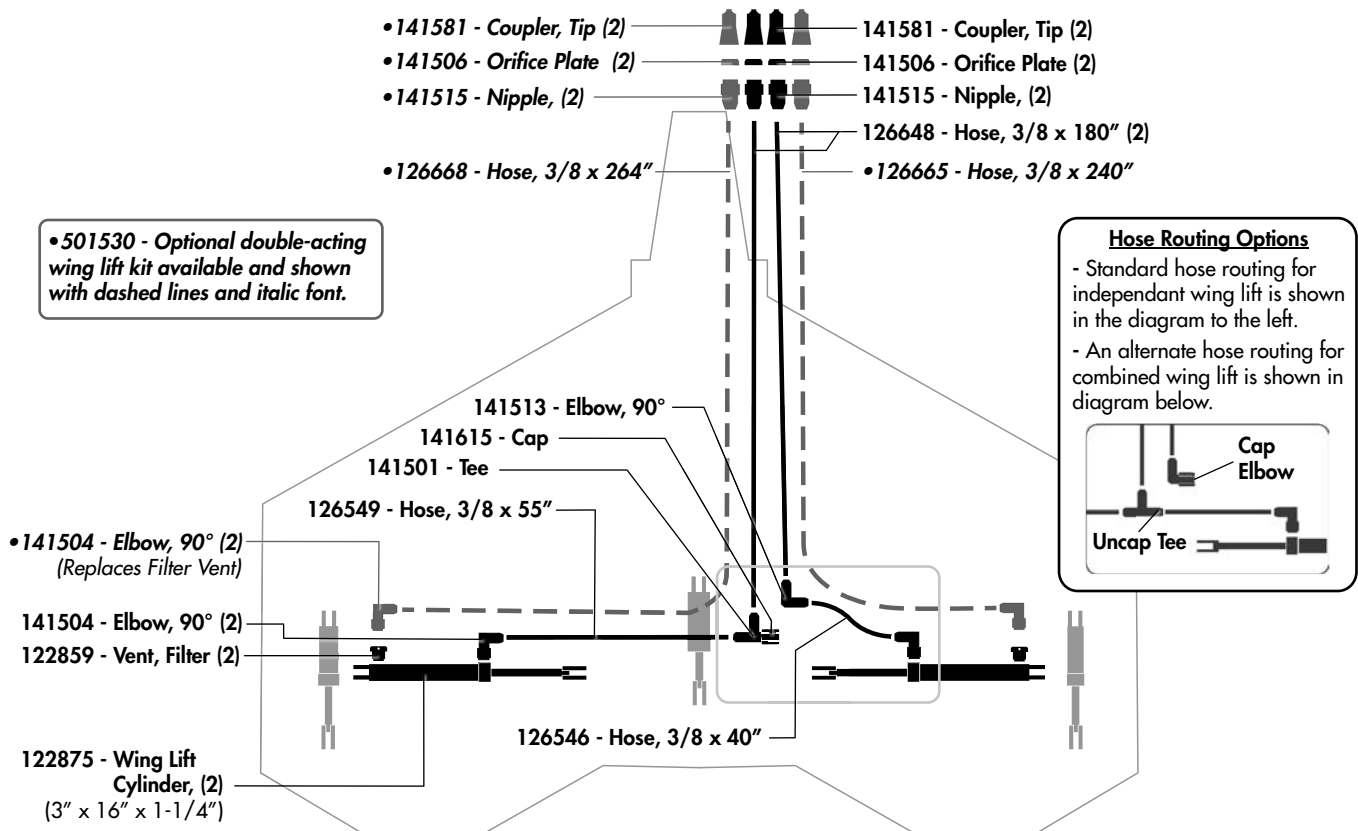
Height Control Cylinders - 1520 Model

(Note: Cylinder details are shown on a separate page)



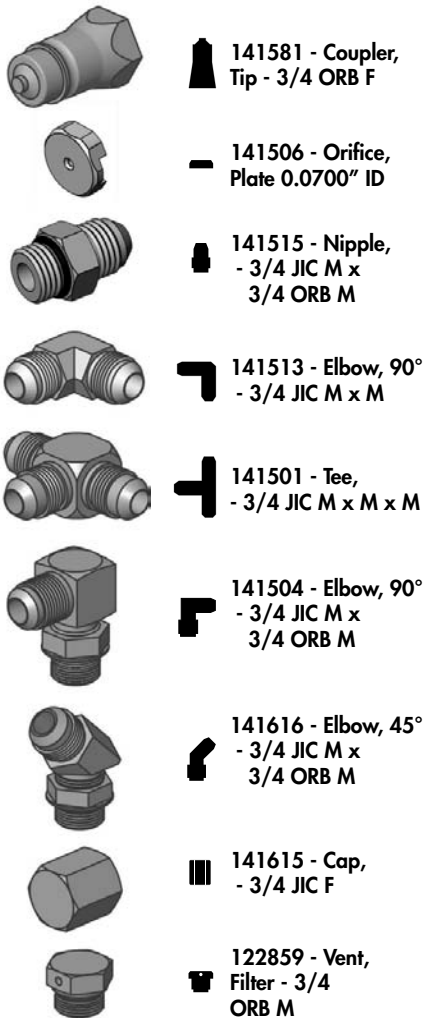
Wing Lift Cylinders - 1520 Model

(Note: Cylinder details are shown on a separate page)



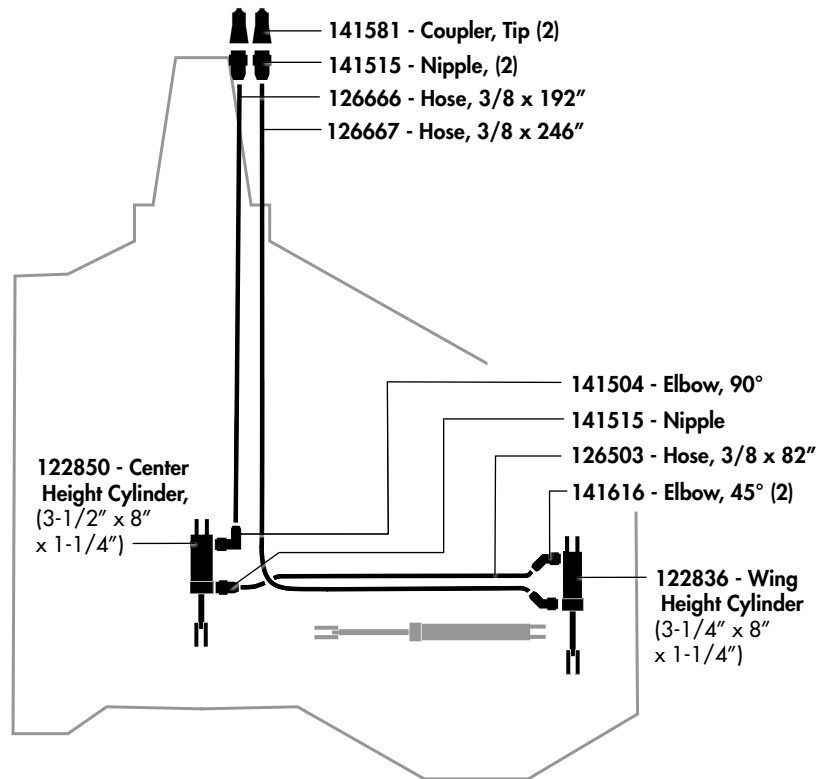
Hydraulic Schematics

Hydraulic Fitting Guide



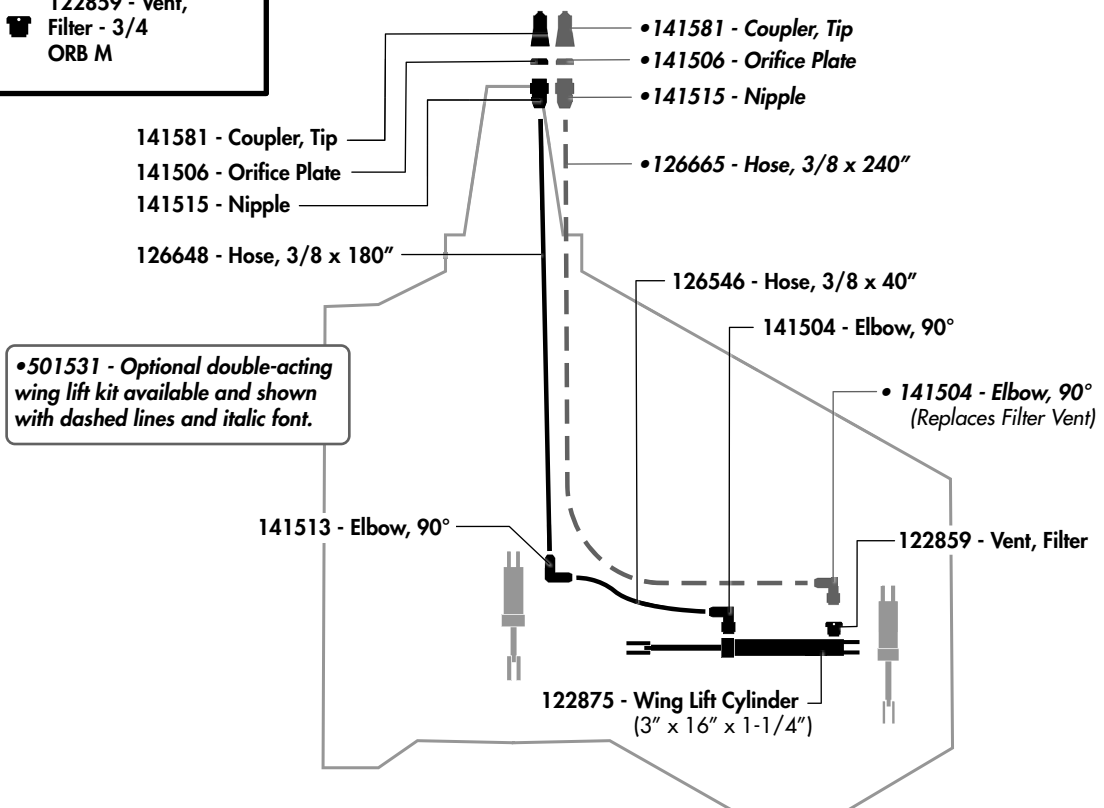
Height Control Cylinders - 1020 Model

(Note: Cylinder details are shown on a separate page)



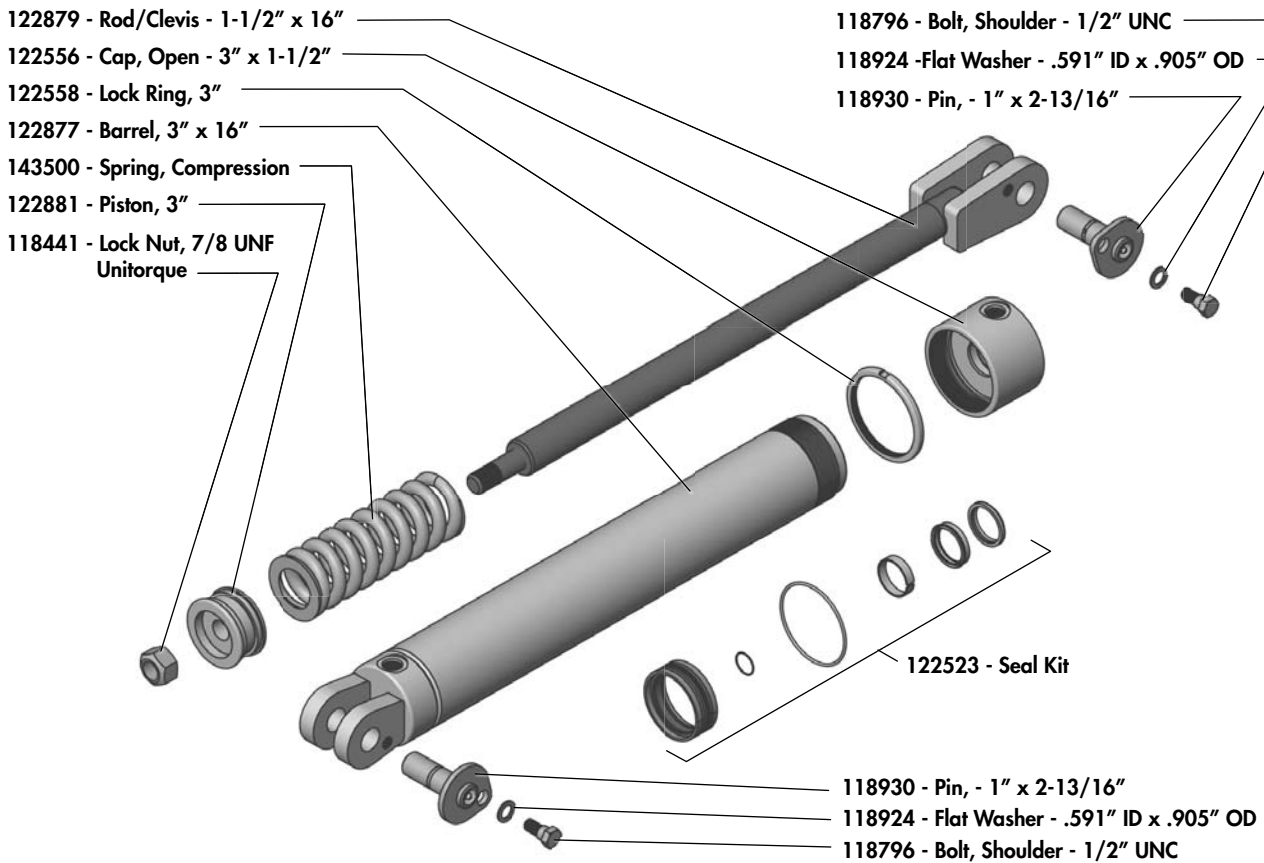
Wing Lift Cylinders - 1020 Model

(Note: Cylinder details are shown on a separate page)

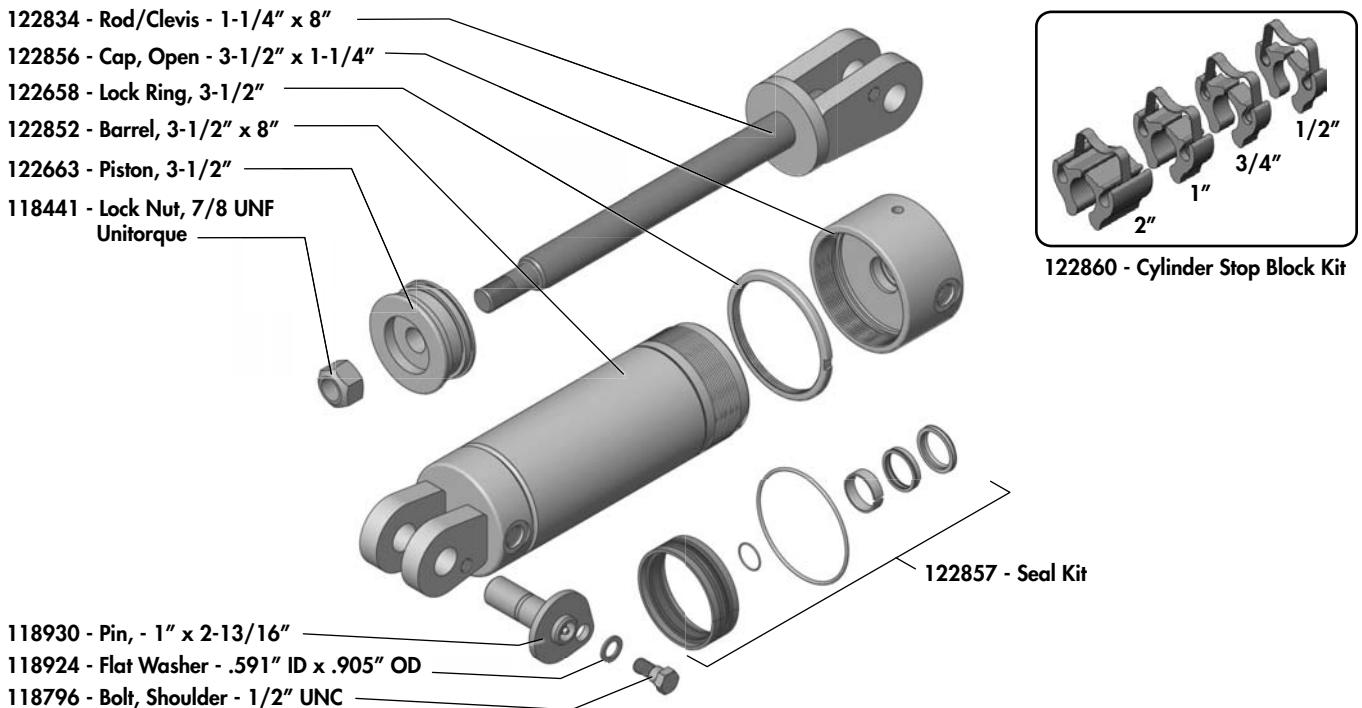


Cylinders

122875 - Wing Lift Cylinder (with Internal Compression Spring) - 3" x 16" x 1-1/2"

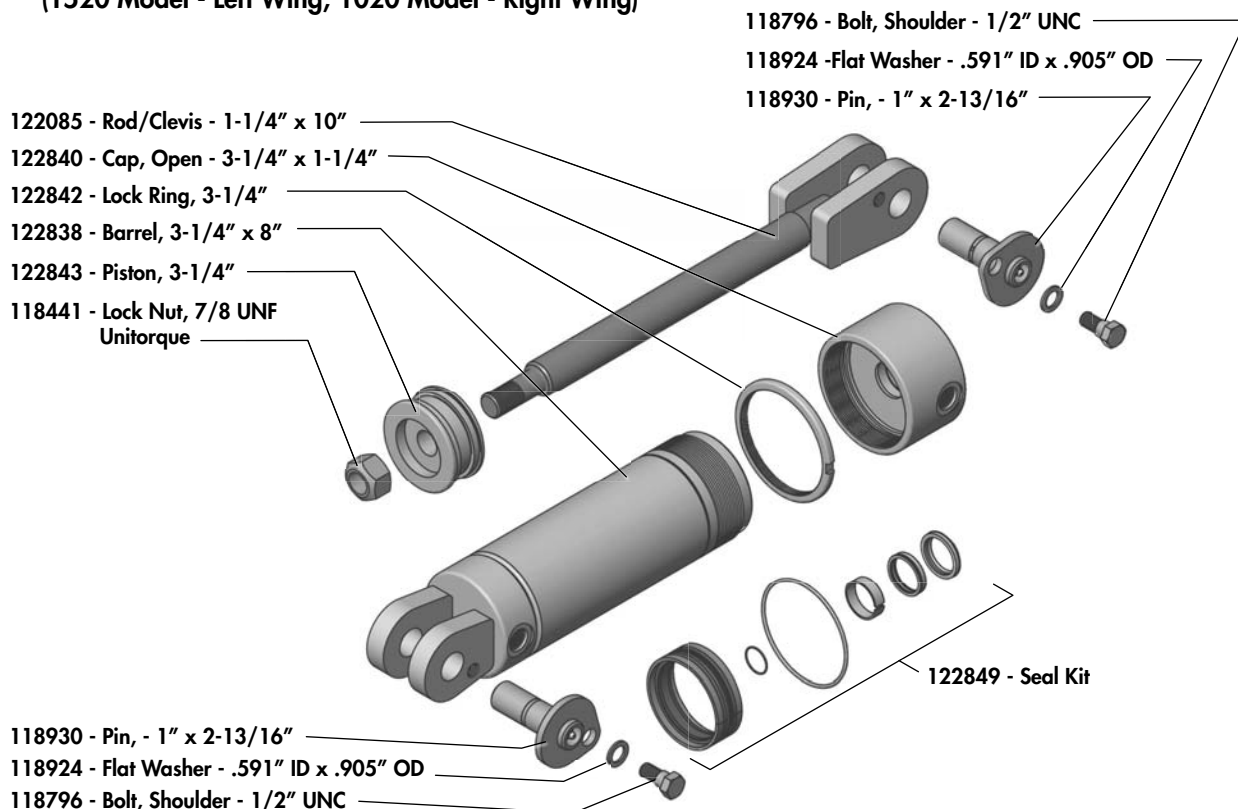


122850 - Center Height Control Cylinder (with Rephasing Grooves) - 3-1/2" x 8" x 1-1/4"

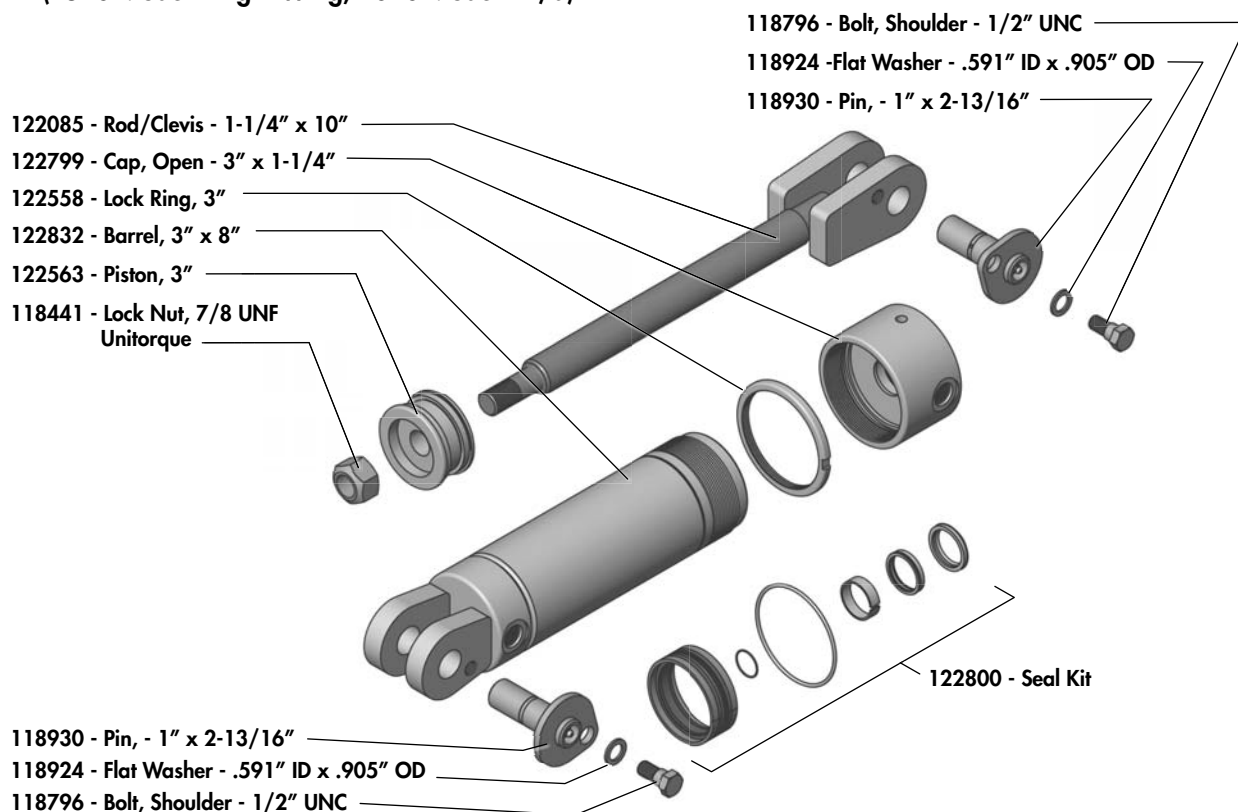


Cylinders

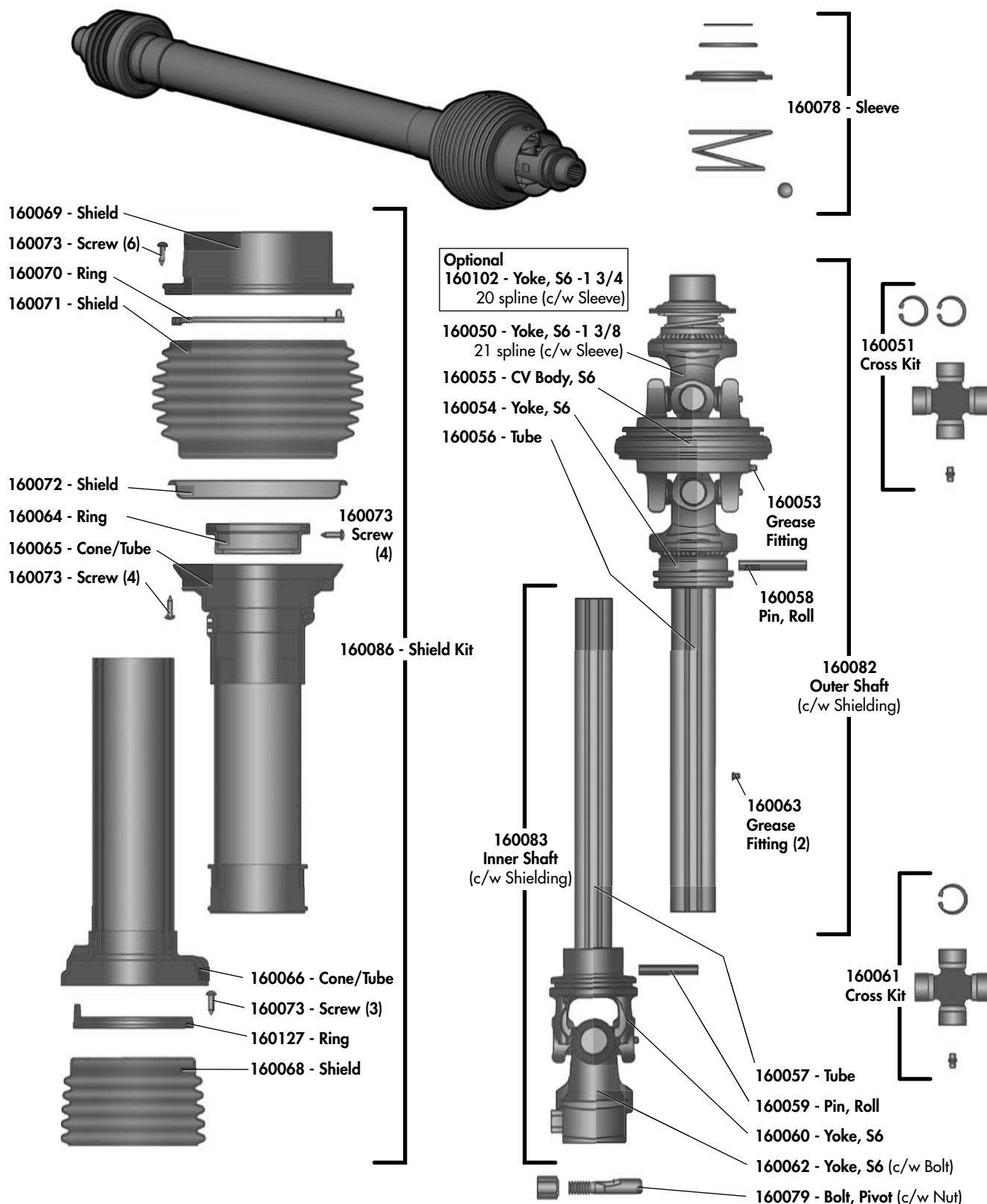
122836 - **Wing Height Control Cylinder** (with Rephasing Grooves) - 3-1/4" x 8" x 1-1/4" (1520 Model - Left Wing, 1020 Model - Right Wing)



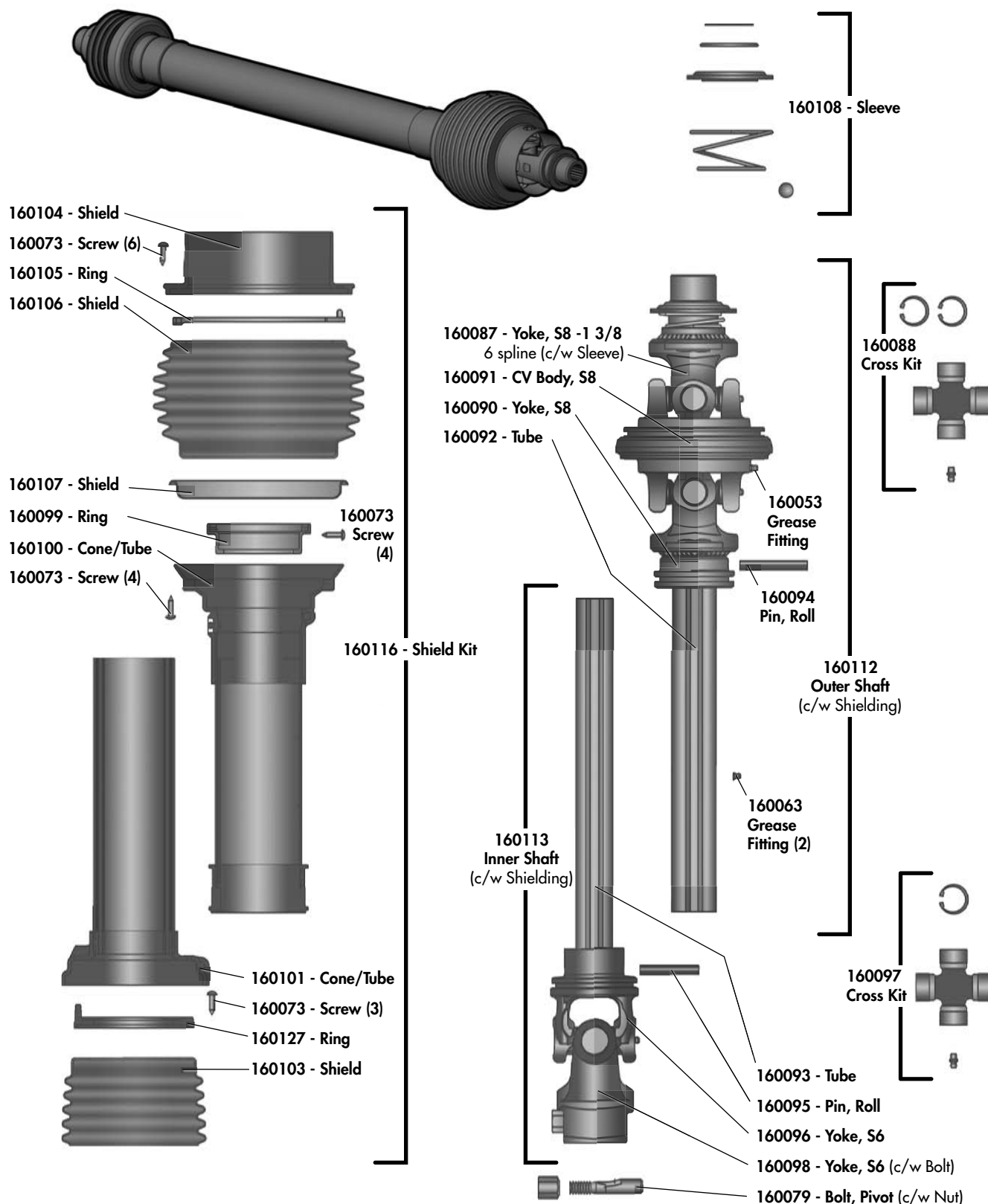
122830 - **Wing Height Control Cylinder** (with Rephasing Grooves) - 3" x 8" x 1-1/4" (1520 Model - Right Wing, 1020 Model - n/a)



160000 - 1000 PTO Driveline - Main Driveline with 80° CV Joint - B&P SFT S6



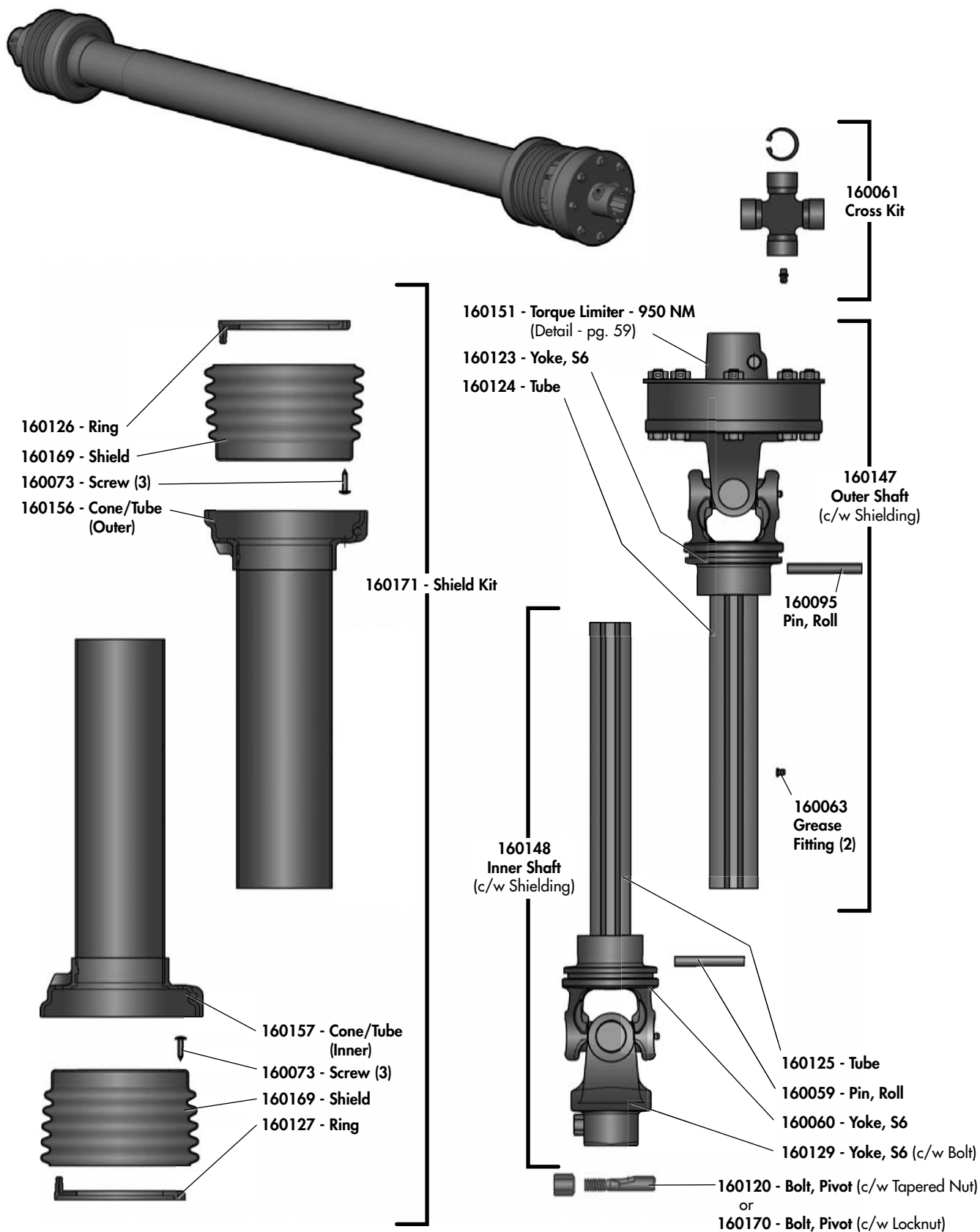
160001 - 540 PTO Driveline - Main Driveline with 80° CV Joint - B&P SFT S8



Drivelines

160010 - 540/1000 PTO Driveline - Wing Driveline with Torque Limiter - B&P SFT S6

540
1000

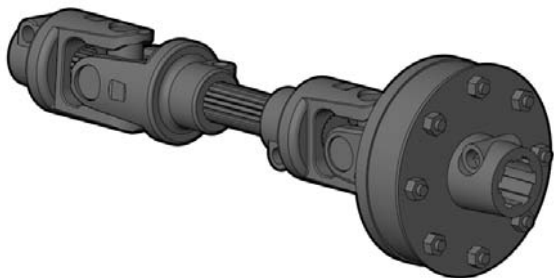


Drivelines

160003 - **1000 PTO Driveline - Center**
Driveline with 950 NM Torque Limiter - B&P S5

160005 - **540 PTO Driveline - Center**
Driveline with 1450 NM Torque Limiter - B&P S5

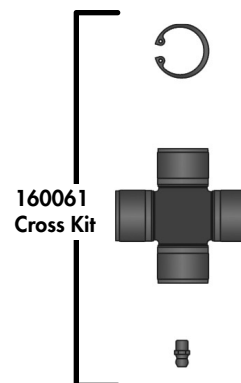
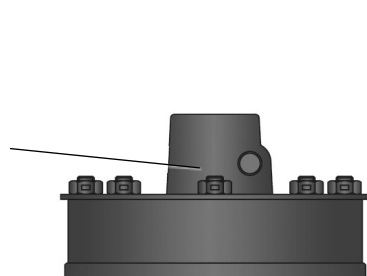
540
1000



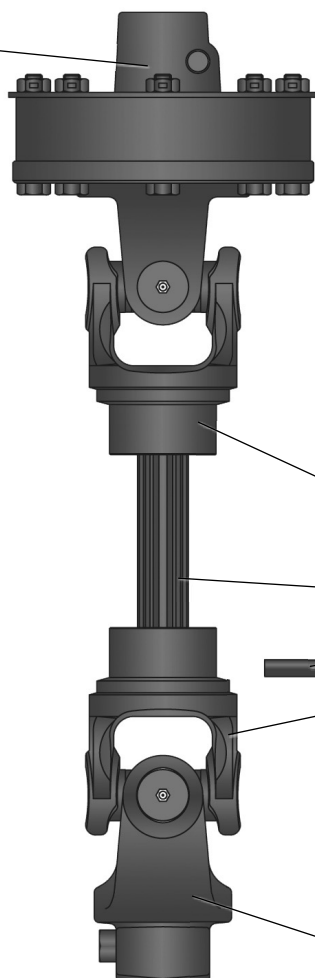
160151 - Torque Limiter - 950 NM
1000 PTO Driveline
(Detail - pg. 59)

- OR -

160155 - Torque Limiter - 1450 NM
540 PTO Driveline
(Detail - pg. 59)



160061
Cross Kit



160122 - Yoke, S5

160152 - Spline, Male

160153 - Pin, Roll

160122 - Yoke, S5

160154 - Yoke, S5 (c/w Bolt)

160120 - Bolt, Pivot (c/w Tapered Nut)
or
160170 - Bolt, Pivot (c/w Locknut)

Drivelines

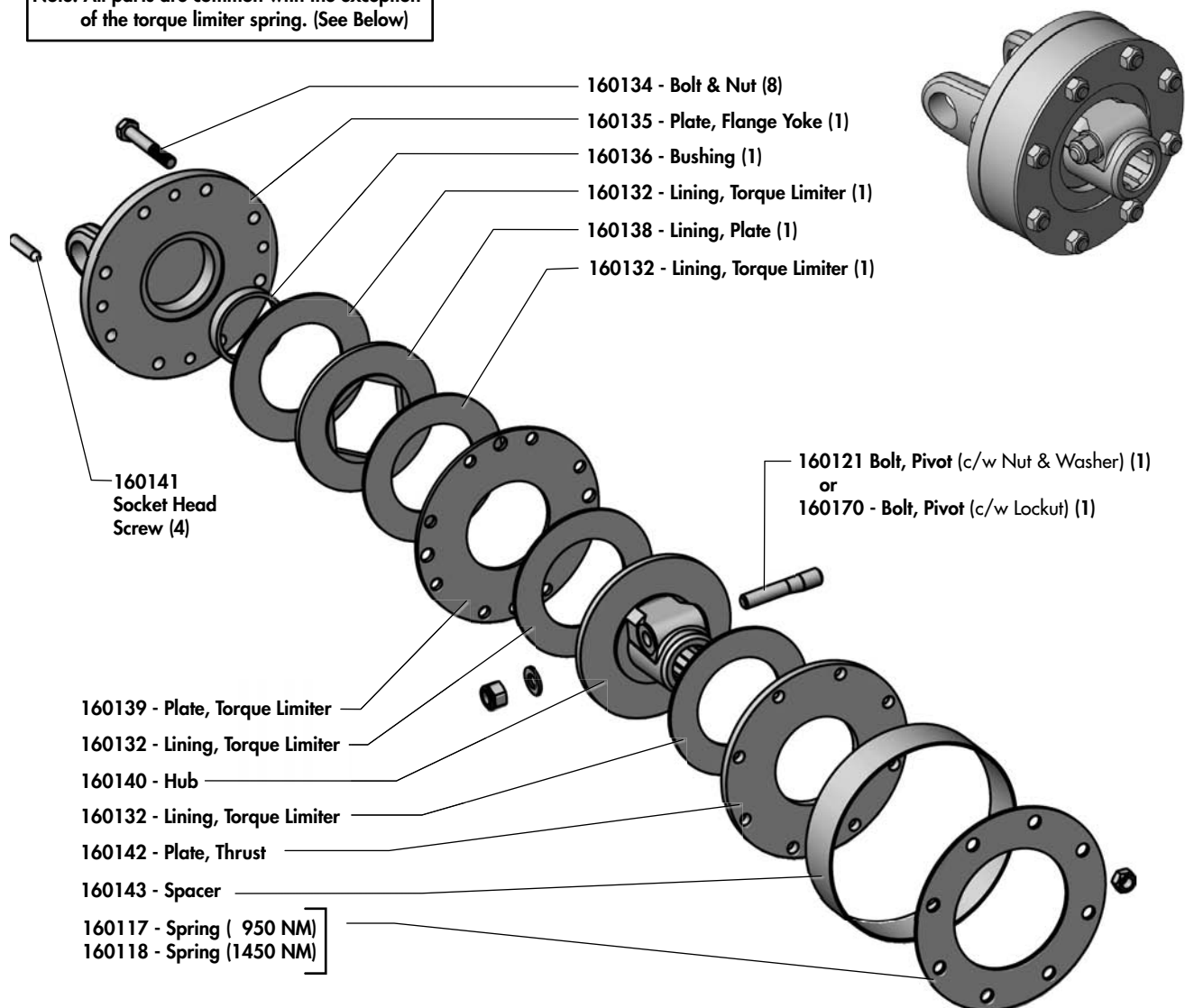
160151 - **Torque Limiter 950 NM - Wing 540/1000 PTO**

950 NM - Center 1000 PTO

160155 - **Torque Limiter 1450 NM - Center 540 PTO**

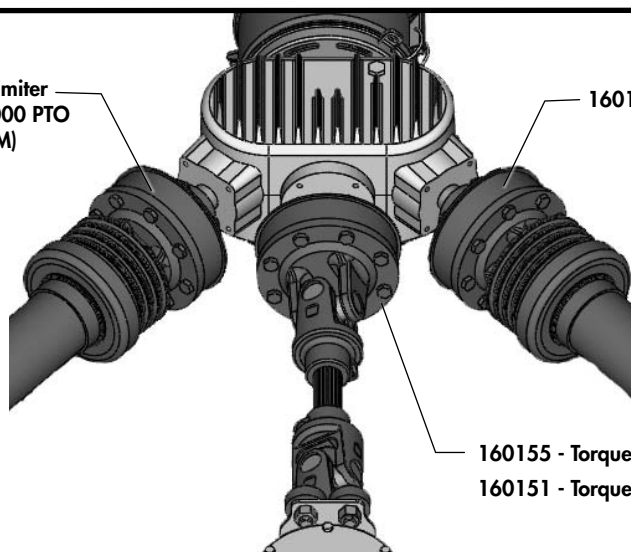
**540
1000**

Note: All parts are common with the exception of the torque limiter spring. (See Below)



160130 - Torque Limiter
540 & 1000 PTO
(950 NM)

160130 - Torque Limiter
540 & 1000 PTO
(950 NM)



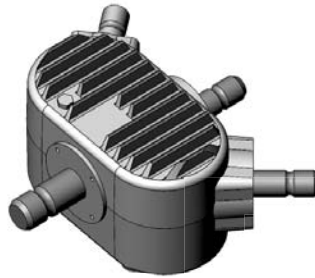
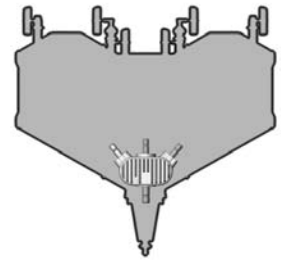
160155 - Torque Limiter - 540 PTO - (1450 NM)
160151 - Torque Limiter - 1000 PTO - (950 NM)

Gearboxes

170011 - **1000 RPM PTO Gearbox** - 8146 - (1.31:1)

-OR-

170021 - **540 RPM PTO Gearbox** - 8146 - (1:1.16)



1000 RPM PTO
170143 - Gear Set (1.31:1)

540 RPM PTO
170155 - Gear Set (1:1.16)

-OR-

Part # - (Qty) Description

- 170142 - (01) Shaft, 8146
- 170123 - (01) Seal
- 117164 - (01) Ball Bearing, 35mm (6307)
- 170148 - (01) Retaining Ring
- 170153 - (01) Shim
- 170139 - (01) Housing, 8146

Common Parts

- 170141 - (02) Shaft, 8146
- 170123 - (02) Seal
- 170149 - (02) Shim
- 170146 - (02) Retaining Ring
- 170111 - (02) Retaining Ring
- 170151 - (02) Shim
- 117159 - (02) Roller Bearing, 35mm (30307U)
- 170150 - (02) Shim
- 117161 - (02) Roller Bearing, 35mm (32207U)
- 170147 - (02) Retaining Ring

- 170152 - (01) Retaining Ring
- 117165 - (01) Ball Bearing, 40mm (6208)
- 170153 - (01) Shim
- 170148 - (01) Retaining Ring

- 170144 - (01) Fill Plug
- 170105 - (01) Plug
- 170154 - (01) Seal
- 170140 - (01) Cover, 8146

- 118731 - Flat Washer, 5/16" SAE (2)
- 118530 - Lock Washer, 5/16" (2)
- 118110 - Bolt, 5/16" x 1" UNC (2)
- 160006 - Splitter Shield (1)

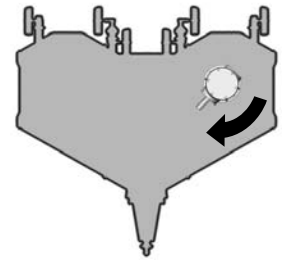
1020 Model Only

Gearboxes

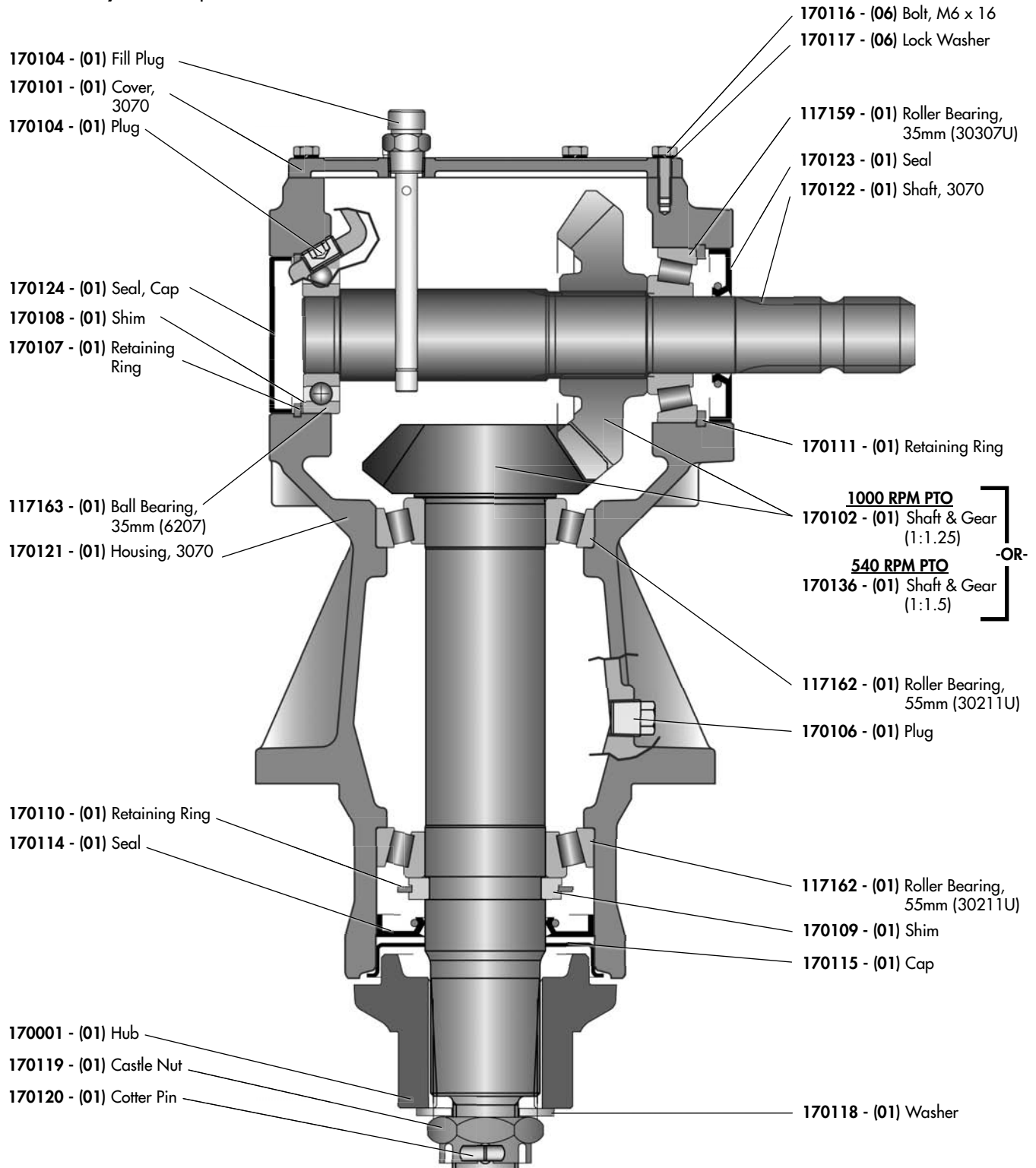
170003 - **1000 RPM PTO Gearbox** - 3070
(1:1.25) - Clockwise Rotation

-OR-

170013 - **540 RPM PTO Gearbox** - 3070
(1:1.5) - Clockwise Rotation



Part # - (Qty) Description

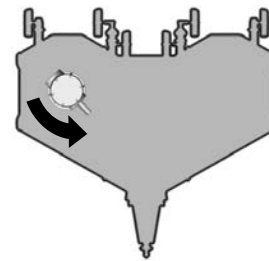


Gearboxes

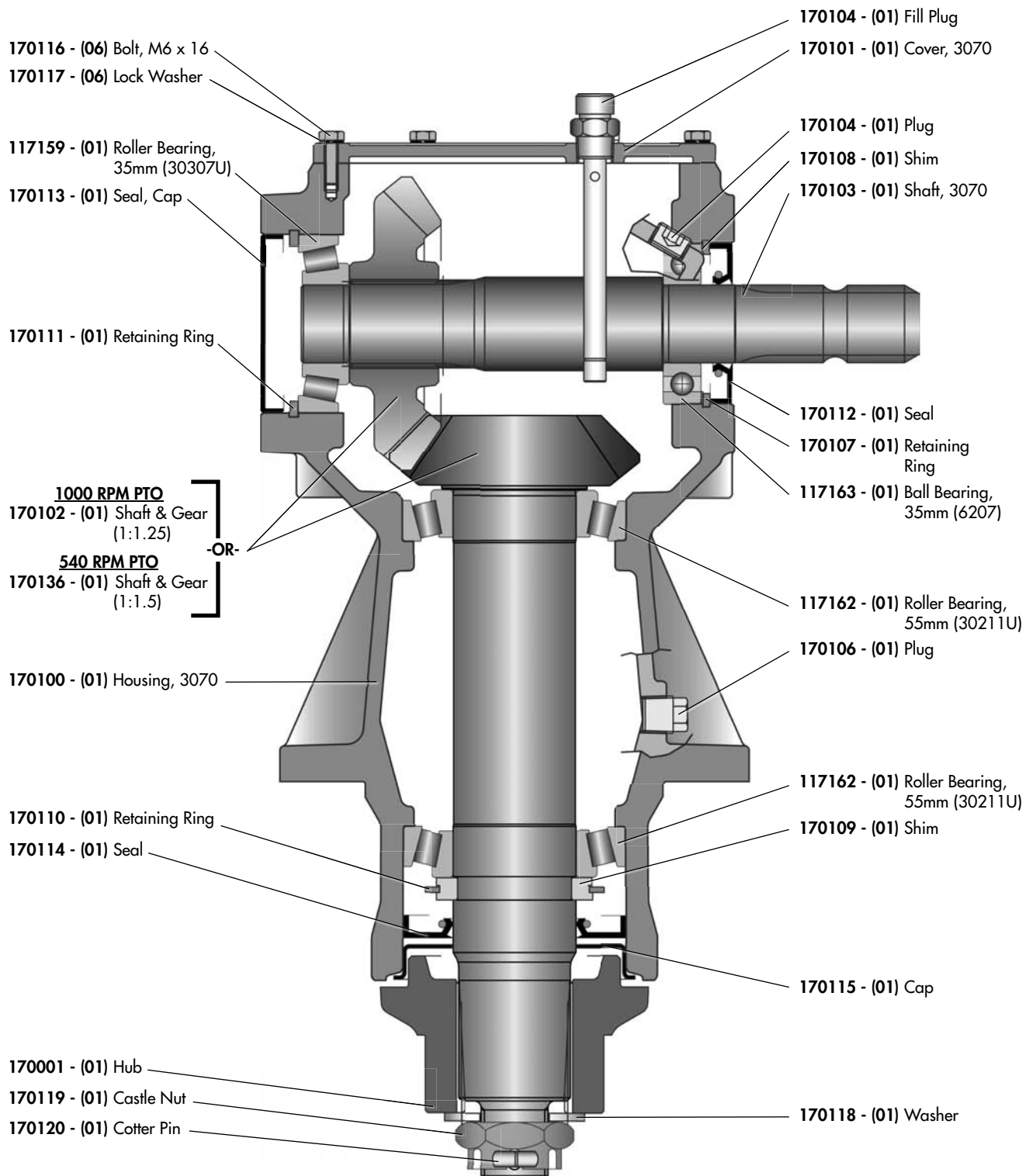
170005 - **1000 RPM PTO Gearbox** - 3070
(1:1.25) - Counter Clockwise Rotation

-OR-

170015 - **540 RPM PTO Gearbox** - 3070
(1:1.5) - Counter Clockwise Rotation

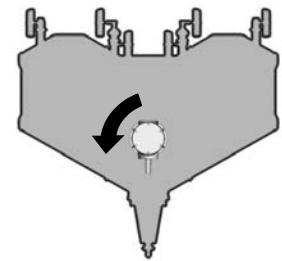


Part # - (Qty) Description

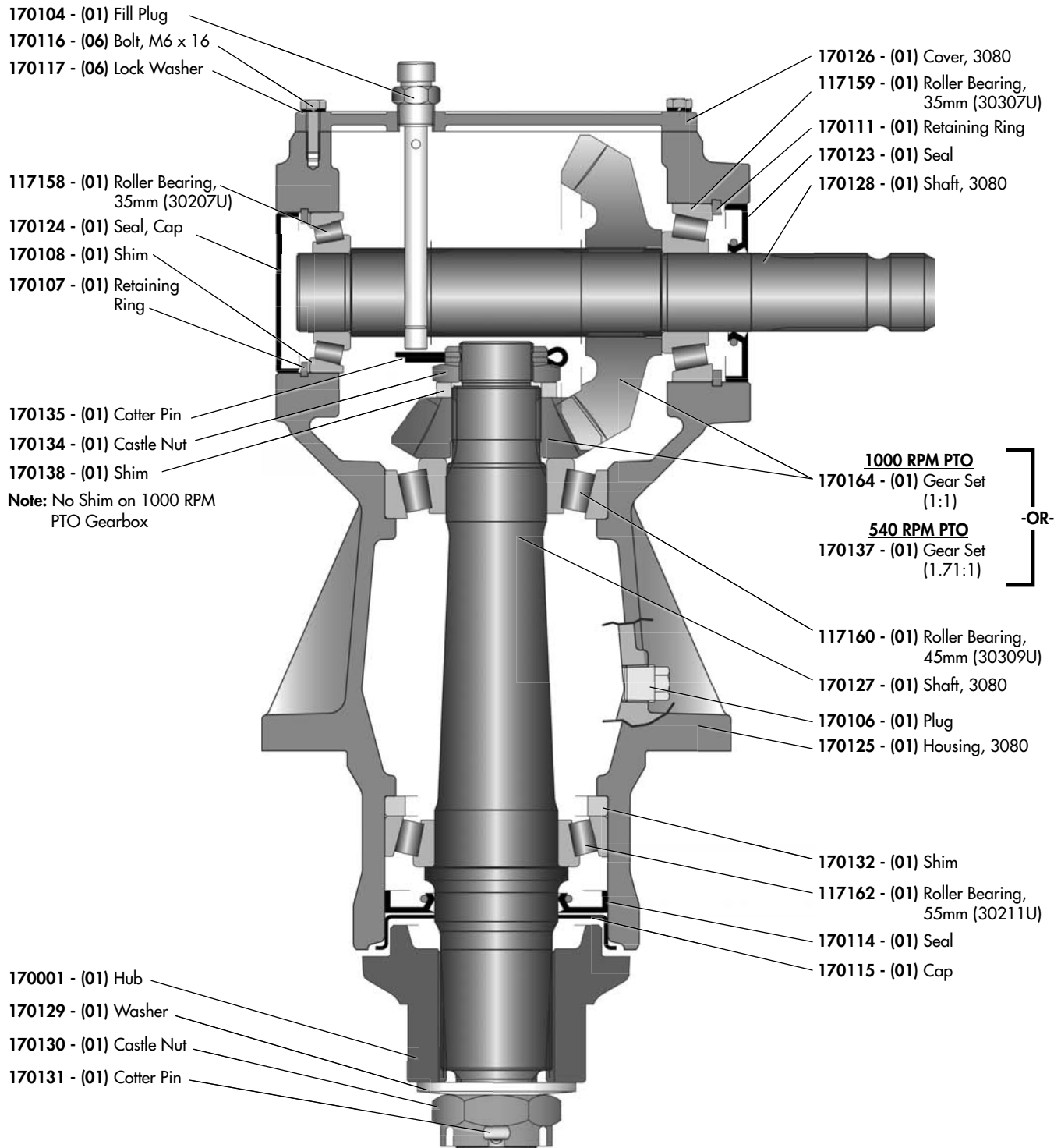


Gearboxes

170163 - **1000 RPM PTO Gearbox** - 3080
 (1:1) - Counter Clockwise Rotation
 -OR-
 170017 - **540 RPM PTO Gearbox** - 3080
 (1.71:1) - Counter Clockwise Rotation

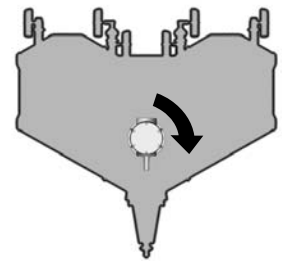


Part # - (Qty) Description

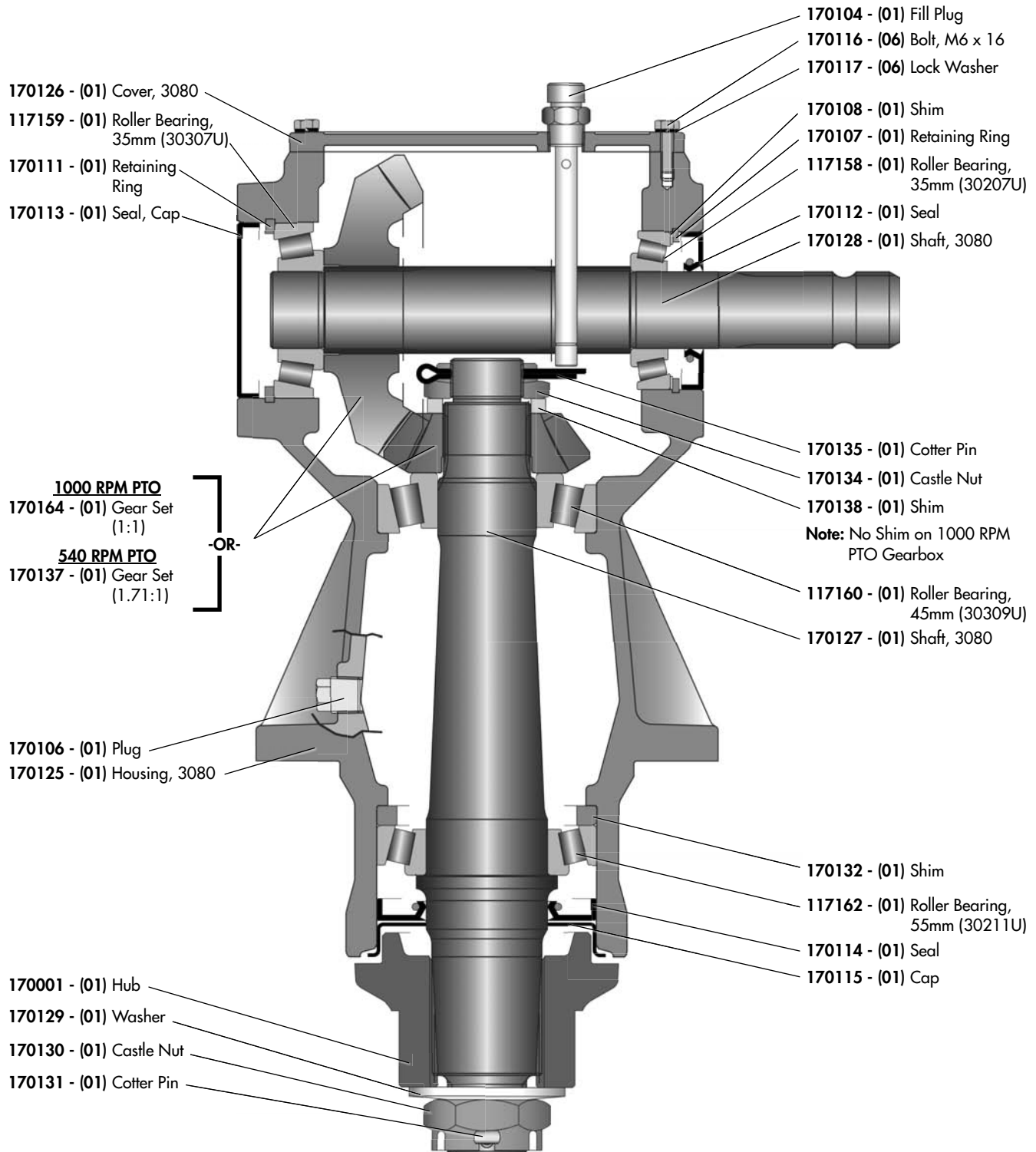


Gearboxes

170161 - **1000 RPM PTO Gearbox** - 3080
 (1:1) - Clockwise Rotation
 -OR-
 170019 - **540 RPM PTO Gearbox** - 3080
 (1.71:1) - Clockwise Rotation

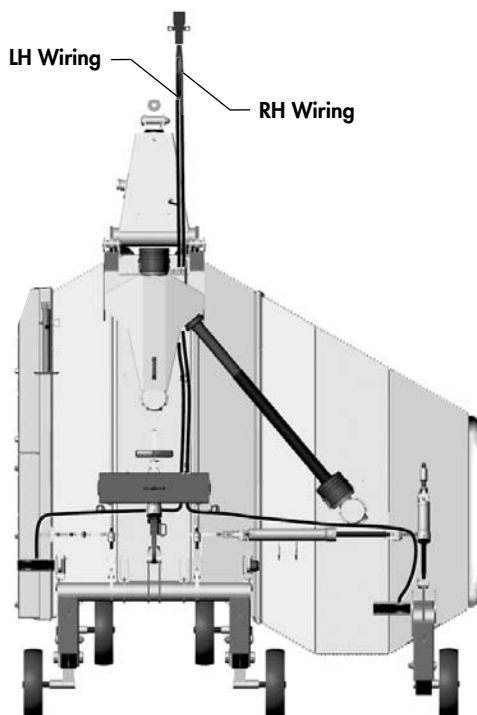


Part # - (Qty) Description

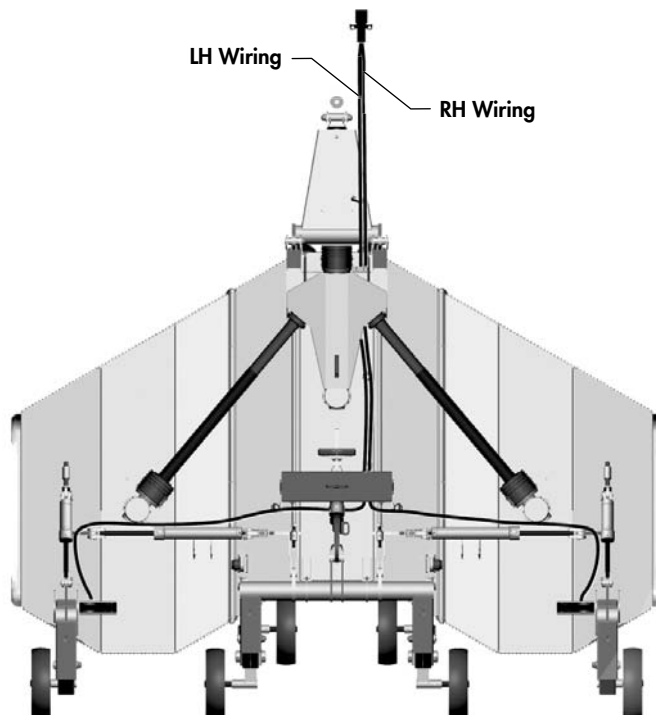


Optional Light Kit - Location

Typical Light Wire Routing - 1020



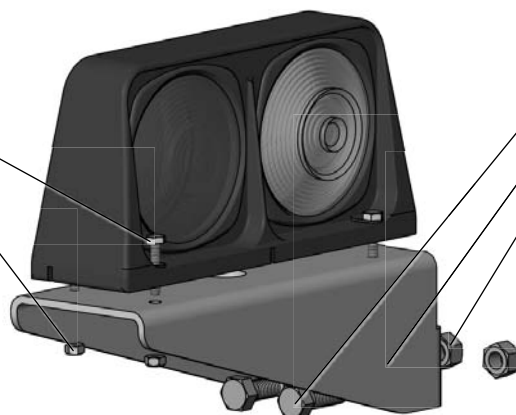
Typical Light Wire Routing - 1520



Typical Light Bracket Assembly

118756 - Bolt, 1/4" x 1-1/4" GR5 (8)

118483 - Lock Nut, 1/4" GR5 - Uunitorque (8)



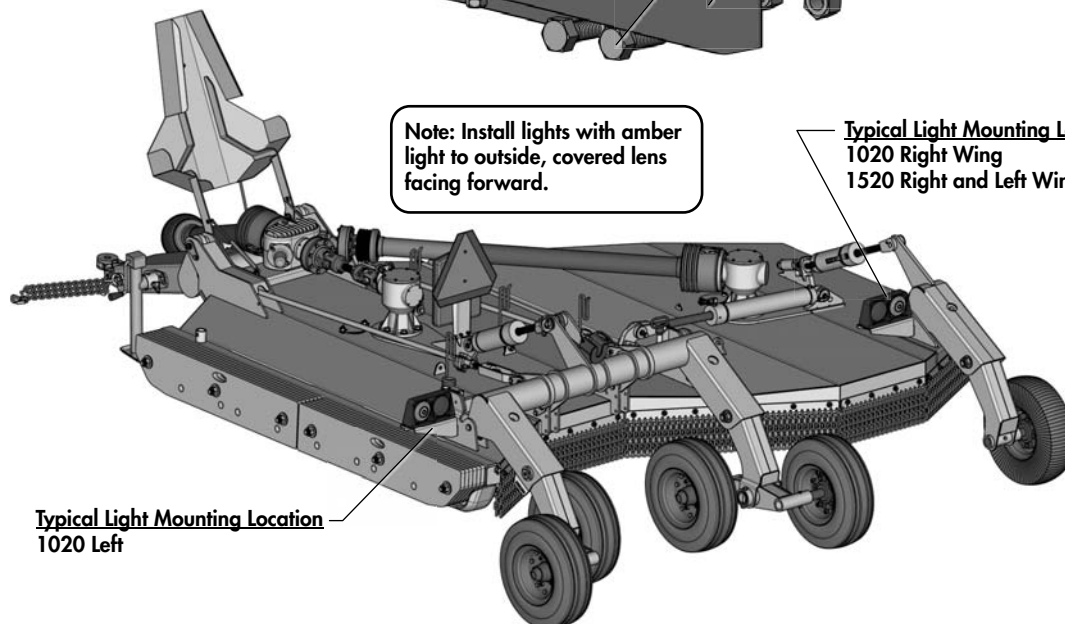
118011 - Bolt, 1/2" x 1-1/2" GR5 (4)

500926 - Light Mounting Bracket (2)

118729 - Lock Nut, 1/2" GRC - Uunitorque (4)

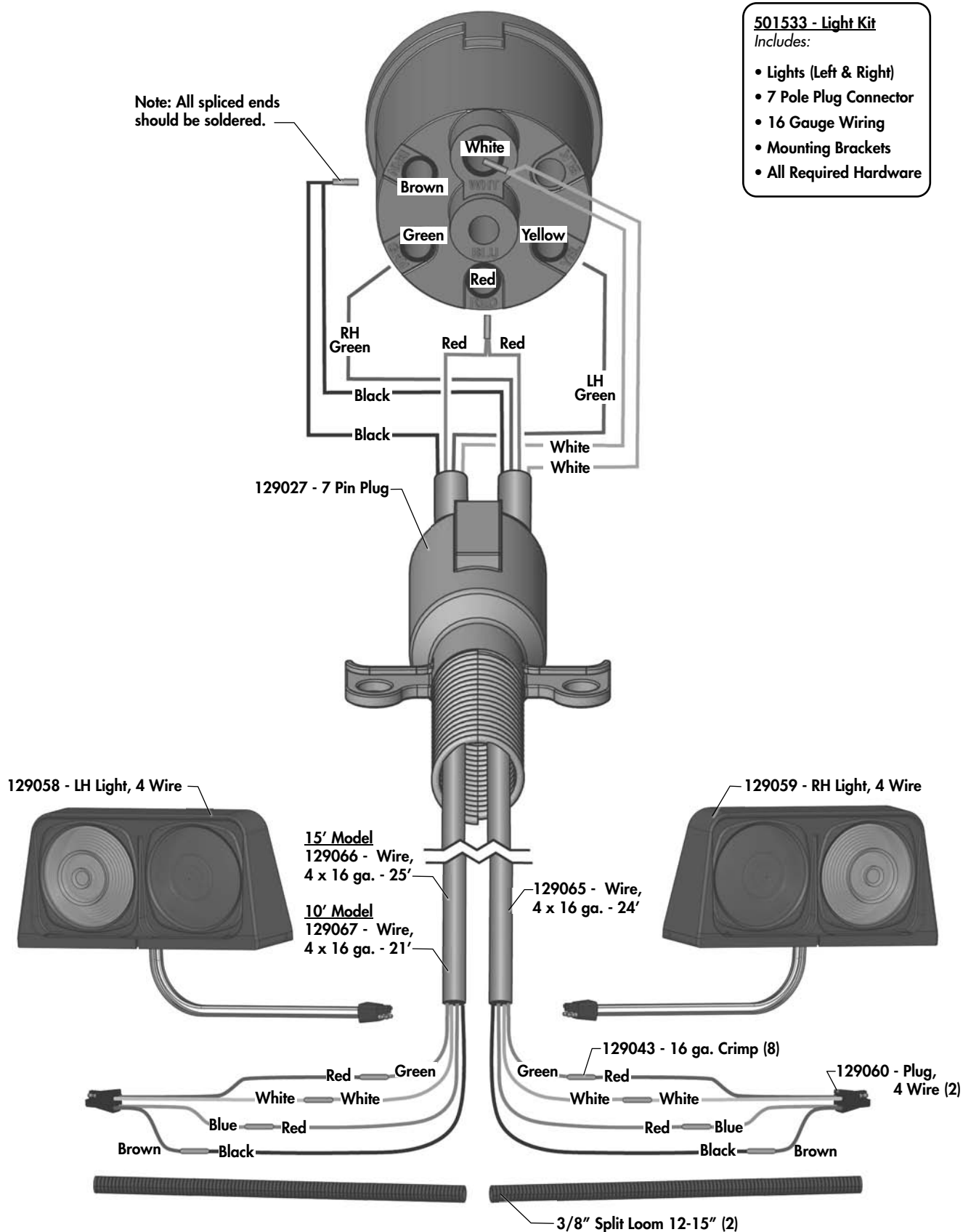
Note: Install lights with amber light to outside, covered lens facing forward.

Typical Light Mounting Location
1020 Right Wing
1520 Right and Left Wings



Typical Light Mounting Location
1020 Left

Optional Light Kit - Wiring

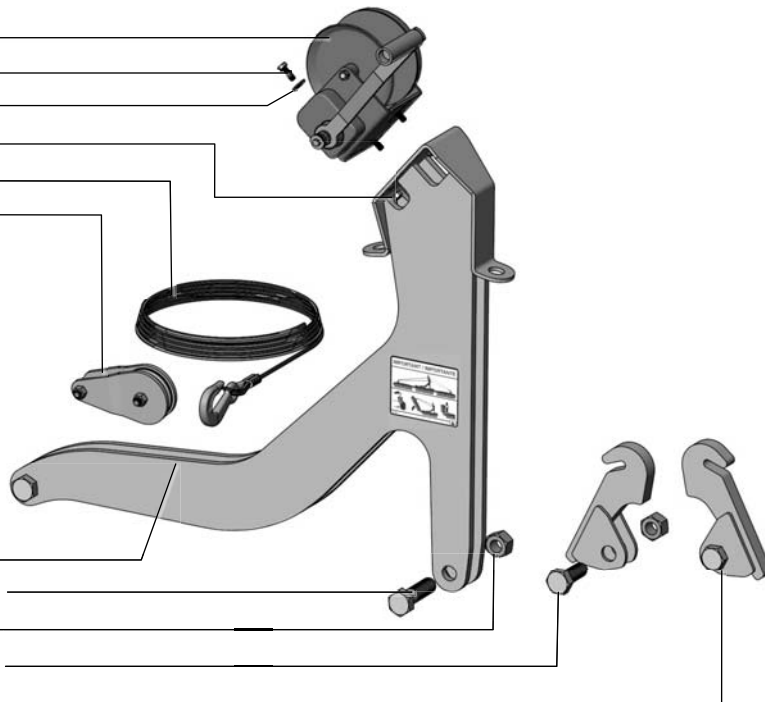


Optional Winch Kit

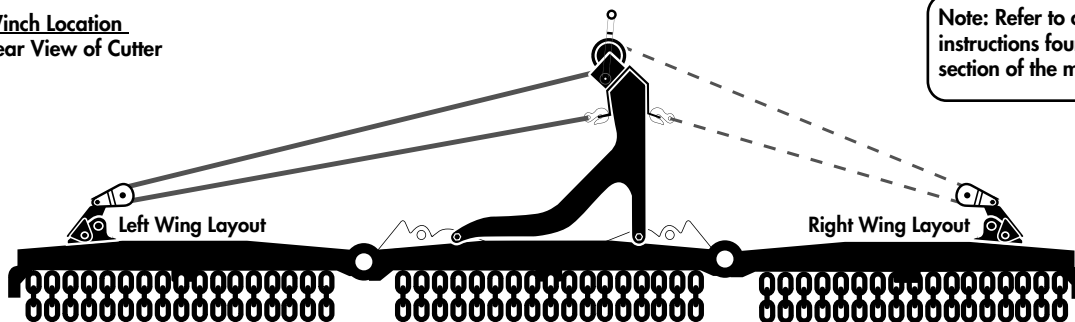
501534 - Winch Kit (Hardware Included)

- 129063 - Winch, 1500 LB (1)
- 118511 - Flat Washer, 3/8 (3)
- 118005 - Bolt, 3/8" x 1" GR5 (3)
- 118417 - Lock Nut, 3/8" GR5 (3)
- 500916 - Cable/Hook Assembly (1)
- 500917 - Pulley Block (1)

- 500925 - Winch Mount Assembly (1)
- 118073 - Bolt, 1" x 3-1/2" UNC GR8 (2)
- 118456 - Lock Nut, 1" UNC GR5 (4)
- 118103 - Bolt, 1" x 2-1/2" UNC GR5 (2)
- 500920 - Hook Plate Assembly (2)



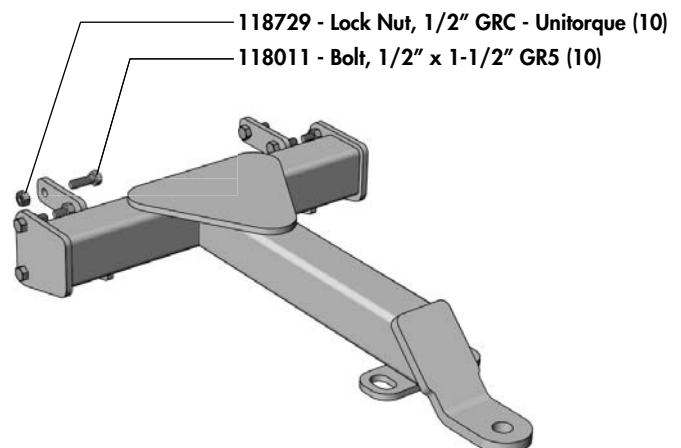
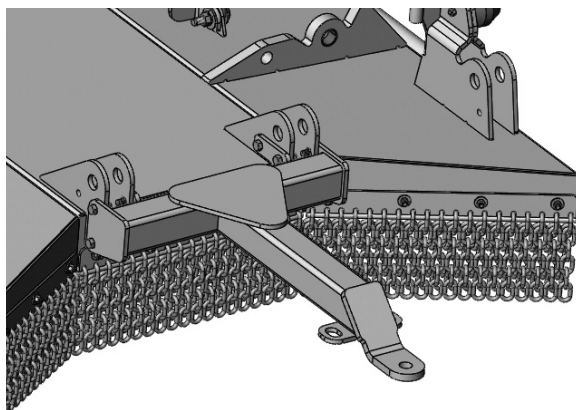
Winch Location Rear View of Cutter



Note: Refer to operation and safety instructions found in the operators section of the manual - (pg. 34)

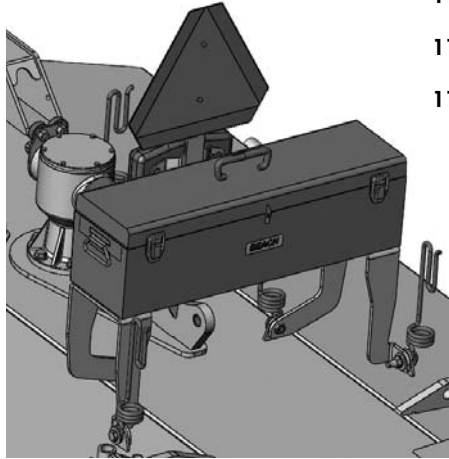
Optional Tow Hitch

501535 - Tow Hitch Kit (Hardware Included)



Optional Toolbox

501536 - Toolbox/Blade Storage Kit
(Hardware Included)



- 500852 - SMV Sign Extension (1)
- 118483 - Lock Nut, 1/4" GRC - Unitorque (2)
- 118983 - Bolt, 1/4" x 3/4" UNC GR5 (2)

133103 - Toolbox, 8-3/4" x 32" x 9 1/2" (1)

118009 - Bolt, 1/2" x 1-1/4" UNC GR5 (4)

118512 - Flat Washer, 1/2" (4)

118729 - Lock Nut, 1/2" GRC - Unitorque (4)

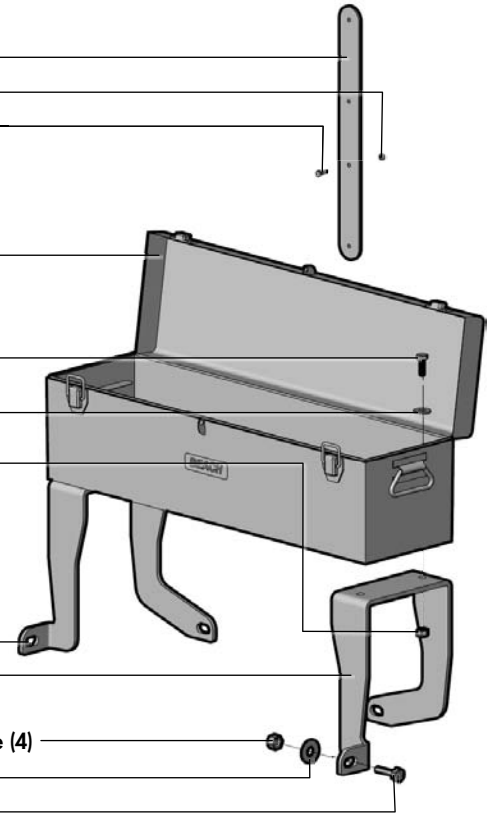
500851 - Toolbox Mount Bracket -LH (1)

500850 - Toolbox Mount Bracket -RH (1)

118447 - Lock Nut, 5/8" GRC - Unitorque (4)

118514 - Flat Washer, 5/8 (4)

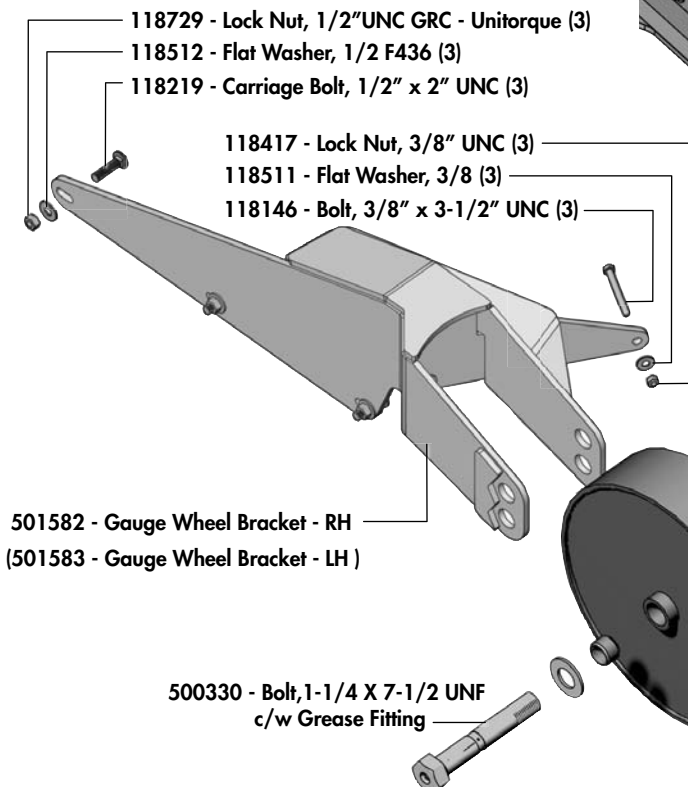
118026 - Bolt, 5/8" x 2" GR5 (4)



Optional Wing Gauge Wheels

501580 - Wing Gauge Wheel - RH (shown)

501581 - Wing Gauge Wheel - LH



118729 - Lock Nut, 1/2"UNC GRC - Unitorque (3)

118512 - Flat Washer, 1/2 F436 (3)

118219 - Carriage Bolt, 1/2" x 2" UNC (3)

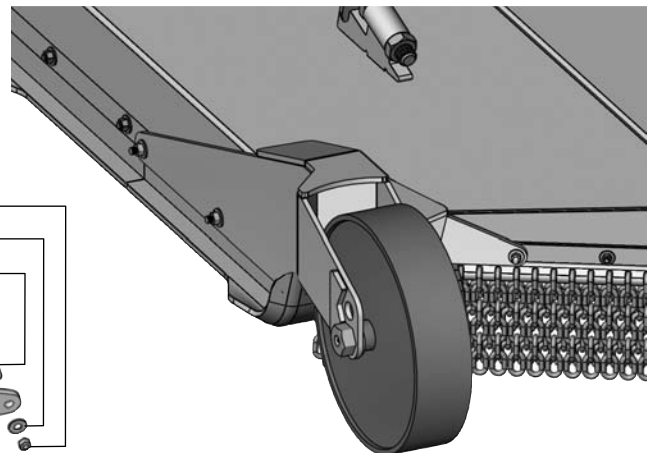
118417 - Lock Nut, 3/8" UNC (3)

118511 - Flat Washer, 3/8 (3)

118146 - Bolt, 3/8" x 3-1/2" UNC (3)

501582 - Gauge Wheel Bracket - RH
(501583 - Gauge Wheel Bracket - LH)

500330 - Bolt, 1-1/4 X 7-1/2 UNF
c/w Grease Fitting



118962 - Lock Nut, 1-1/4" UNF Gr 8 (1)

131206 - Washer, Flat 1-1/4 SAE (2)

117111 - Bushing - 1-1/2 x 1/8 x 1 (2)

501595 - Steel Wheel Assembly (1)
(comes with bushings)

Warranty

2 Year Limited Warranty

Degelman Industries Ltd. ("Degelman") warrants to the original purchaser of a new 1020/1520 Degelman Rotary Cutter, 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.

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, which 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 or accident.
2. To any goods that have sustained damage or deterioration attributable to contact with foreign objects (eg. stones, iron, and other material other than grass and brush.)
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 normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluids, and seals.
6. To expendable or wear items such as blades, blade bolts, skid pans, 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**