

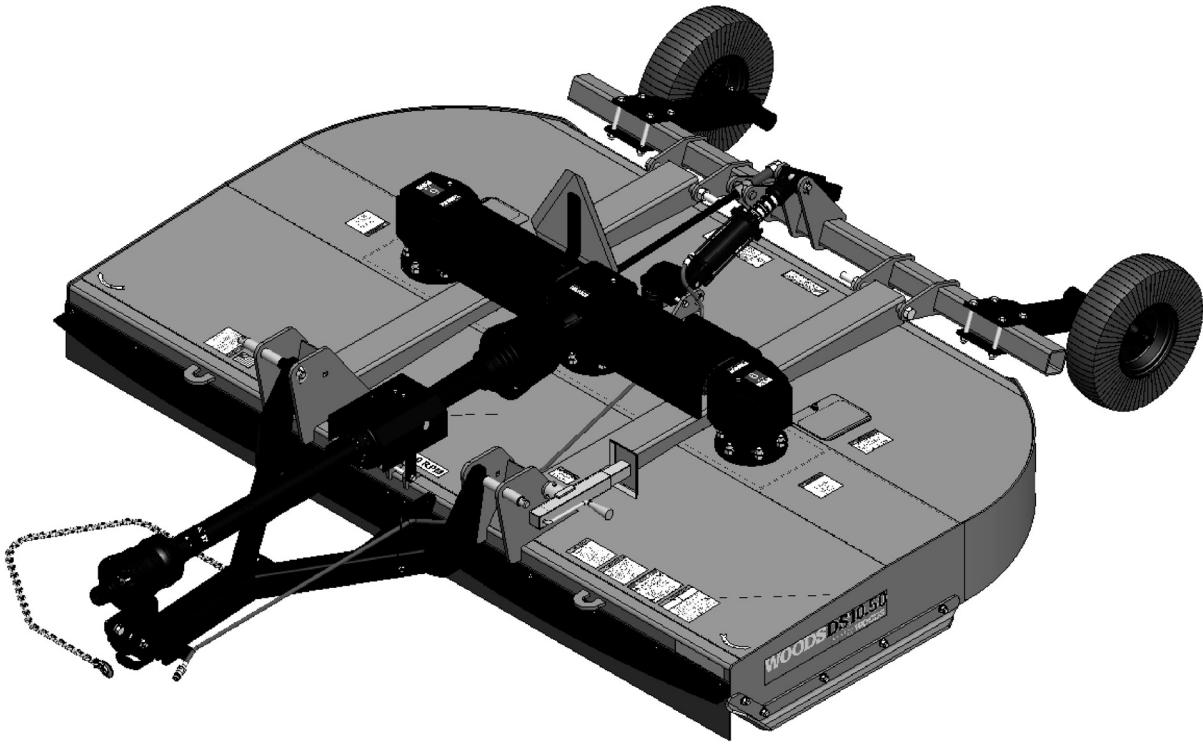
ROTARY CUTTER

DS8.50/DS8.50Q

DS10.50/DS10.50Q

DSO8.50/DSO8.50Q

DSO10.50/DSO10.50Q



MAN1168
(Rev 05/10/2023)

WOODS[®]

OPERATOR'S MANUAL

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Checklists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the online Product Registration form at the Woods Dealer Website which certifies that all Dealer Checklist items have been completed. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

Failure to register the product does not diminish customer's warranty rights.

TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To obtain complete warranty details, visit WoodsEquipment.com/warranty. You may also request a hard copy by calling 1-800-319-6637 or mail your request to: Woods Equipment Company, Attn: Warranty Dept. 2606 South Illinois Route 2, Oregon, IL 61061. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Woods dealer has trained mechanics, genuine Woods service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: _____ **Date of Purchase:** _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **NOTICE** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING**, and **DANGER** are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety.



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

**IMPORTANT
or NOTICE**

Is used to address practices not related to physical injury.

NOTE

Indicates helpful information.

TABLE OF CONTENTS

INTRODUCTION	2
SPECIFICATIONS	4
GENERAL INFORMATION	4
SAFETY	5
MOWER SAFETY VIDEO	5
SAFETY RULES	7
TRAINING	7
PREPARATION	7
OPERATION	8
TRANSPORTATION	8
MAINTENANCE	9
STORAGE	9
SAFETY & INSTRUCTIONAL DECALS	10
OPERATION	12
OPERATION	13
TRACTOR STABILITY	13
CONNECT CUTTER TO TRACTOR	13
CONNECT CUTTER TO TRACTOR	14
DRIVELINE ADJUSTMENT	15
CUTTING HEIGHT ADJUSTMENT	16
ATTITUDE ADJUSTMENT	17
WHEEL SPACING	17
BLADE SELECTION	17
TRACTOR OPERATION	17
OPERATING TECHNIQUE	17
TRANSPORTING	18
STORAGE	18
PRE-OPERATION CHECKLIST	19
OWNER SERVICE	20
OWNER SERVICE	20
BLOCKING METHOD	20
LUBRICATION	20
BLADE SERVICING	22
SLIP CLUTCH ADJUSTMENT	23
SHIELDING REPAIR	24
FLEXIBLE COUPLER RUBBER DISK REPLACEMENT	24
SERVICING TIRES SAFELY	25
CLEANING CUTTER	25
TROUBLESHOOTING	26
DEALER SERVICE	27
DEALER SERVICE	27
GEARBOX MAINTENANCE	27
VERTICAL SHAFT SEAL REPAIR (SPINDLE GEARBOX)	27
SPINDLE GEARBOX REPAIR	28
SPLITTER GEARBOX REPAIR	30
SIDE DRIVE SERVICE	32
CROSSBAR	32
UNIVERSAL JOINT REPAIR	34
ASSEMBLY	36
ASSEMBLY	36
DEALER SET-UP INSTRUCTIONS	36
DS8.50 & DS10.50 PULL-TYPE CUTTER	36
DS8.50 & DS10.50 3-POINT MOUNTED CUTTER	38
DSO8.50 & DSO10.50 3-POINT MOUNTED CUTTER	40
ALL MODELS	42
INSTALL CHAIN OR RUBBER SHIELDING	42
DEALER CHECKLISTS	44
PARTS INDEX	45
APPENDIX	67
BOLT TORQUE CHART	67
BOLT SIZE CHART & ABBREVIATIONS	68
INDEX	69



This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

SPECIFICATIONS

	DS8.50 DS8.50Q	DSO8.50 DSO8.50Q	DS10.50 DS10.50Q	DSO10.50 DSO10.50Q
Cutting Height	2" - 12"			
Cutting Width	96"		120"	
Overall Width	103"		127"	
Overall Length: Pull Type (25" Tires)	150"	-----	162"	-----
Overall Length: Mounted	99"	122"	111"	128"
Minimum Tractor HP: Pull-Type	40 HP	-----	50 HP	-----
Minimum Tractor HP: Mounted	55 HP	40 HP	65 HP	50 HP
Tractor PTO RPM (Q = 1000)	540 or 1000			
Number of Blade Spindles	2			
Blade Overlap	4"			
Number of Blades	4			
Driveline w/Slip Clutch: Pull-Type	Cat 6 CV	-----	Cat 6 CV	-----
Driveline w/Slip Clutch: Mounted	Cat 5			
Side Frame Thickness	1/4"			
Weight (W/Belting): Pull-Type	2,205 lbs	-----	2,400 lbs	-----
Weight (w/Belting): Mounted	2,055 lbs	2,335 lbs	2,255 lbs	2,510 lbs
Blade Speed (Feet per Minute) 540/1000	14,886/15,126		15,974/16,232	
Blade Rotation	Left Spindle: CCW; Right Spindle: CW			
Wheel Size: Pull-Type	15" Rims 21" Laminated 25" Severe Duty 29" Airplane	-----	15" Rims 21" Laminated 25" Severe Duty 29" Airplane	-----
Wheel Size: Mounted	16" Laminated	21" Laminated	16" Laminated	21" Laminated
Torsion Protection	Slip Clutch and Flex Couplers			

GENERAL INFORMATION

WARNING

- Some illustrations in this manual show the mower with safety shields removed to provide a better view. The mower should never be operated with any safety shielding removed.

The purpose of this manual is to assist you in operating and maintaining your cutter. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions. However, through experience

and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing but, due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the equipment facing the direction of forward travel. Blade rotation is clockwise (left wing) and counterclockwise (right wing and center section) as viewed from the top of the cutter.



¡LEA EL INSTRUCTIVO!

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

NOTICE:

If you would like to receive a free Spanish language translation of the Safety Rules section of this manual, plus a set of Spanish language safety decals, please contact your local Woods dealer.

AVISO:

Si desea recibir una traducción al español gratuita de la sección de Reglas de seguridad de este manual y un juego de etiquetas de seguridad en español, por favor comuníquese con su concesionario local de Woods.

BE SAFE!

BE ALERT!

BE ALIVE!

BE TRAINED

Before Operating Mowers!



ASSOCIATION OF
EQUIPMENT
MANUFACTURERS

*Safety Training
Does Make a Difference.*

Watch a Mower Safety Video Online

The AEM (Association of Equipment Manufacturers) offers a safety training video, *Industrial and Agricultural Mower Safety Practices*. The 22-minute video can be viewed online for free at TheAEMStore,

<https://youtu.be/EuktqJNAjhc>

It reinforces the proper procedures to follow while operating your mowing equipment. The video does not replace the information contained in the Operator's Manual, so please review this manual thoroughly before operating your new mowing equipment.

Also, available from the Association of Equipment Manufacturers:

A large variety of training materials (ideal for groups) are available for a nominal charge from AEM. Following is a partial list:

- **Training Package for Rotary Mowers/Cutters-English**

Contains: DVD & VHS (English)

 Guidebook for Rotary Mowers/Cutters (English)

 AEM Industrial/Agricultural Mower Safety Manual (English)

 AEM Agricultural Tractor Safety Manual (English)

- **Training Package for Rotary Mowers/Cutters-English/Spanish**

Contains: DVD & VHS (English/Spanish)

 Guidebook for Rotary Mowers/Cutters (English/Spanish)

 AEM Industrial/Agricultural Mower Safety Manual (English/Spanish)

 AEM Agricultural Tractor Safety Manual (English/Spanish)

AEM training packages are available through:

AEM at: www.aem.org

or

Universal Lithographers, Inc.

Email: aem@ulilitho.com

800-369-2310 tel

866-541-1668 fax

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

TRAINING

- **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**
- **If you do not understand any part of this manual and need assistance, see your dealer.**
- **Know your controls and how to stop engine and attachment quickly in an emergency.**
- **Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.**
- **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**
- **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.**

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

- **Never allow children or untrained persons to operate equipment.**

PREPARATION

- **Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.**
- **Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.**
- **Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.**
- **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**
- **Make sure attachment is properly secured, adjusted, and in good operating condition.**
- **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**
- **If equipped with driveline guard tether chains, make sure they are attached to the tractor and equipment as shown in the pamphlet that accompanies the driveline. Replace if damaged or broken. Check that driveline guards rotate freely on drive-line before putting equipment into service.**
- **Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.**
- **Inspect chain or rubber belt shielding before each use. Replace if damaged.**
- **Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.**
- **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- Do not put this equipment into service unless all side skids are properly installed and in good condition. Replace if damaged.
- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires, front tractor weights or front loader. Weigh the tractor and equipment. Do not estimate.
- Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.
- Connect PTO driveline directly to power unit PTO shaft. Never use adapter sleeves or adapter shafts. Adapters can cause driveline failures due to incorrect spline or incorrect operating length and can result in personal injury or death.

OPERATION

- Full chain shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.
 - If this machine is not equipped with full chain shielding, operation must be stopped.
 - This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92m).
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Never direct discharge toward people, animals, or property.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely

fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.

- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.
- Operate tractor PTO at 540 RPM (1000 RPM on Q Series cutters). Do not exceed.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
- Leak down or failure of mechanical or hydraulic system can cause equipment to drop.

TRANSPORTATION

- The maximum transport speed for towed and semi-mounted machines is 20 mph (32 km/h). Regardless of the maximum speed capability of the towing tractor, do not exceed the implement’s maximum transport speed. Doing so could result in:
 - Loss of control of the implement and tractor
 - Reduced or no ability to stop during braking
 - Implement tire failure
 - Damage to the implement or its components.
- Use additional caution and reduce speed when under adverse surface conditions, turning, or on inclines.
- Never tow this implement with a motor vehicle.
- Do not operate PTO during transport.
- Do not operate PTO during transport.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



MAINTENANCE

- Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.
- Before performing any service or maintenance, disconnect driveline from tractor PTO.
- Before working underneath, raise mower, install transport lock, and block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.
- Always wear relatively tight and belted clothing to avoid getting caught in moving parts.
- Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Make certain all movement of equipment components has stopped before approaching for service.
- Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.
- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.
- Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- Do not disconnect hydraulic lines until machine is securely blocked or placed in lowest position and system pressure is released by operating valve levers.
- Leak down or failure of mechanical or hydraulic system can cause equipment to drop.

STORAGE

- Keep children, bystanders and animals away from the equipment and the storage area.
- Follow manual instructions for storage.

ON MOUNTED AND SEMI-MOUNTED CUTTERS:

- Disconnect cutter driveshaft and secure up off ground. Raise cutter with 3-point hitch. Place blocks under cutter side skids. Lower cutter onto blocks. Disconnect hydraulic lines to optional cylinder. Disconnect cutter from tractor 3-point hitch and carefully drive tractor away from cutter.

ON PULL-TYPE CUTTERS:

- Raise cutter and block securely. Block wheels and raise tongue with jack. Disconnect hydraulic lines to optional cylinder. Disconnect driveline and secure up off the ground.

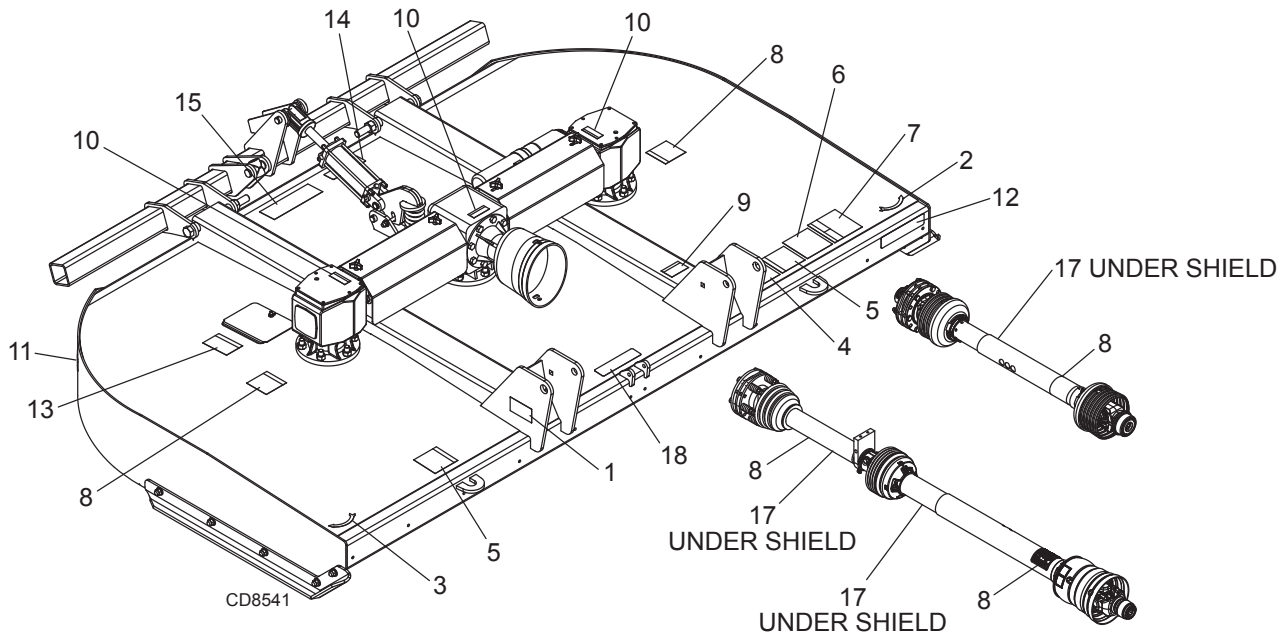
SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!



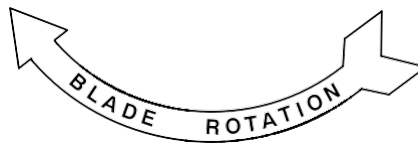
1 - SERIAL NUMBER PLATE



2 - PN 5669



3 - PN 12777



4 - PN 18877



BE CAREFUL!

Keep safety decals clean and visible.

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replace safety decals if they are missing or illegible.

Replacement safety decals can be ordered free from your Woods dealer, or in the United States and Canada call 1-800-319-6637.

SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!

5 - PN 1003751

⚠ WARNING






CRUSHING AND PINCHING HAZARD

- Be extremely careful handling various parts of the machine. They are heavy and hands, fingers, feet, and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine while in operation or when it is being raised or lowered.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.

1003751

6 - PN 15503

⚠ DANGER






ROTATING BLADES AND THROWN OBJECTS



- Do not put hands or feet under or into mower when engine is running.
- Before mowing, clear area of objects that may be thrown by blade.
- Keep bystanders away.
- Keep guards in place and in good condition.

BLADE CONTACT OR THROWN OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH.

15503

7 - PN 18865

⚠ WARNING

FALLING OFF CAN RESULT IN BEING RUNOVER.

- Tractor must be equipped with ROPS (or ROPSCAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Never allow riders on mower or tractor.

RAISED EQUIPMENT CAN DROP AND CRUSH.

- Before working underneath, follow all instructions and safety rules in operator's manual and securely block up all corners of equipment with jack stands.
- Securely blocking prevents equipment dropping from hydraulic leakdown, hydraulic system failures or mechanical component failures.

FALLING OFF OR FAILING TO BLOCK SECURELY CAN RESULT IN SERIOUS INJURY OR DEATH.

18865

8 - PN 18864

⚠ DANGER



ROTATING DRIVELINE CONTACT CAN CAUSE DEATH

KEEP AWAY!

DO NOT OPERATE WITHOUT -

- All driveline guards, tractor and equipment shields in place.
- Drivelines securely attached at both ends.
- Driveline guards that turn freely on driveline.
- Read the operator's manual.
- Do not use PTO adapters.

18864

9A - PN 18866 540 RPM

⚠ WARNING

DO NOT EXCEED PTO SPEED OF



540

- PTO speeds higher than 540 RPM can cause equipment failure and personal injury.
- Tractor PTO master shield, PTO drive shaft guarding and PIC guards are to be kept in place.

18866

-OR-

9B - PN 15922 1000 RPM

⚠ WARNING

DO NOT EXCEED PTO SPEED OF



1000

- PTO speeds higher than 1000 RPM can cause equipment failure and personal injury.
- Tractor PTO master shield, PTO drive shaft guarding and PIC guards are to be kept in place.

15922

10 - PN 1004114

⚠ DANGER

If shaft connection is visible, shield is missing. Replace shield before operating equipment.

1004114

11 - PN 57123 RED REAR REFLECTOR 9"

12 - PN 1002940 AMBER FRONT REFLECTOR 9"

SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!





Replace Immediately If Damaged!



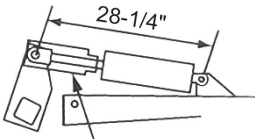
13 - PN 15502

 WARNING
ROTATING COMPONENTS Do not operate without cover in place. Look and listen for rotation. Do not open cover until all components have stopped. CONTACT WITH ROTATING PARTS CAN CAUSE SERIOUS INJURY.

14 - PN W19924

	 WARNING HIGH-PRESSURE HYDRAULIC OIL LEAKS CAN PENETRATE SKIN RESULTING IN SERIOUS INJURY, GANGRENE OR DEATH. ■ Check for leaks with cardboard; never use hand. ■ Before loosening fittings: lower load, release pressure, and be sure oil is cool. ■ Consult physician immediately if skin penetration occurs.
---	---

15 - PN 1004991

	 WARNING RAISED IMPLEMENT CAN DROP AND CRUSH ■ Implement must be equipped with transport lock. ■ Before working underneath, transport lock must be in the raised position. All corners of implement must be securely blocked with jackstands. ■ All transport components must be functional, kept in good condition, and stored on equipment. ■ Blocking up prevents implement dropping from hydraulic leak down, hydraulic system failures, or mechanical component failures. FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.	TRANSPORT LOCK AND CYLINDER REQUIREMENTS SINGLE-ACTING FULL EXTENSION  TRANSPORT LOCK
---	--	---

16 - PN 1006348 (LOCATED ON WHEEL RIMS)

 WARNING	EXPLOSION HAZARD
RELEASE ALL AIR PRESSURE BEFORE LOOSENING BOLTS. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH. MAX. SPEED: 20 MPH, MAX. WEIGHT: 4000 LBS., MAX. AIR PRESSURE: 40 PSI.	

17 - PN 33347

 DANGER

GUARD MISSING. DO NOT OPERATE.
 DANGER

GUARD MISSING. DO NOT OPERATE.
 DANGER

18A - PN 57840 540 RPM

540 RPM

-OR-

18B - PN 57841 1000 RPM

1000 RPM

OPERATION

The operator is responsible for the safe operation of the cutter. The operator must be properly trained. Operators should be familiar with the cutter, the tractor, and all safety practices before starting operation. Read the safety rules and safety decals on pages 7 to 12.

This heavy-duty cutter is designed for grass and weed mowing and shredding.

Recommended mowing speed for most conditions is from 2 to 5 mph.

! DANGER

- Full chain or rubber shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.
 - If this machine is not equipped with full chain or rubber shielding, operation must be stopped when anyone comes within 300 feet (92 m).
 - This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).

! WARNING

- Never allow riders on power unit or attachment.
- Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- Operate tractor PTO at 540 RPM (1000 RPM on Q Series cutters). Do not exceed.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, set parking brake, remove key, inspect, and repair any damage before resuming operation.

! CAUTION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

- Safety tow chain must be hooked-up to both the implement and tractor during operation or transport. A loose, dragging chain could be struck by the blades causing serious injury.

TRACTOR STABILITY

! WARNING

- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

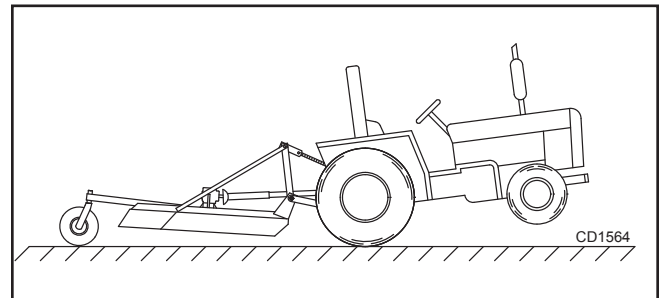


Figure 1. Tractor Stability

CONNECT CUTTER TO TRACTOR

(PULL-TYPE)

NOTICE

- For tractors with a 1-3/8" diameter PTO shaft, the horizontal distance from end of tractor PTO shaft to center of drawbar pin should be 14" for the 540 rpm cutter and 16" for the 1000 rpm cutter. Tractors with a 1-3/4" 20-spline PTO shaft should be set to 20". This will minimize joint knock and damage to drive components.
1. Adjust tractor drawbar to obtain the desired drawbar-to-hitch-point distance.
NOTE: On some tractors, a drawbar kit must be used to obtain the required dimension. Check with your tractor dealer for assistance.
 2. Attach parking jack to cutter tongue. Raise tongue to tractor drawbar height.
 3. Attach cutter to tractor using a 1-1/8" clevis pin and clip.

4. Loop safety tow chain around tractor drawbar support. Secure the hook to a chain link that allows enough slack for proper hitch articulation.
5. Connect cutter driveline to tractor PTO shaft, making sure the spring-activated lock pin slides freely and is seated in tractor PTO splined groove.
6. Remove parking jack from the tongue and attach it to the storage post on the front of the cutter.

Hydraulic Connection

1. Inspect hydraulic hoses to ensure they are in good condition.
2. Clean the fittings before connecting them to the tractor hydraulic ports.
3. Attach the hydraulic hose from the cutter to the tractor.
4. Route the hose through the hose holder at the hitch and be sure the hose can slide freely in the holder. Do not allow hose slack to drag on the ground or become caught on tractor protrusions.
5. From the operator position, start tractor and raise and lower deck several times to purge trapped air from the hydraulic cylinder.

Interference Check

1. Be sure that tractor 3-point lift links do not interfere with hydraulic hoses, cutter driveline, or cutter frame.
2. Check for straight-ahead operation and at full-turning angles. If there is any interference, remove the lower lift links.
3. Contact between tractor lift links and cutter parts can cause damage, especially when turning.

CV Driveline Turning Limits

NOTICE

- **You must not exceed a turning angle of 80 degrees at the head of the Constant Velocity driveline or damage will occur.**

To check for potential excessive turn angle:

1. Disconnect driveline from tractor, start engine and turn as far right or left as possible.
2. Shut engine off, set parking brake, remove key, and try to connect CV driveline to tractor. If it cannot be connected, the angle is too severe.
3. Restart engine and straighten angle slightly. Repeat step 2 until driveline can be connected. The point at which the driveline can be connected is the maximum turn that should be made.

CONNECT CUTTER TO TRACTOR

(MOUNTED DS8.50 & DS10.50 & SEMI-MOUNTED DSO8.50 & DSO10.50)

Tractor Adjustments

Before attaching tractor to cutter, install sway blocks or sway chains, or adjust stabilizer bars. Refer to the tractor operator's manual for instructions.

Install tractor front end weights as recommended by the tractor manufacturer to provide 20% of weight on front wheels.

- **A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires, front tractor weights or front loader. Weigh the tractor and equipment. Do not estimate.**

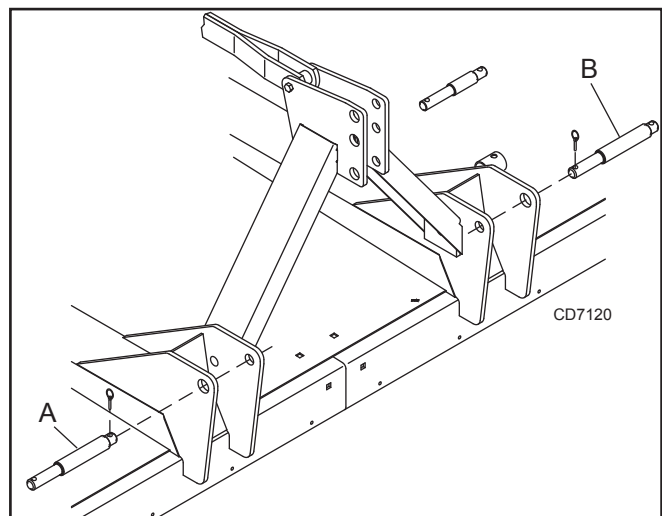


Figure 2. 3-Point Mounting Positions

Category 2 Standard Hitch

1. Position tractor lower lift arms between hitch mast plates.
2. Insert lower hitch pins to Position B, Figure 2, through mast plates and tractor lower lift arms.
3. Secure with lynch pins.
4. Attach top link for mounted units in the middle hole of upper mast using top link pin.

Category 3 Standard Hitch

1. Position tractor lower lift arms between hitch mast plates.
2. Insert lower hitch pins to Position A, Figure 2, through mast plates and tractor lower lift arms.
3. Secure with lynch pins.
4. Attach top link for mounted units in the top hole of upper mast using top link pin.

Category 2 & 3 Quick Hitches

1. Position lower hitch pins to Position A, Figure 2.
2. Use the upper hole that matches upper quick hitch point location. This is usually the lower hole for Category 2 and the middle hole for Category 3.
3. Secure with lynch pins.
4. Attach tractor to cutter and secure hitch according to hitch manufacturer's instructions.

NOTE: For DSO8.50 & DSO10.50, place 1.63 x 2.25 x 3.75 spacer sleeve between tractor lower 3-point arm and plate on hitch assembly to prevent 3-point arm motion during side shift.

DRIVELINE ADJUSTMENT

(MOUNTED DS8.50 & DS10.50 & SEMI-MOUNTED DSO8.50 & DSO10.50)

Attach the cutter to the tractor 3-point hitch (or quick hitch if available). Do not attach driveline at this time.

NOTICE

- If attaching cutter using a Quick Hitch the distance between the tractor PTO and the gearbox input shaft will increase. Follow steps as you would for the 3-point hitch to insure proper engagement.

Raise and lower cutter and measure the maximum and minimum distance between the tractor PTO shaft and the gearbox input shaft. Separate the driveline into two halves and lay them side-by-side with U-joints at opposite ends.

Set the two u-joints at the maximum distance measures (this is the cutters lowest point of operation) and check the amount of overlap between the two drive halves. There must be at least 4 inches of overlap. If the driveline is too short (less than 4" overlap) contact your Woods dealer for a longer drive.

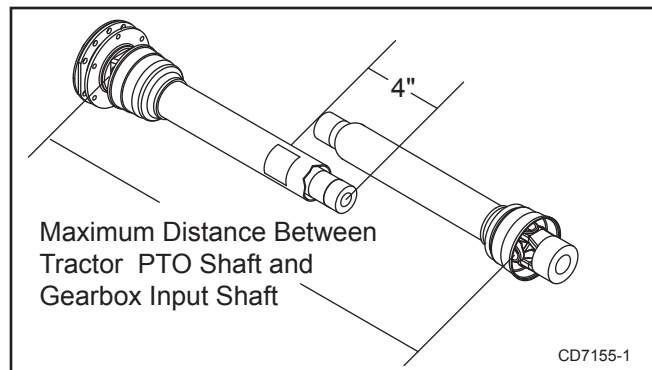


Figure 3. 4 Inch Minimum Overlap

Set the two U-joints to the minimum distance measured (this is the cutters highest point) and check to see if the driveline bottoms out. If driveline is too long follow the instructions to shortening the drive.

Shortening Driveline

1. Separate driveline into two halves and connect them to the tractor PTO and gearbox.
2. Place the two halves parallel to one another to determine how much the driveline must be shortened. See Figure 4 for example.



Figure 4. Drive Halves Placed Parallel

3. Measure from end of the upper shield to the base of the bell on the lower shield (A). Add 1-9/16" to dimension (A). See Figure 5.

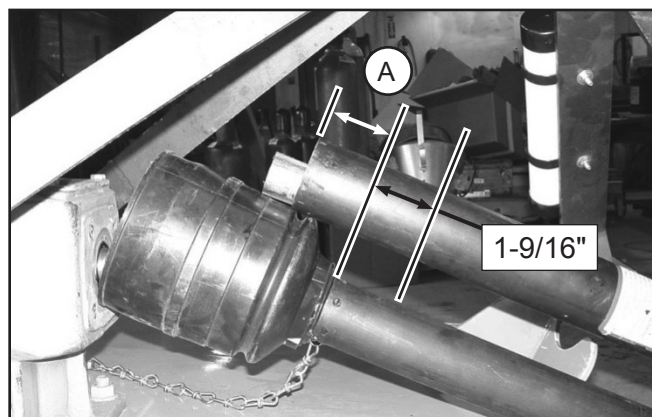


Figure 5. Determine Shield Length

- Cut the shield to the overall dimension (Figure 6).

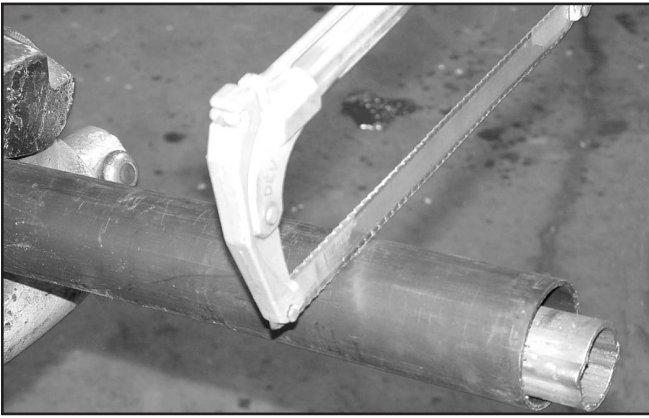


Figure 6. Cut Shield

- Place the cutoff portion of the shield against the end of the shaft and use it as a guide. Mark and cut the shaft. See Figure 7.
- Repeat step 5 for other half of drive.
- File and clean ends of both drive halves.



Figure 7. Cut Shaft to Length

Driveline Interference Check

- Check for proper clearance between driveline and mower deck.
- Slowly lift mower and observe driveline. If clearance between driveline and mower deck is less than 1 inch, shorten top link or limit upper travel of lower hitch arms. Refer to tractor operator's manual for instructions.

CUTTING HEIGHT ADJUSTMENT

NOTICE

- Avoid ground contact with blades. Striking ground with blades produces one of the most damaging shock loads a cutter can encounter. If this occurs repeatedly, the cutter, driveline, and gearboxes will be damaged.**

Cutting height range is from 2" to 12".

When selecting a cutting height, you should consider the area of operation. If the ground is rolling and has mounds the blades could contact, set the cutting height accordingly.

Pull-Type Units

To adjust cutter for normal mowing, select a cutting height (example: 4 inches). Blades are approximately 1-3/4" above bottom of cutter. Dimension A plus 1-3/4" equals the cutting height.

Using any of the optional cutting height mechanisms, raise or lower the tailwheel and set position A to 2-1/4" to achieve a 4" cutting height.

Loosen the jam nut on the attitude rod that runs from the tongue to the tailwheel. Adjust rod in or out until position B is approximately 1/2 inch more than position A. Refer to Figure 8.

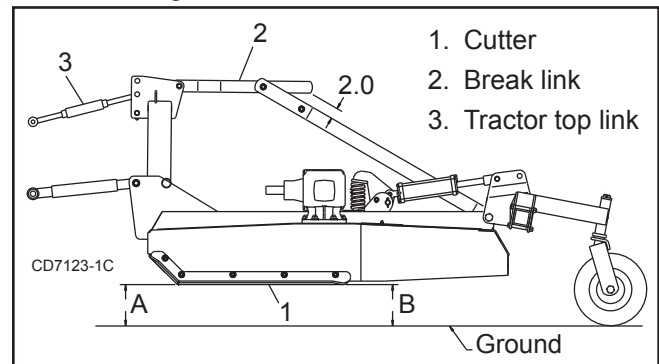


Figure 8. Cutting Height Adjustment

Mounted & Semi-Mounted Units

To adjust cutter for normal mowing, select a cutting height (example: 4 inches). Blades are approximately 1-3/4" above bottom of cutter. Dimension A plus 1-3/4" equals the cutting height.

Adjust the tractor 3-point hitch to a distance of 2-1/4" at position A to obtain a 4" cutting height. See Figure 8.

Using any of the optional height adjustment devices, raise or lower the tailwheel to obtain 2-1/2 to 2-3/4 inches at position B.

Adjust top link to provide 2 inches of clearance between the break link (2) and the rear of the lift links. See Figure 8. This clearance will allow the cutter to float over uneven terrain.

ATTITUDE ADJUSTMENT

(PULL-TYPE)

Normal Mowing

For the most economical power use and best cutting results, the cutter should be from 1/2" to 3/4" higher at the rear than at the front.

For grass and weed mowing, adjust cutter to run level or with the front slightly lower.

Shredding

For shredding, it is better to set rear of cutter slightly lower than the front. How much lower depends on the material to be shredded. Determine the best setting for your situation by experimenting. Use a slow ground speed for better shredding.

WHEEL SPACING

Wheels may be adjusted to any position for row crop shredding.

BLADE SELECTION

There are two blade options: standard suction blades and flat double-edge blades.

The standard suction blade is a general use, multi-purpose blade.

The double-edge blade requires less power because it does not mulch or recut material. It is designed for use in areas where blade wear is a problem. Sandy soils are extremely hard on blades.

Blade rotation, viewed from top of cutter, is clockwise for the right crossbar, and counter-clockwise for the left crossbar.

When one cutting surface of a double-edge blade is worn, the opposite one may be used by placing the blade on a crossbar of the opposite rotation. Blades from the right may be used on the left. Blades from the left may be used on the right.

Blades must be moved in pairs. Never use one new blade and one used blade on a crossbar.

TRACTOR OPERATION

Use care when operating around tree limbs and other low objects.

Use care and reduce ground speed on rough terrain. Always watch for hidden hazards.

Being knocked off or falling off tractor can result in serious injury or death.

Only use a tractor with a Roll Over Protective Structure (ROPS) and seat belt. Securely fasten seat belt before starting tractor.

The cutter is operated with tractor controls. Engage the PTO at a low rpm to prevent excessive loads on the cutter drive system. Increase throttle to proper PTO speed (540 rpm or 1000 rpm).

Be sure operator is familiar with all controls and can stop tractor and cutter quickly in an emergency. The operator should give complete, undivided attention to operating tractor and cutter.

OPERATING TECHNIQUE

Power for operating the cutter is supplied by the tractor PTO. Operate PTO at 540 rpm (1000 rpm on "Q" models). Know how to stop the tractor and cutter quickly in an emergency.

Engage PTO at a low engine rpm to minimize stress on the drive system and gearbox. With PTO engaged, raise PTO speed to 540 rpm (1000 rpm on "Q" models) and maintain throughout cutting operation.

Gearbox protection is provided by a slip clutch with replacement fiber disc. The slip clutch is designed to slip when excessive torsional loads occur.

Move slowly into material. Adjust tractor ground speed to provide a clean cut without lugging the tractor engine. Use a slow ground speed for better shredding.

Proper ground speed will depend on the terrain and the material's height, type, and density.

Normally, ground speed will range from 2 to 5 mph. Tall, dense material should be cut at a low speed; thin, medium-height material can be cut at a faster ground speed.

Always operate tractor PTO at proper rpm (540 or 1000) to maintain blade speed and to produce a clean cut.

Under certain conditions tractor tires may roll down some grass and prevent cutting at the same height as the surrounding area. When this occurs, reduce your ground speed but maintain PTO at 540 rpm (1000 rpm on "Q" models). The lower ground speed will permit grass to rebound partially.

Cutter Operation

When beginning operation of the cutter, make sure that all persons are in a safe location. Slowly move into the material with the tractor PTO set at 540 rpm (1000 rpm on "Q" models).

Mowing Tips

! WARNING

- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.

! CAUTION

- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

Maximum recommended ground speed for cutting or shredding is 5 miles per hour. Adjust tractor ground speed by using higher or lower gears to provide a clean cut without lugging tractor engine.

Tall material should be cut twice. Cut material higher the first pass. Cut at desired height at 90 degrees the second pass.

Remember, sharp blades produce cleaner cuts and use less power.

Before entering an area, analyze it to determine the best procedure. Consider the height and type of material to be cut and the terrain type (hilly, level or rough, etc.).

TRANSPORTING

! WARNING

- The maximum transport speed for towed and semi-mounted machines is 20 mph (32 km/h). Regardless of the maximum speed capability of the towing tractor, do not exceed the implement's maximum transport speed. Doing so could result in:
 - Loss of control of the implement and tractor
 - Reduced or no ability to stop during braking
 - Implement tire failure
 - Damage to the implement or its components.
- Use additional caution and reduce speed when under adverse surface conditions, turning, or on inclines.
- Never tow this implement with a motor vehicle.

1. Always transport with cutter in raised, locked position.
2. Raise cutter with hydraulic cylinder.
3. Rotate transport lock over cylinder rod.
4. Lower cylinder against transport lock.
5. To lower cutter for operation, extend hydraulic cylinder. Rotate transport lock back away from cylinder rod. Lower to desired cutting height.

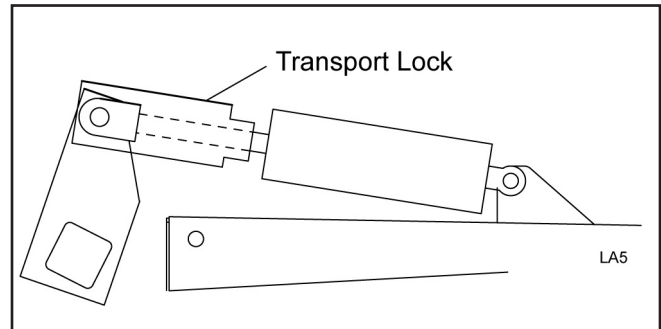


Figure 9. Transport Lock Operation

STORAGE

! WARNING

- Keep children, bystanders and animals away from the equipment and the storage area.

ON MOUNTED CUTTERS:

- Disconnect cutter driveshaft and secure up off ground. Raise cutter with 3-point hitch. Place blocks under cutter side skids. Lower cutter onto blocks. Disconnect hydraulic lines to optional cylinder. Disconnect cutter from tractor 3-point hitch and carefully drive tractor away from cutter.

ON PULL-TYPE CUTTERS:

- Raise cutter and block securely. Block wheels and raise tongue with jack. Disconnect hydraulic lines to optional cylinder. Disconnect driveline and secure up off the ground.

PRE-OPERATION CHECKLIST

(OWNER'S RESPONSIBILITY)

- _____ Review and follow all safety rules and safety decal instructions on pages 7 through 12.
- _____ Check that all safety decals are installed and in good condition. Replace if damaged.
- _____ Check that equipment is properly and securely attached to tractor.
- _____ Make sure driveline spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- _____ Set tractor PTO at correct rpm for your equipment.
- _____ Lubricate all grease fitting locations. Make sure PTO shaft slip joint is lubricated.
- _____ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting tractor. Check that hoses are not twisted, bent sharply, kinked, frayed, or pulled tight. Replace any damaged hoses immediately.
- _____ Raise and lower equipment to make sure air is purged from hydraulic cylinders and hoses.
- _____ Check that all hardware is properly installed and secured.
- _____ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.
- _____ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.
- _____ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- _____ Check cutting height, front-to-rear attitude, and top link adjustment.
- _____ Before starting engine, operator must be in tractor seat with seat belt fastened. Place transmission in neutral or park, engage brake and disengage tractor PTO.
- _____ Inspect area to be cut and remove stones, branches, or other hard objects that might be thrown and cause injury or damage.
- _____ Check that belt or chain shielding is in good condition and replace any damaged parts.
- _____ Make sure tractor 3-point lift links do not interfere with hydraulic hoses or driveline throughout full turning range.

OWNER SERVICE

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.

WARNING

- Keep all persons away from operator control area while performing adjustments, service, or maintenance.

CAUTION

- If you do not understand any part of this manual and need assistance, see your dealer.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

BLOCKING METHOD

WARNING

- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.

To minimize the potential hazards of working underneath the cutter, follow these procedures:

1. Jackstands with a load rating of 1000 lbs. or more are the only approved blocking device for this cutter. Install jackstands (shown by Xs in Figure 10) under the cutter before working underneath unit.

Do not position jackstands under wheels, axles, or wheel supports. Components can rotate and cause cutter to fall.

2. Consider the overall stability of the blocked unit. Just placing jackstands underneath will not ensure your safety.

The working surface must be level and solid to support the weight on the jackstands. Make sure jackstands are stable, both top and bottom. Make sure cutter is approximately level.

3. With full cutter weight lowered onto jackstands, test blocking stability before working underneath.
4. If cutter is attached to tractor when blocking, set the brakes, remove key, and block cutter before working underneath.
5. Securely block rear tractor wheels, in front and behind. Tighten tractor lower 3-point arm anti-sway mechanism to prevent side-to-side movement.

LUBRICATION

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

See Figure 10 for lubrication points and frequency or lubrication based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.

Use a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive for all locations unless otherwise noted. Be sure to clean fittings thoroughly before attaching grease gun. One good pump of most guns is sufficient when the lubrication schedule is followed.

Gearbox Lubrication

1. For gearbox, use a high quality gear oil with a viscosity index of 80W or 90W and an API service rating of GL-4 or -5 in gearboxes.
2. Fill gearbox until oil is above lower line on dipstick. Check gearbox daily for evidence of leakage, and contact your dealer if leakage occurs.

Driveline Lubrication

1. Lubricate the driveline slip joint every ten operating hours. Failure to maintain proper lubrication could result in damage to U-joints, gearbox, and driveline.
2. Lower cutter to ground, disconnect driveline from tractor PTO shaft, and slide halves apart but do not disconnect from each other.
3. Apply a bead of grease completely around male half where it meets female half. Slide drive halves over each other several times to distribute grease.

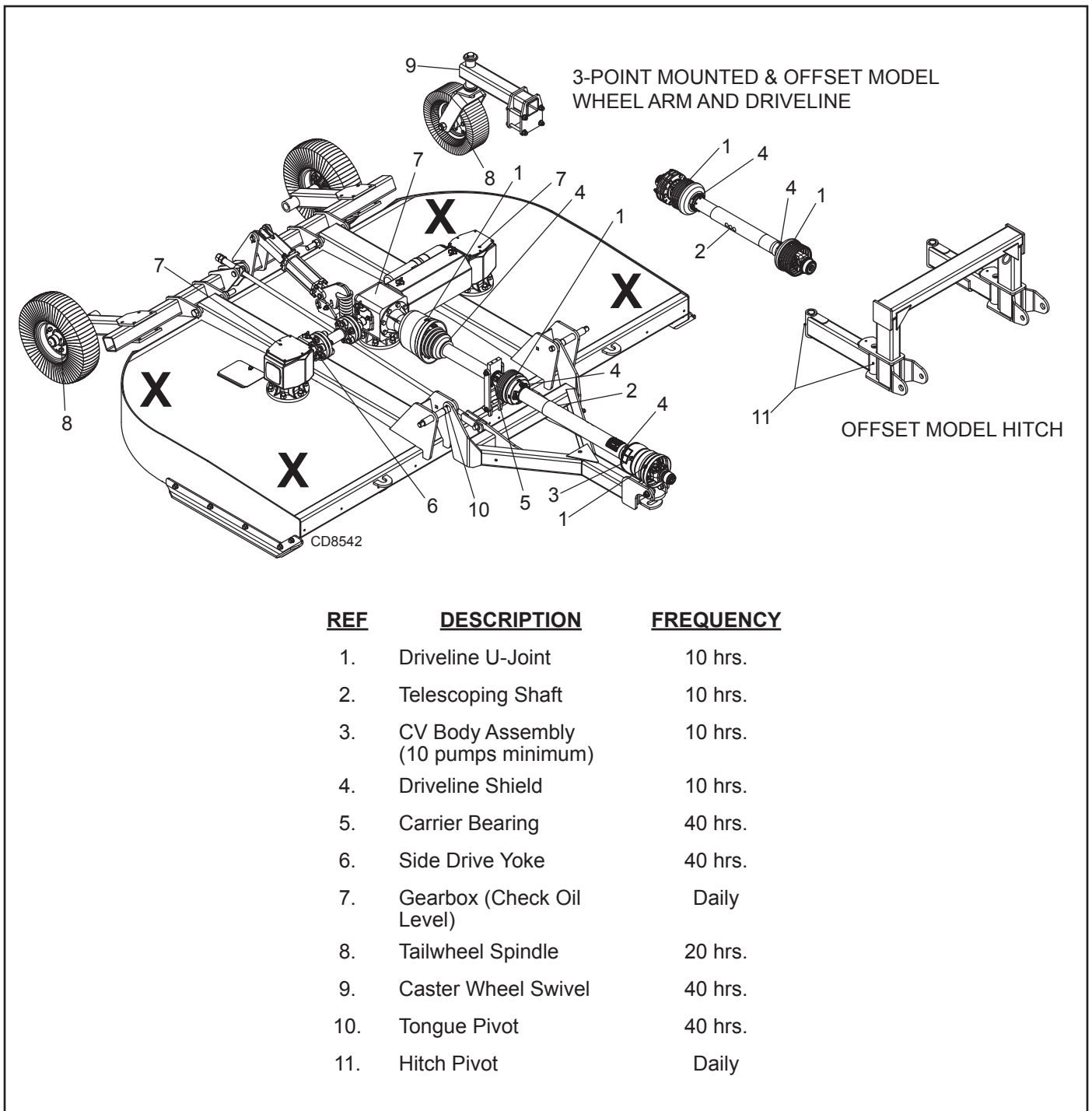


Figure 10. Jackstand Placement and Lubrication Points

BLADE SERVICING

Removing Blades

(Figure 11)

NOTICE

- If blade pin (12) is seized in crossbar and extreme force will be needed to remove it, support crossbar from below to prevent gearbox damage.

1. Disconnect driveline from tractor PTO.
2. Open blade access cover and align crossbar (8) with blade access hole in the cutter frame. Remove cap screw (32), blade pin lock clip (16), keyhole plate (15), and shims (13 & 14). Carefully drive blade pin (12) out of crossbar.
3. Rotate crossbar (8) and repeat for opposite blade.

Installing Blades

CAUTION

- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.

NOTICE

- Crossbar rotation has counterclockwise rotation on left gearbox and clockwise rotation on the right gearbox when looking down on cutter. Be sure to install blade cutting edge to lead in correct rotation.

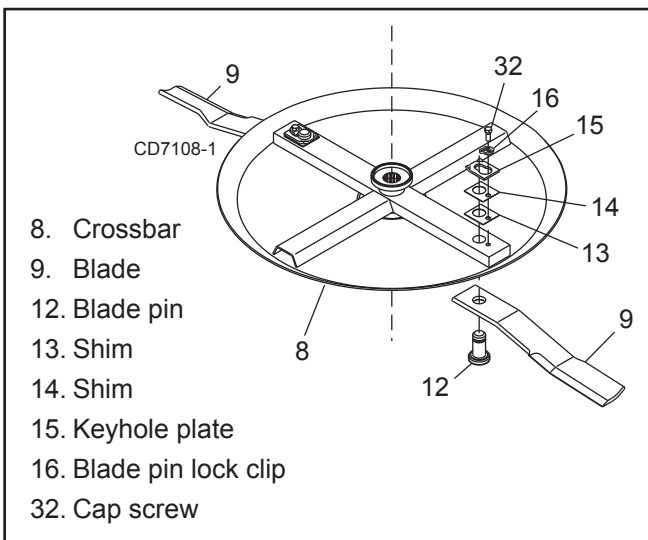


Figure 11. Blade Assembly

NOTE: Always replace or sharpen both blades at the same time.

1. Inspect blade pin (12) for nicks or gouges, and if you find any, replace the blade pin.
2. Insert blade pin through the blade (9). Blade should swivel on blade pin; if it doesn't, determine the cause and correct.
3. Align crossbar (8) with blade access hole in cutter frame. Apply a liberal coating of Never Seez® or equivalent to blade pin and crossbar hole. Make sure blade offset is away from cutter. Push blade pin through crossbar. Pin should rotate freely prior to installing blade clip (16).
4. Install shims (13 & 14) over blade pin.

NOTE: Only use enough shims to allow keyhole plate (15) to slide into blade pin groove.

5. Install blade clip (16) over keyhole plate and into blade pin groove.
6. Secure into position with cap screw (32). Torque cap screw to 85 lbs ft.
7. Repeat steps for opposite side.

NOTE: Blade should be snug but should swivel on pin without having to exert excessive force. Keep any spacers not used in the installation as replacements or for future installation.

Sharpening Blades

NOTICE

- When sharpening blades, grind the same amount on each blade to maintain balance. Replace blades in pairs. Unbalanced blades will cause excessive vibration, which can damage gearbox bearings. Vibration may also cause structural cracks to cutter.

1. Sharpen both blades at the same time to maintain balance. Follow original sharpening pattern.
2. Do not sharpen blade to a razor edge—leave at least a 1/16" blunt edge.
3. Do not sharpen back side of blade.

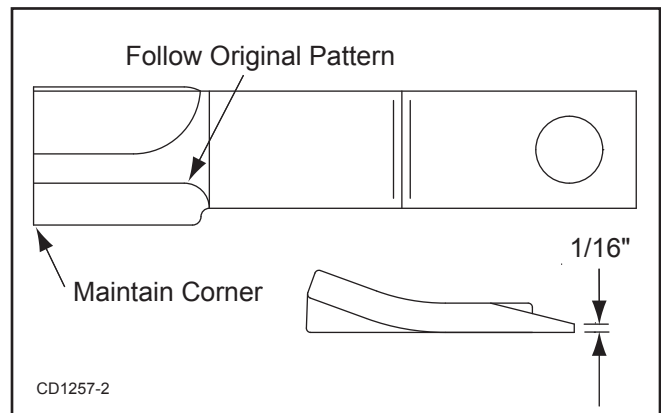
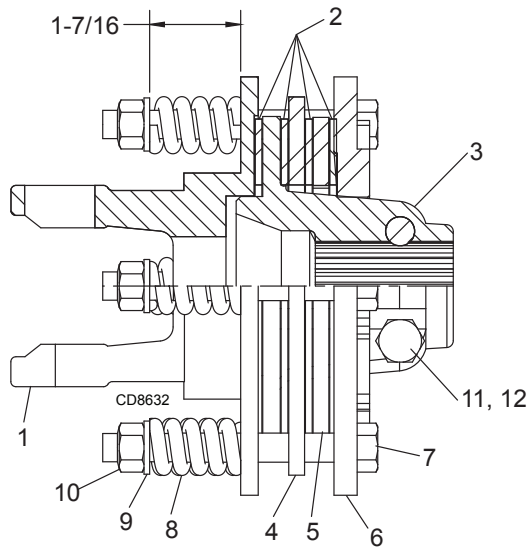
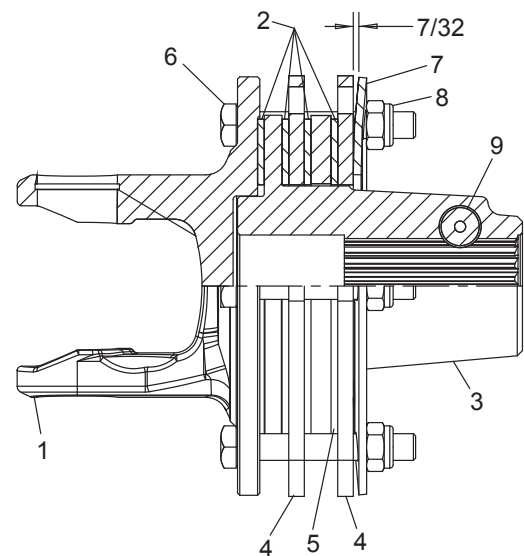


Figure 12. Sharpen Blade Cutting Edge



SLIP CLUTCH FOR: DSO8.50, DSO10.50, DS10.50
PULL-TYPE & DS10.50 3-POINT MOUNTED MODELS

1. Flange yoke
2. Friction disc
3. Hub, 1-3/4" 20-spline
4. Drive plate
5. Drive plate - SN
6. Thrust plate
7. 12 mm x 115 mm GR8.8 HHCS
8. Compression spring
9. Flat washer
10. 12 mm x 1.25P hex lock nut
11. 12 mm x 65 mm GR8.8 HHCS
12. 12 mm x 1.75P hex lock nut



SLIP CLUTCH FOR: DS8.50 PULL-TYPE &
DS8.50 3-POINT MOUNTED MODELS

1. Flange yoke
2. Friction disc
3. Hub, 1-3/4" 20-spline
4. Drive plate
5. Drive plate
6. 12 mm x 80 mm GR8.8 HHCS
7. Belleville spring
8. 12 mm x 1.75P hex lock nut
9. Lock assembly

Figure 13. Slip Clutch Assembly

SLIP CLUTCH ADJUSTMENT

The slip clutch is designed to slip so that the gear-box and driveline are protected if the cutter strikes an obstruction.

A new slip clutch or one that has been in storage over the winter may seize. Before operating the cutter, make sure it will slip by performing the following operation:

Compression Spring Clutch

(DSO8.50, DSO10.50 & DS10.50 Pull-Type & DS10.50 3-Point Mounted Models)

1. Turn off tractor engine and remove key.
2. Remove driveline from tractor PTO.
3. Loosen six 12 mm cap screws (7) to remove all tension from compression spring (8).

4. Hold clutch hub (3) solid and turn shaft to make sure clutch slips.
5. If clutch does not slip freely, disassemble and clean the flange yoke (1), clutch hub (3), drive plate (5), and thrust plate faces (6).
6. Reassemble clutch.
7. Compress each of the six compression springs (8) by tightening the six cap screws (7) and lock nuts (10). The compression springs should be compressed to a height of 1-7/16", not including washer (9). The minimum spring height is 1.36". See Figure 13.
8. If a clutch continues to slip when the springs are compressed to 1.36", check friction discs (2) for excessive wear. Discs are 1/8" when new. Replace discs after 1/16" wear. Minimum disc thickness is 1/16".

Belleville Spring Clutch

(DS8.50 Pull-Type and DS8.50 3-Point Mounted Models)

1. Turn off tractor engine and remove key.
2. Remove driveline from tractor PTO.
3. Loosen six 12 mm cap screws (6) to remove all tension from Belleville spring plate (7).
4. Hold clutch hub (3) solid and turn shaft to make sure clutch slips.
5. If clutch does not slip freely, disassemble and clean the thrust plate faces (4), flange yoke (1), and clutch hub (3).
6. Reassemble clutch.
7. Tighten Belleville spring (7) until the gap between the spring and the thrust plate (4) is $7/32"$. Do not set the gap smaller than $3/16"$.
8. If a clutch continues to slip when the spring is compressed to a $3/16"$ gap, check friction discs (2) for excessive wear. Discs are $1/8"$ when new. Replace disc after $1/16"$ wear. Minimum disc thickness is $1/16"$.

SHIELDING REPAIR

! DANGER

- Full chain or rubber shielding is required for all non-agricultural mowing. Full shielding is also recommended for all agricultural use to further reduce the risk of thrown objects.

Rear Band

Inspect rear band each day of operation and replace if bent, cracked or broken.

Repairing Rubber Shielding

Inspect rubber shielding each day of operation and replace if cracked, broken or excessively worn.

Repairing Optional Chain Shielding

Inspect chain shielding each day of operation and replace any broken or missing chains as required.

FLEXIBLE COUPLER RUBBER DISK REPLACEMENT

The flexible coupler side drive is designed to flex when striking heavy objects or during start-up to protect gearboxes. The rubber disks will wear out over time and require replacement much like slip clutch disks. To maximize rubber disk life, lower tractor engine speed to an idle when engaging the PTO and avoid striking the ground with cutter blades.

Periodically inspect the disks for signs of cracking. A disk may run for some time after a crack starts but this is the first sign that disk replacement is required in the future.

To replace the disks, remove hardware items 5, 6, 7, and 8. Remove sleeves (6) from old disk and install in new disk. Reassemble and torque bolts to 85 lbs-ft. See Figure 14. Take special care not to rotate gearbox shaft and throw blades out of time. If rubber disks have failed and blades are hitting, you will need to re-time the blades per instructions on page 34.

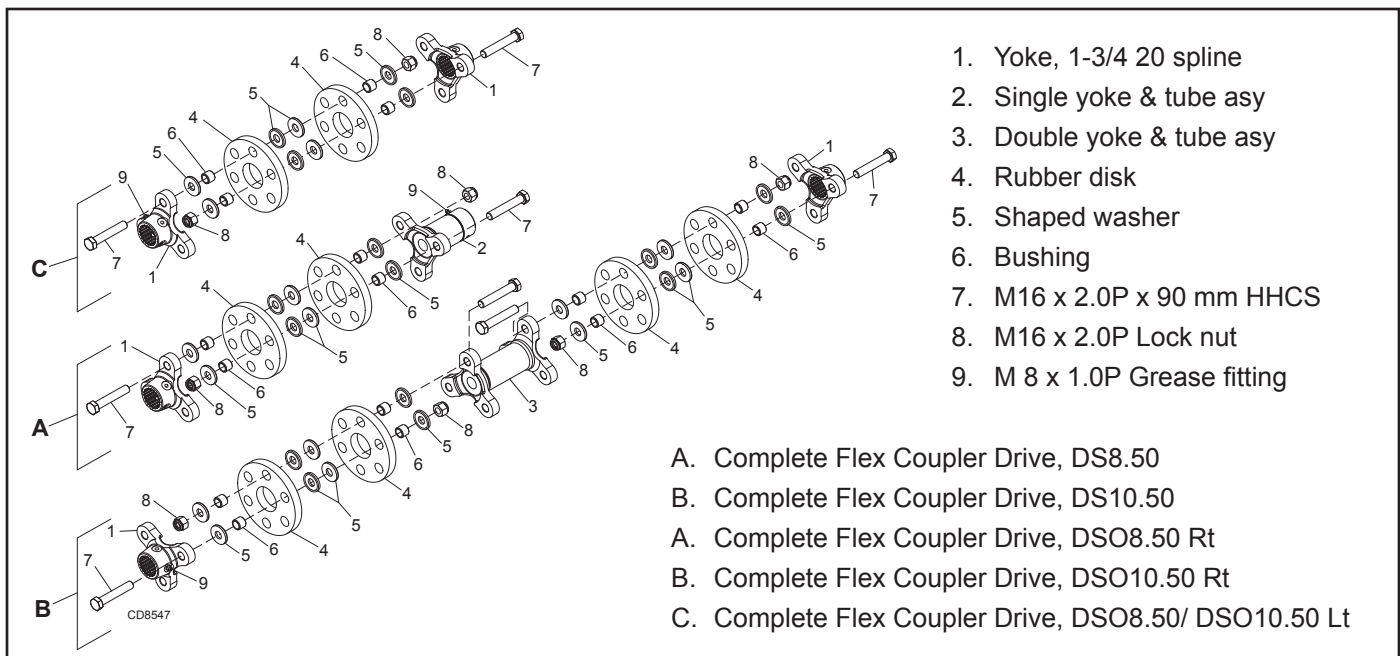


Figure 14. Flexible Couplers

SERVICING TIRES SAFELY

⚠ WARNING



Used Aircraft Tires (Figure 15)

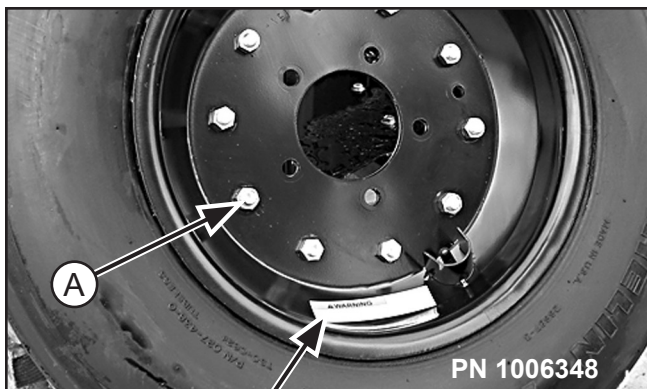
Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure and result in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and an extension hose long enough to allow you to stand to the side — not in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.

Never remove split rim assembly hardware (A) with the tire inflated.



⚠ WARNING

EXPLOSION HAZARD

RELEASE ALL AIR PRESSURE BEFORE LOOSENING BOLTS. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH. MAX. SPEED: 20 MPH, MAX. WEIGHT: 4000 LBS., MAX. AIR PRESSURE: 40 PSI.

1006348

Figure 15. Split Rim Tire Servicing

CLEANING CUTTER

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
 - Remove the remainder using a low-pressure water spray.
1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
 2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
 - Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
 - Replace any safety decals that are missing or not readable (supplied free by your Woods dealer).
 - See Safety Decals section for location drawing.

TROUBLESHOOTING

MOWING CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Does not cut	Dull blades Worn or broken blades Incorrect PTO speed Ground speed too fast Drive not functioning (blades do not turn when PTO is running) Gearbox malfunction Excessive clutch slippage Incorrect blade direction	Sharpen blades. Replace blades. (Replace in pairs only.) Set at rated PTO speed. Reduce ground speed. Check drive shaft connection. Check gearbox. Repair gearbox. Adjust clutch. Check to be sure blade edge is correct for direction of rotation.
Streaks or ragged cut	Broken or worn blades Attitude incorrect Ground speed too fast Excessive cutting height Excessive lush and tall vegetation	Replace or sharpen blades. Level machine. Reduce ground speed. Lower cutting height. (Note: Set height so blades do not frequently hit ground.) Recut at 90° to first pass.
Excessive side skid wear	Running with skids continuously on ground	Raise cutting height or adjust.
Excessive clutch slippage	Clutch out of adjustment Clutch discs worn; wear stops contacting opposite plate Blades hitting ground	Adjust clutch. Replace discs. Raise cutting height.
Vibration	Broken blade Bearing failure Hitch length incorrect Universal drive Flexible coupler is binding	Replace blades in pairs. Check gearbox shafts for side play. Reset hitch length. Adjust pedestal bearing height to be parallel to ground. Lubricate grease fitting on spline yoke.
Blades hitting deck	Bent blades or crossbar	Replace bent blades or crossbar.
Blades hitting each other	Side drive failure	Retime blades, or replace rubber coupler disks. See page 34.
Unit will not raise	Low oil	Add hydraulic oil.

DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, do not attempt this repair.

⚠ WARNING

- Before working underneath, disconnect drive-line, raise cutter, lock in transport position, and block cutter securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.

⚠ CAUTION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

GEARBOX MAINTENANCE

NOTE: Read this entire section before starting any repair. Many steps are dependent on each other.

1. Fill gearbox with SAE 80W or 90W gear lube until it runs out the side level plug.

NOTE: Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost effective. Purchasing a complete gearbox is more economical.

2. Inspect gearbox for leakage and bad bearings. Leakage is a very serious problem and must be corrected immediately.

Seal Replacement

Recommended sealant for gearbox repair is Permatex® Aviation 3D Form-A-Gasket or equivalent.

Leakage can occur at the vertical or horizontal gaskets and shaft seals.

Leakage at the horizontal gasket or seal can be repaired without removing the gearbox from the cutter.

Seal Installation

NOTE: Proper seal installation is important. An improperly installed seal will leak.

1. Clean area in housing where seal outer diameter (OD) seats. Apply a thin coat of Permatex.
2. Inspect area of shaft where seal seats. Remove any burrs or nicks with an emery cloth.
3. Lubricate gear shaft and seal lips.
4. Place seal squarely on housing, spring-loaded lip toward housing. Select a piece of pipe or tubing with an OD that will sit on the outside edge of the seal but will clear the housing. Tubing with an OD that is too small will bow seal cage and ruin seal.
5. Carefully press seal into housing, avoiding distortion to the metal seal cage.

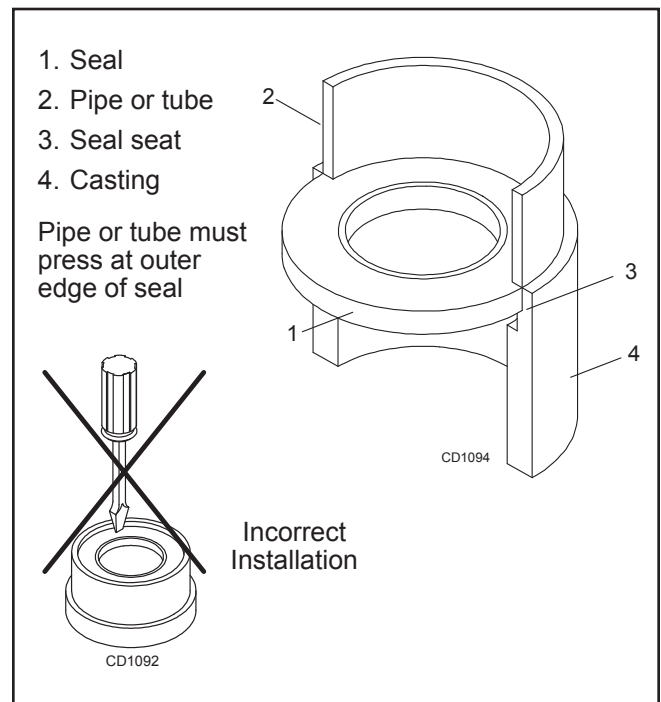


Figure 13. Seal Installation

VERTICAL SHAFT SEAL REPAIR (SPINDLE GEARBOX)

(Figure 14)

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove vent plug (24) and siphon gear lube from housing through this opening.
3. Remove crossbar (see Remove cotter pin (34) and castle nut (33) from bottom of crossbar, page 32).

4. Remove protective seal (8) and vertical shaft seal (18). Replace seal (18) with new seal (see Seal Replacement page 27).

Vertical seal should be recessed in housing. Horizontal seal (19) should be pressed flush with outside of housing.

NOTE: Distortion to seal cage or damage to seal lip will cause seal to leak.

5. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.
6. Remove and replace any seal damaged in installation.

Horizontal Shaft Seal Repair

(Figure 14)

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove vent plug (24) and siphon gear lube from housing through this opening.
3. If the leak occurred at either end of horizontal shaft, remove oil cap (20) and/or oil seal (19). Replace with new one (refer to Seal Installation, page 27).
4. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.

SPINDLE GEARBOX REPAIR

(Figure 14)

NOTE: Replacing gears, shafts, bearings, and seals may not be cost effective. Purchasing a complete gearbox may be more economical.

Remove Gearbox From Cutter

1. Disconnect and remove flex side driveline from the gearbox.
2. Remove cotter pin and nut from vertical shaft and remove crossbar (see Remove cotter pin (34) and castle nut (33) from bottom of crossbar page 32).
3. Remove breather level plug (24) and siphon gear lube from housing through this opening.
4. Remove the six bolts that attach gearbox to cutter and remove gear.

Disassemble Gearbox

1. Remove plug from side of gearbox and pour out gear oil.
2. Remove oil cap (20) (to be replaced).
3. Remove snap ring (10) and shim (13) from input shaft (3).
4. Support gearbox in hand press and push on input shaft (3) to remove bearing (7).
5. Remove six cap screws (23) and top cover (22) from housing. Remove gear (1) from inside housing.

6. Remove oil seal (19) from front of housing (to be replaced).
7. Remove snap ring (10) and shim (13) from front of housing (2).
8. Remove input bearing (7) by using a punch and hammer from outside of housing.
9. Support housing in vise in a horizontal position.
10. The castle nut (15), cotter pin (25), and hub are already removed with the stump jumper/crossbar. Remove the protective seal (8), and oil seal (18).
11. Remove cotter pin (9), castle nut (14), and washer (17) from output shaft (4).
12. Remove output shaft (4) by using a punch and hammer and tap on top to drive down. Remove gear (5) and shim (16) from inside housing.
13. Remove bottom bearing (6) by using a punch and hammer from the top, outside the housing.
14. Support housing upside down (top cover surface) and remove bottom bearing (6) by using a punch and hammer from the bottom side of the housing.
15. Inspect gears for broken teeth and wear. Some wear is normal and will show on loaded side. Forged gear surfaces are rough when new. Check that wear pattern is smooth.
16. Inspect vertical and horizontal shafts for grooves, nicks, or bumps in the areas where the seals seat. Resurface any damage with emery cloth.
17. Inspect housing and caps for cracks or other damage.

Assemble Gearbox

1. Clean housing, paying specific attention to areas where gaskets will be installed.
2. Wash housing and all components thoroughly. Select a clean area for gearbox assembly. Replace all seals, bearings, and gaskets. All parts must be clean and lightly oiled before reassembling.
3. Insert both output bearings (6) in the housing, using a round tube of the correct diameter and a hand press.
4. Slide output shaft (4) through both bearings (6) until it rests against top bearing (6).
5. Slide shim (16) over output shaft (4).
6. Press gear (5) onto output shaft (4) and secure with washer (17), castle nut (14), and cotter pin (9).
7. Apply grease to lower seal lips (18) and press seal (18) over output shaft (4), using a tube of the correct diameter. Be sure not to damage seal lip.
8. Press in housing so that seal is recessed. Press protective seal (8) until seated flush with housing. Verify that the seal (8) is seated correctly.
9. Press bearing (7) into the housing, using a round tube of the correct diameter and a hand press. Secure with shim (13) and snap ring (10).

10. Secure snap ring (11) on input shaft (3) if not already secure.
11. Place gear (1) through top of housing and align gear (1) and gear (5) so that gear teeth are a match.
12. While holding gear (1) in place, slide input shaft (3) through gear (1) and bearing (7). Align splines on shaft (3) and gear (1). Slide spacer (12) over input shaft (3) and press bearing (7) onto input shaft (3), using a round tube of the correct diameter and a hand press.
13. Slide shim (13) over input shaft (3) and secure with snap ring (10).
14. Check input shaft end float by moving the input shaft (3) by hand. If end float is higher than 0.012", insert shim between input shaft (3) and rear bearing (7). Repeat until end float is less than 0.012". Check rotational torque by hand. The torque should be less than 2.2 lbs-inch.
15. Check that the gear backlash is between 0.006" and 0.016". You should not have to adjust the backlash.
16. Press in input oil seal (19), using tube of correct diameter. Be careful not to damage seal lip.
17. Press oil cap (20) on to cover the rear of housing, using a tube of the correct diameter.
18. Place top cover (22) on top of housing and secure with six cap screws (23).

19. Check gearbox housing for leaks by plugging all holes except one. Apply 4 psi compressed air and immerse the gearbox in water to verify that there are no leaks.
20. Remove gearbox from water and dry off with compressed air. Add SAE 80W or 90W EP oil until it runs out of side level hole. Tighten all plugs.

Horizontal Seal Leak Repair

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove vent plug (9) and siphon gear lube from housing through this opening.
3. Remove input seal (4). Replace with new one (refer to Seal Installation, page 27).

Fill gearbox with SAE 80W or 90W gear lube until it runs out the side level plug.

Reinstall Gearbox

NOTE: Gearbox is heavy: do not attempt to move without mechanical assistance.

1. Set gearbox on cutter and fasten with bolts and nuts. Torque bolts to 300 lbs-ft.
2. Attach crossbar (Crossbar Installation, page 33).

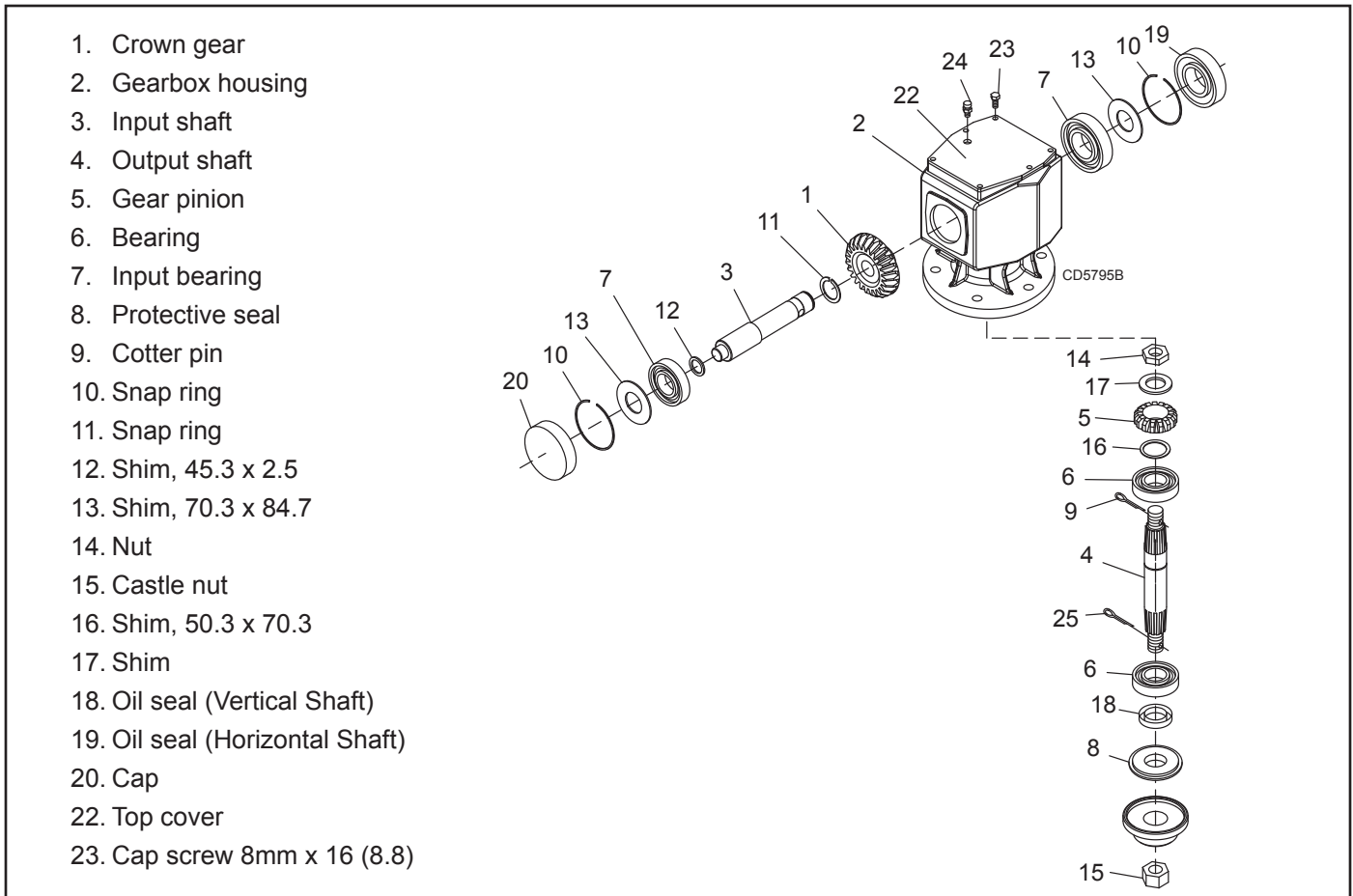


Figure 14. Spindle Gearbox Assembly

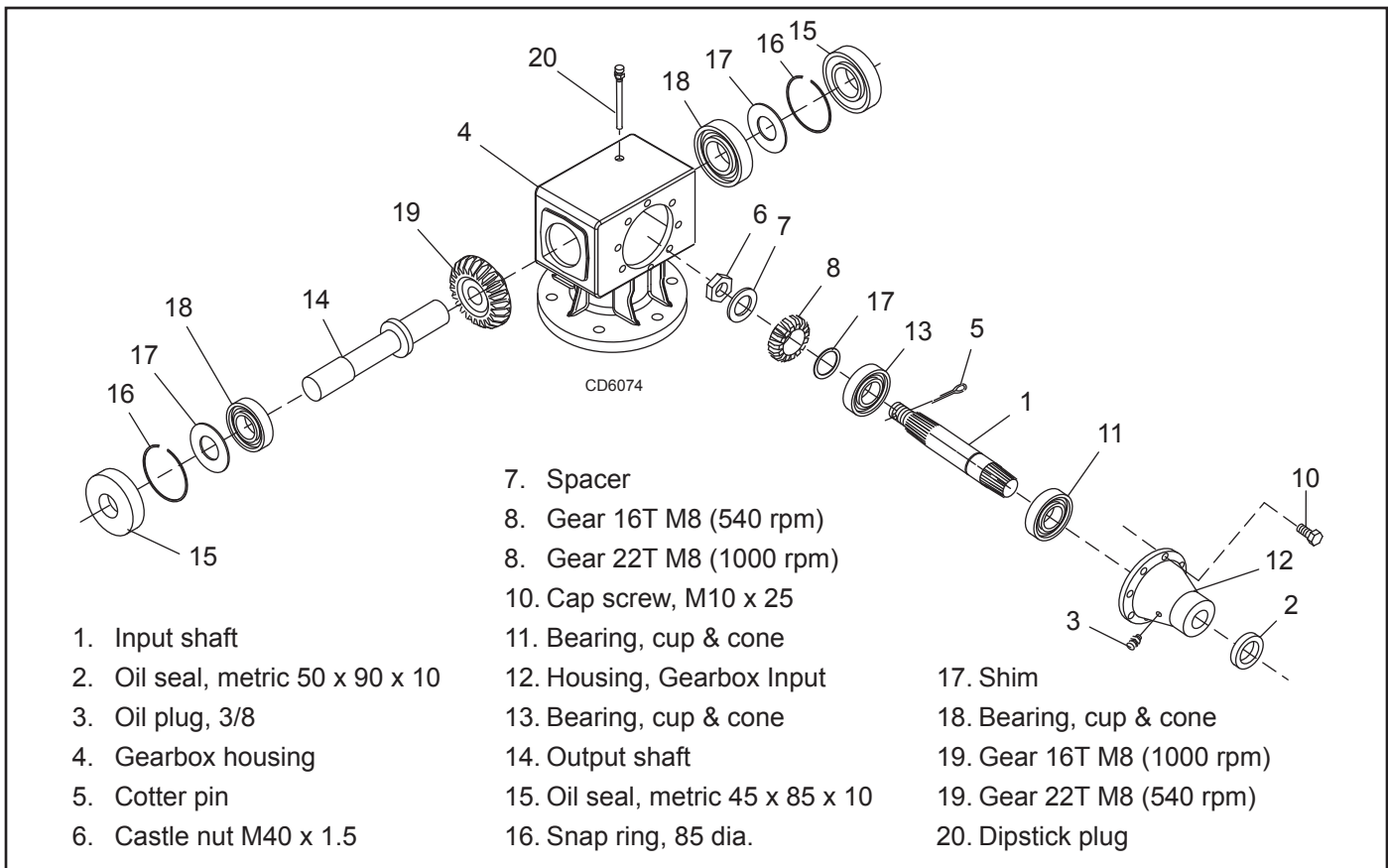


Figure 15. Splitter Gearbox Assembly

SPLITTER GEARBOX REPAIR

(Figure 15)

NOTE: Replacing gears, shafts, bearings, and seals may not be cost effective. Purchasing a complete gearbox may be more economical.

Remove Gearbox from Cutter

1. Disconnect driveline from the tractor PTO and remove it from center gearbox.
2. Remove dipstick plug (20) and siphon gear lube from housing through this opening.

NOTE: Flex coupler driveline can not be removed when center and side gearboxes are bolted in place.

3. Disconnect and remove flex coupler driveline from side of gearbox by:
 - a. Removing six 3/4 x 2-1/2 cap screws and 3/4 hex nuts from around center gearbox
 - b. Removing tapered cap screw and hex nut from flex coupler yoke
 - c. Rotating gearbox and slide flex coupler from gearbox shaft.

Disassemble Gearbox

(Figure 15)

1. Remove breather plug from top of gearbox.
2. Remove plug (3) from side of input housing (12) and pour out gear oil.
3. Remove eight 10 mm cap screws (10) from around input housing (12). Remove input shaft assembly and housing.
4. Remove oil seals (15) (to be replaced) from both sides of output shaft (14).
5. Remove snap rings (16) and shims (17) from both sides of output shaft (14).
6. Support gearbox in a handpress and push on left side of output shaft (14) to remove right bearing (18) and gear (19) from housing.
7. Support housing in vise in a horizontal position.
8. Remove left bearing (18) by using a punch and hammer from right side of housing. Drive bearing out of housing.
9. Remove cotter pin (5), castle nut (6), shim (7), gear (8) and shim (17) from input shaft (1).
10. Remove seal (2) (to be replaced) from input housing (12).

11. Support input housing in a vise and remove bearing (11) by using a punch and hammer. Drive bearing out of housing.
12. Inspect gears for broken teeth and wear. Some wear is normal and will show on loaded side. Forged gear surfaces are rough when new. Check that wear pattern is smooth.
13. Inspect vertical and horizontal shafts for grooves, nicks, or bumps in the areas where the seals seat. Resurface any damage with emery cloth.
14. Inspect housing and caps for cracks or other damage.

Assemble Gearbox

(Figure 15)

1. Clean housing, paying specific attention to areas where gaskets will be installed.
2. Wash housing and all components thoroughly. Select a clean area for gearbox assembly. Replace all seals, bearings, and gaskets. All parts must be clean and lightly oiled before reassembling.
3. Press bearing (18) in left side of gearbox housing using a round tube of the same diameter and a handpress.
4. Place gear (19) inside of gearbox housing.
5. Insert output shaft (14) through opening in right side of gearbox, gear (19), and bearing (18) on left side of housing.
6. Place second bearing (18) over output shaft on right side and press into housing, using a round tube of the same diameter and a handpress.
7. Install shim (17) and snap ring (16) to right side of housing to secure output shaft in housing.
8. Place seal (15) over output shaft on right side and press into housing, using a round tube of the same diameter and a handpress.

9. Install shim (17) and snap ring to left side of housing.
10. Place seal (15) over output shaft on left side and press into housing, using a round tube of the same diameter and a handpress.
11. Press bearings (11) into input housing (12), using a round tube of the same diameter and a handpress.
12. Assembly bearing (13), shim (17), gear (8), shim (7), and castle nut (6) to input shaft (1).
13. Align groove in castle nut (6) and hole in end of shaft and insert cotter pin (5).
14. Insert input shaft assembly into gearbox housing and align teeth of the two gears.
15. Place input housing (12) over input shaft (1) and secure into position using cap screws (10).
16. Place seal (2) over input shaft on cover and press into housing, using a round tube of the same diameter and a handpress.
17. Check gearbox housing for leaks by plugging all holes except one. Apply 4 psi compressed air and immerse the gearbox in water to verify that there are no leaks.
18. Remove gearbox from water and dry off with compressed air. Add SAE 80W or 90W EP oil until it runs out of level hole in front cover. Tighten all plugs.

Reinstall Gearbox

NOTE: Gearbox is heavy: do not attempt to move without mechanical assistance.

1. Install flex coupler driveline between side gearboxes and center gearbox.
2. Set gearbox on cutter and fasten with bolts and nuts. Torque bolts to 300 lbs-ft.

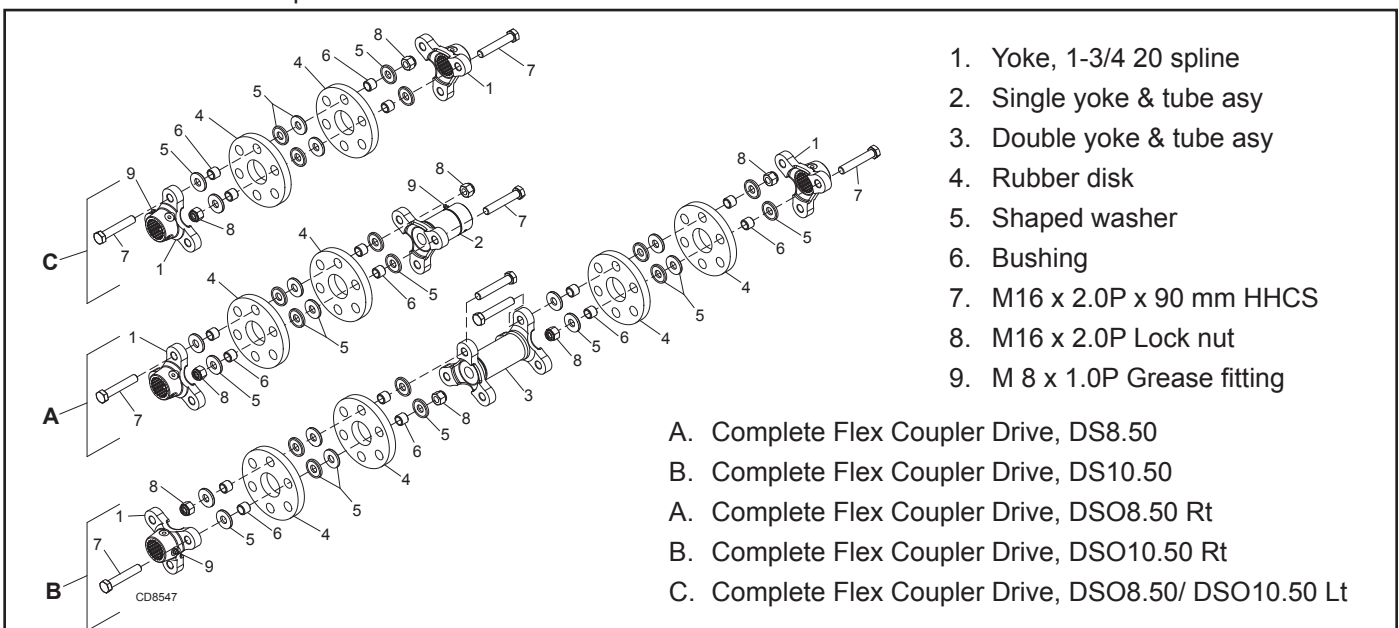


Figure 16. Side Drive Assembly

SIDE DRIVE SERVICE

The drives between the center and side gearboxes contain rubber shock-absorbing discs. To service or remove the side drives or remove a gearbox, the flexible coupling must be disassembled. See page 23 for rubber disk replacement.

Remove end yokes by removing nuts (8) and sliding bolt (7) inward to clear yoke. Do not remove bolt unless rubber disks (4) are to be serviced. Remove complete center section by lifting straight up on center shaft (3). The outer yoke can be slid off gearbox shaft. The inner yoke is held by two set screws.

Reassemble shaft as shown in Figure 16. Use the special formed washer (5) and bushings (6) between the rubber disks (4) and under bolt head or nut near rubber disc. Tighten nuts (8) and bolts (7) to 85 lbs-ft. Tighten set screw.

NOTE: Crossbar must be re-timed anytime a crossbar or a side drive is disconnected. (See page 34.)

CROSSBAR

Crossbar Removal

1. Access bottom side of cutter for crossbar removal. See BLOCKING METHOD, page 20.

NOTE: You will need to use either the puller screw (Item 6, Figure 18) or a small hydraulic jack to remove the crossbar.

2. Remove blades as shown in Figure 17.

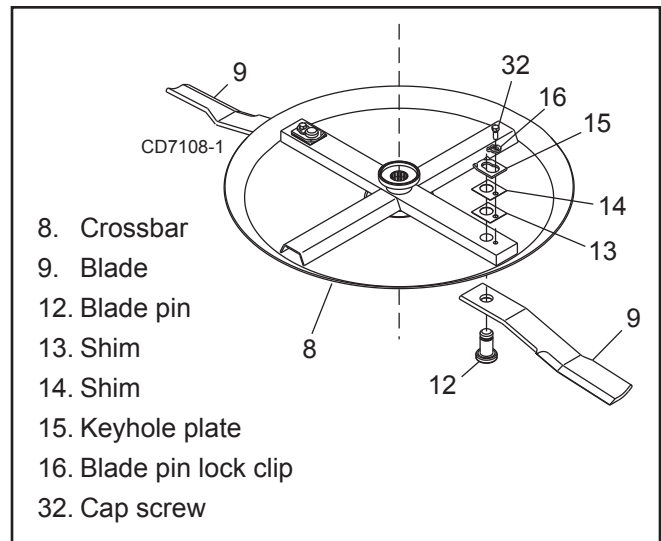


Figure 17. Blade Removal

3. Remove cotter pin (34) and castle nut (33) from bottom of crossbar.
4. Refer to Figure 18. Attach a clevis (1) to each end of crossbar, using blade pins, spacers, keyhole plates, and blade pin clips.
5. Position tube assembly (5) with threaded nut toward crossbar for puller screw removal or down for hydraulic jack removal.
6. For removal with puller screw, attach tube (5) to each clevis with bolts (2) and nuts (3). Place pad (4) in nut and thread puller screw (6) into nut from bottom. Tighten until pad is solid against gearbox shaft. For best results, strike head of puller screw with a hammer while tightening with a wrench.
7. For removal with a jack, attach tube to each clevis with puller links (7), bolts (2), and nuts (3). Place jack on tube with end of jack pressing against gearbox shaft. Slowly apply force with jack.

NOTE: Hydraulic jack will not operate if tipped more than 90-degrees. Use care to prevent bending crossbar during removal.

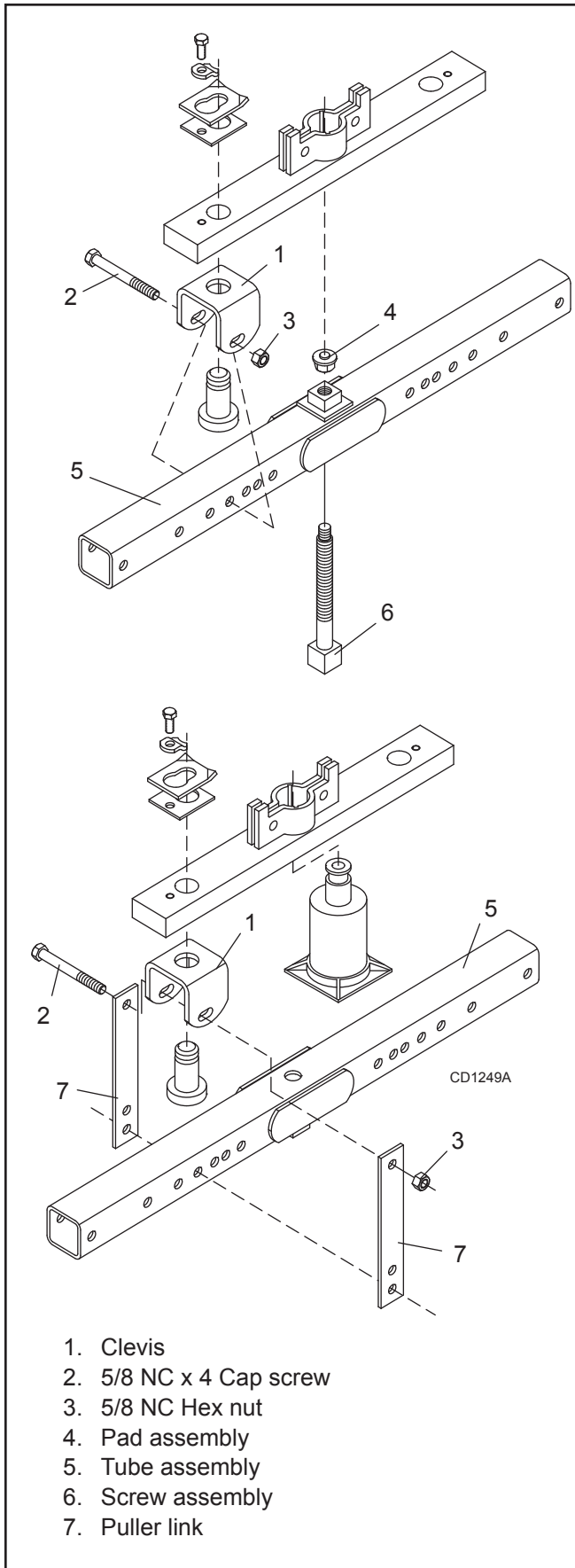


Figure 18. Crossbar Removal

Crossbar Installation

1. Using emery cloth (220 or finer), remove surface rust, and foreign material from hub, splined gearbox vertical shaft, and crossbar. See Figure 19.

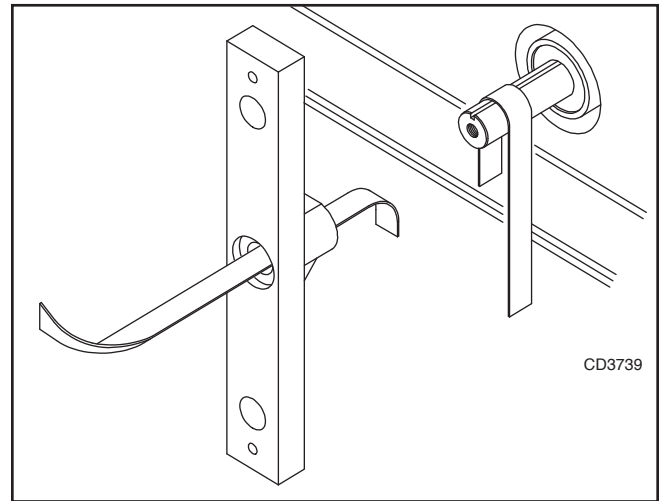


Figure 19. Typical Crossbar and Gearbox Shaft

2. Install crossbar (2) on splined shaft. See Figure 20. Install nut (3). Torque nut to 450 lbs-ft. Install cotter pin.

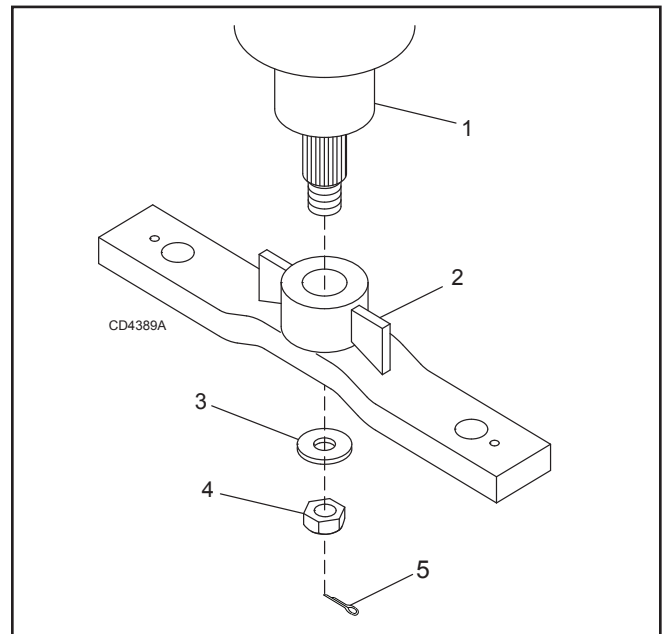


Figure 20. Crossbar Installation

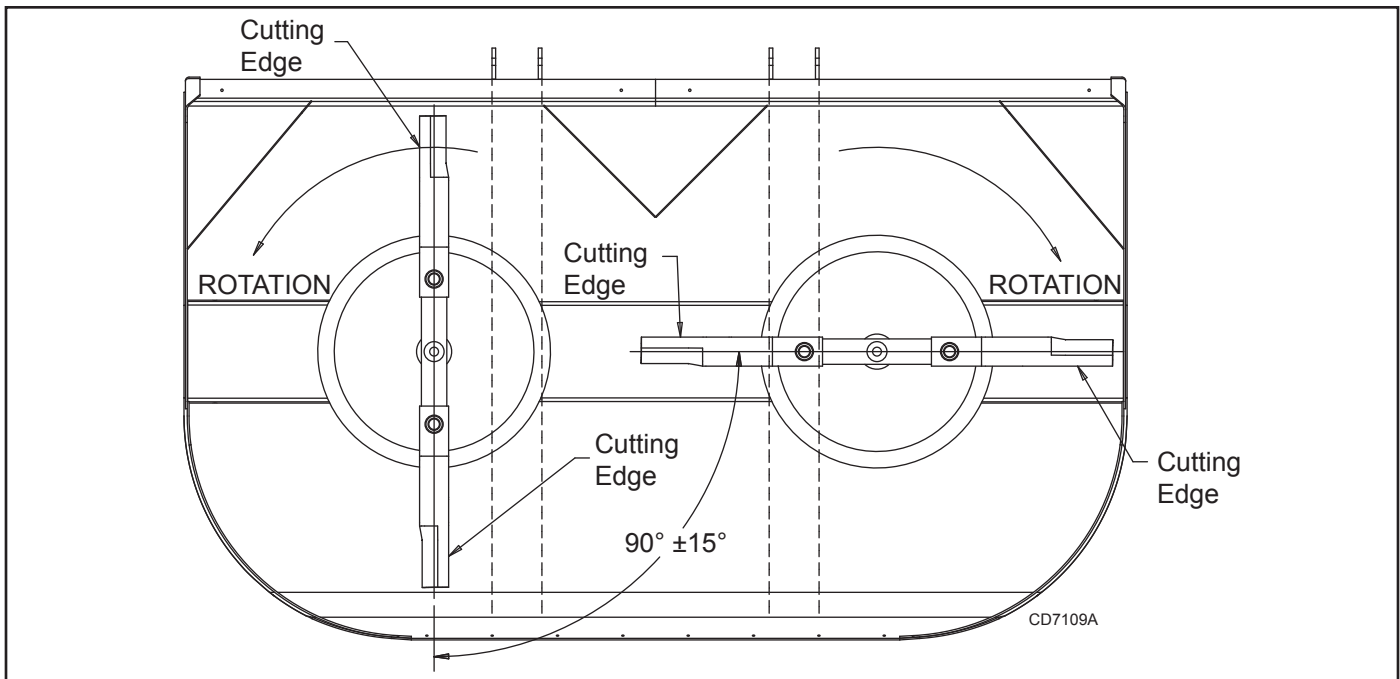


Figure 21. Crossbar Timing - Bottom View

Crossbar Timing

Crossbar must be re-timed anytime a crossbar or a side drive is disconnected.

1. To re-time crossbars, position bars as shown in Figure 21.
2. The right crossbar will be at right angles to the front of the cutter.
3. Measure from the front of the cutter to the blade pin on left crossbar.
4. Hold crossbars in position while connecting the side drivelines.

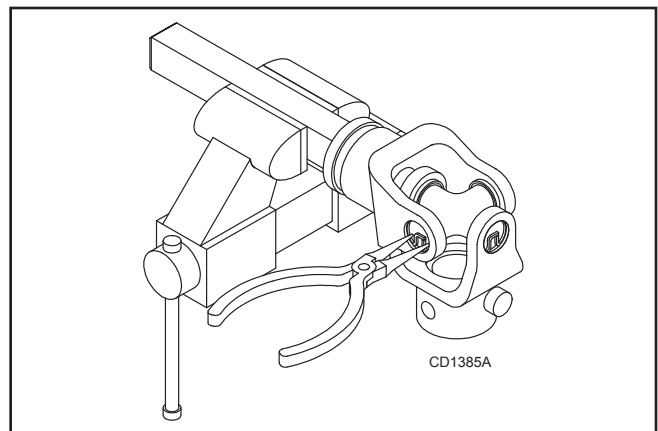


Figure 23.

UNIVERSAL JOINT REPAIR

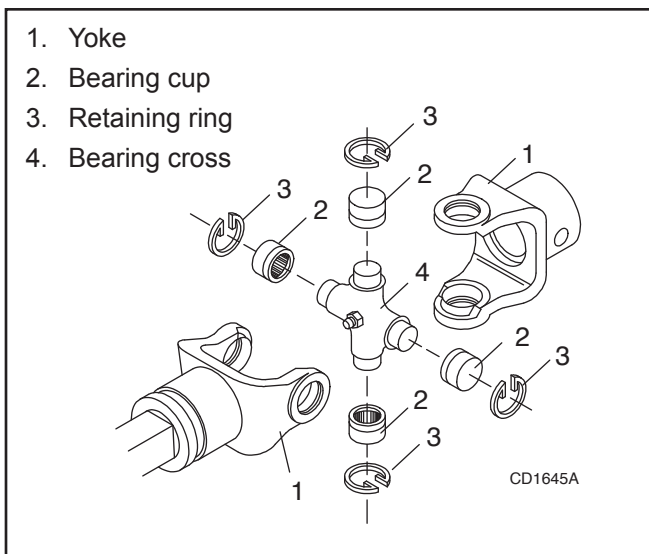


Figure 22. Universal Joint Exploded View

U-Joint Disassembly

1. Remove external snap rings from yokes in four locations as shown in Figure 22.

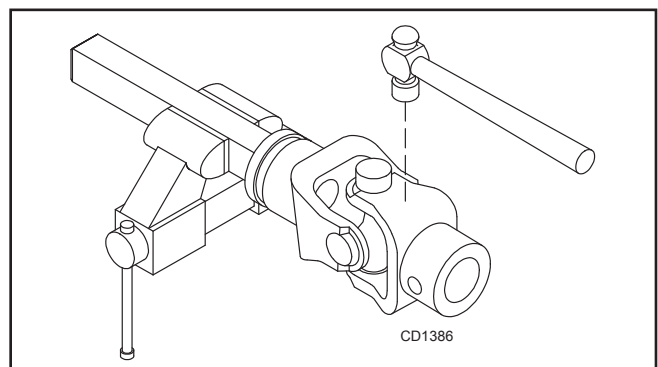


Figure 24.

2. With snap rings removed, support drive in vise, hold yoke in hand and tap on yoke to drive cup up out of yoke. See Figure 24.

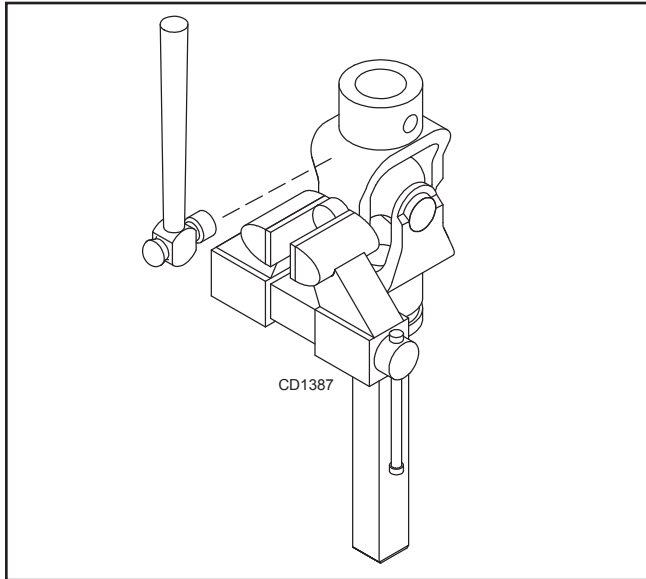


Figure 25.

3. Clamp cup in vise as shown in Figure 25 and tap on yoke to completely remove cup from yoke. Repeat Step 2 and Step 3 for opposite cup.

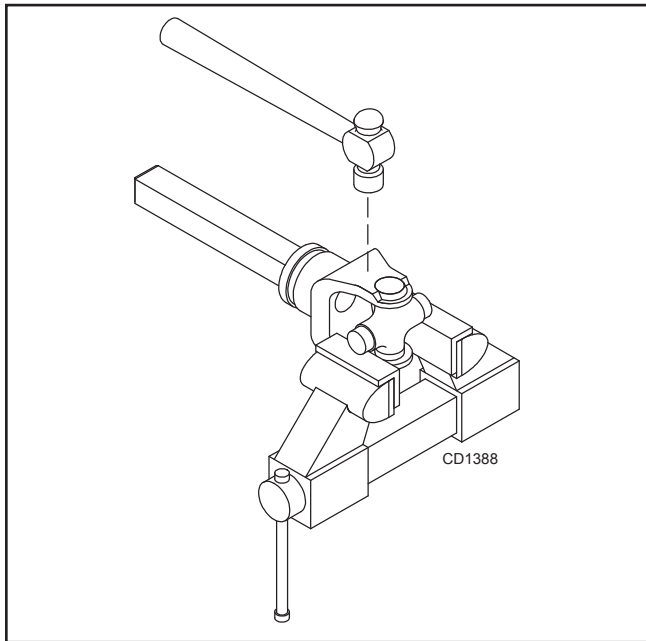


Figure 26.

4. Place universal cross in vise as shown in Figure 26 and tap on yoke to remove cup. Repeat Step 3 for final removal. Drive remaining cup out with a drift and hammer.

U-Joint Assembly

1. Place seals securely on bearing cups. Insert cup into yoke from outside and press in with hand pressure as far as possible. Insert journal cross into bearing cup with grease fitting away from shaft. Be careful not to disturb needle bearings. Insert another bearing cup directly across from first cup and press in as far as possible with hand pressure.
2. Trap cups in vise and apply pressure. Be sure journal cross is started into bearings and continue pressure with vise, squeezing in as far as possible. Tapping the yoke will help.
3. Seat cups by placing a drift or socket (slightly smaller than the cup) on cup and rap with a hammer. See Figure 27. Install snap ring and repeat on opposite cup.
4. Repeat Step 1 and Step 2 to install remaining cups in remaining yoke.
5. Move both yokes in all directions to check for free movement. If movement is restricted, rap on yokes sharply with a hammer to relieve any tension. Repeat until both yokes move in all directions without restriction.

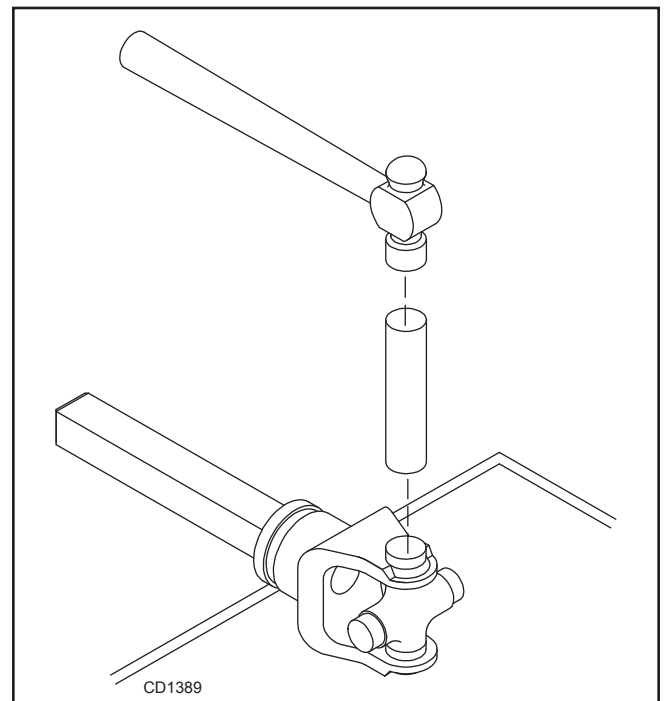


Figure 27.

ASSEMBLY

DEALER SET-UP INSTRUCTIONS

These instructions are for the assembly of the DS8.50 and DS10.50 mounted and pull-type cutters as well as the DSO8.50 and DSO10.50 semi-mounted cutters. Many of the procedures apply to all units. When an instruction applies to a specific unit, the section heading will indicate which unit. Assembly of options may not apply to all units.

Assembly of the cutter is the responsibility of the Woods dealer. It should be delivered to the owner completely assembled, lubricated, and adjusted for normal cutting conditions.

The cutter is shipped partially assembled. Assembly will be easier if aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are located in the Bolt Torque Chart, page 67.

Select a suitable working area. A smooth hard surface, such as concrete, will make assembly much quicker. Open parts boxes and lay out parts and hardware to make location easy. Refer to illustrations, accompanying text, parts lists and exploded view drawings.

Complete checklists on page 44 when you have completed the assembly.

DS8.50 & DS10.50 PULL-TYPE CUTTER

(Figure 28)

Place jackstands under cutter to raise it off the ground to provide clearance when assembling cutter. See "BLOCKING METHOD" on page 20 for jackstand placement.

Install Rear Tailwheel

1. Attach tailwheel arms (5) to the tailwheel yoke using eight (four per arm) cap screws (18) and lock nuts (19).

NOTE: Position tailwheel arms on yoke to desired location (usually on row crop centers).

2. Attach wheel hubs to tailwheel arms (5) using cap screws (20) and lock nuts (22). Wheel hubs should be positioned to the outside of the cutter.
3. Attach tires to wheel hubs using five lug nuts (supplied with hub). Install the flat side of the nut toward the rim for laminated, severe duty Ag, and airplane tires. Torque to 75 lbs-ft.

NOTE: Install the chamfered side of the nut toward the inside for steel rims for pneumatic tires.

Install Tongue

1. Remove lower hitch pins (2) and klik pins (3) from mast plates.
2. Align tongue assembly (1) between mast plates and reinstall lower hitch pins (2). Secure with klik pins.

Install Attitude Rod

1. Slide attitude rod (4) under right spindle coupler and through pivot block on tailwheel.
2. Loosely install sleeve (30), washer (28) and two hex nuts (31) to rear of attitude rod.
3. Attach front of attitude rod to the lug on the tongue using clevis pin (27), washer (28) and cotter pin (29).
4. Raise front of cutter and install parking jack (13) vertically to the tongue.

Install H-Frame and CV Driveline

1. Attach H-frame (7) to lugs on front of deck using cap screw (21) and flanged lock nut (22).
2. Lightly coat splitter gearbox input shaft with grease.
3. Remove cap screws and lock nuts from yoke on slip clutch end of driveline (9). Attach driveline to input shaft of gearbox. Reinstall cap screws and lock nuts through driveline and groove on input shaft.
4. Align driveline bearing carrier between H-frame (7) and secure with cap screw (21) and flanged lock nut (22).
5. Remove cap screw and lock nut from rear yoke of CV driveline (10).
6. Slide rear yoke of CV driveline (10) over shaft of driveline (9). Reinstall cap screw and lock nut through yoke and groove in rear driveline shaft.
7. Attach drive shield (8) to carrier bearing using two lock washers (23) and cap screws (24).

Install SMV Emblem

1. Align holes of SMV bracket (11) to rear of right spindle coupler shield. Secure with cap screws (25) and flanged lock nuts (26).

Hydraulic Hose Routing

1. Unwind hydraulic hose (14) from cylinder.
2. Route hose on top of deck, under left spindle coupler, and through hose holder on tongue.
3. Install stroke control kit (not pictured) to cylinder rod. Stroke control kit is used to set cut height.

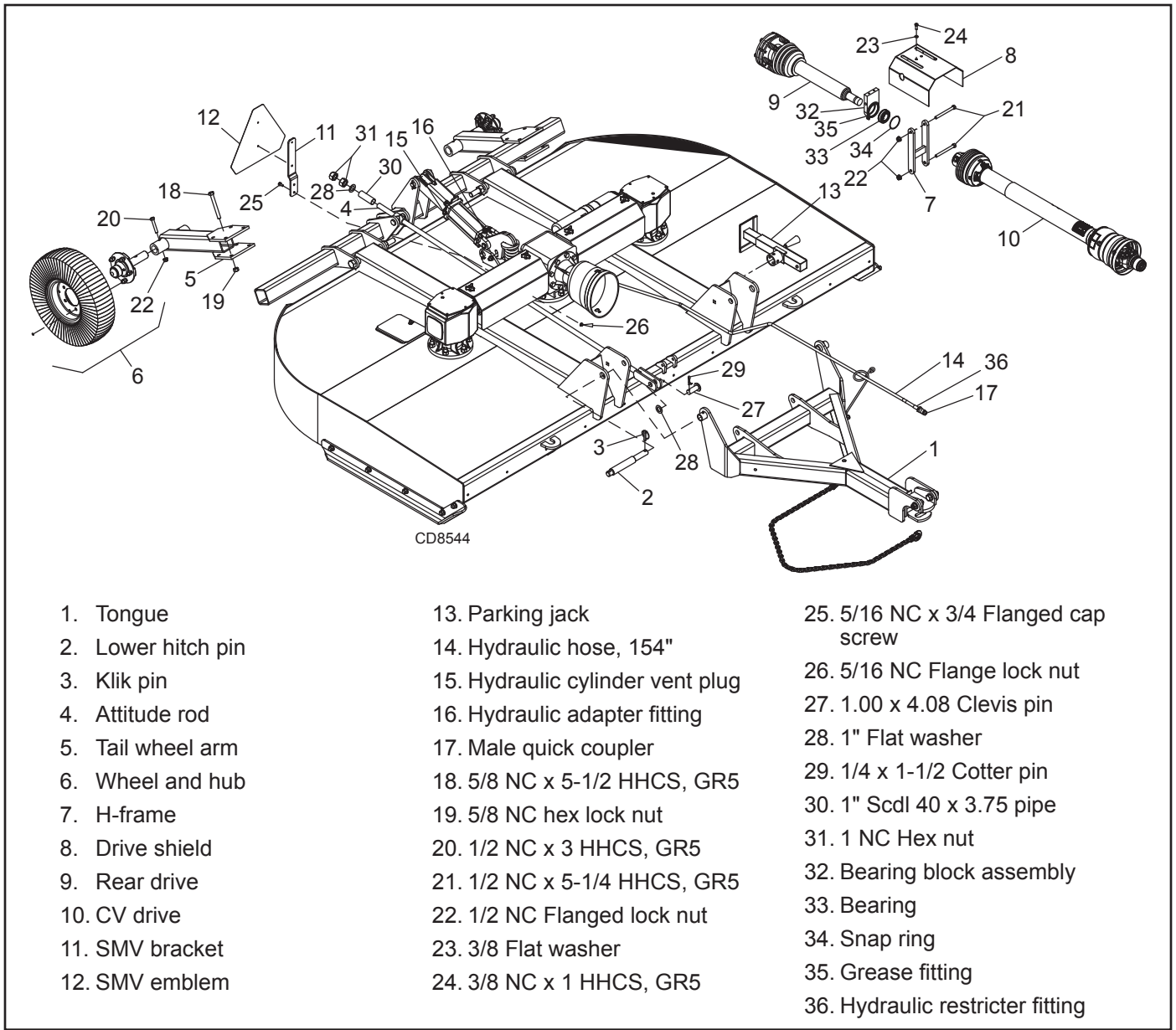


Figure 28. DS8.50 & DS10.50 Pull-Type Cutter Assembly

DS8.50 & DS10.50

3-POINT MOUNTED CUTTER

(See Figure 29)

Place jackstands under cutter to raise it off the ground to provide clearance when assembling cutter. See "BLOCKING METHOD" on page 20 for jackstand placement.

Install Rear Tailwheel

1. Attach tailwheel arms (11) to the tailwheel yoke using eight (four per arm) cap screws and lock nuts (supplied with arms).

NOTE: Position tailwheel arms on yoke to desired location (usually on row crop centers).

Install A-Frame

1. Attach A-Frame assembly (1) to the square holes of the cutter mast plates. Secure using carriage bolts (18), bushing sleeves (7), washers (17) and flanged lock nuts (20).
2. Install washer (24), lift arms (3), second washer (24) and lock nut (23) onto the end of the bolts holding the tailwheel yoke to the cutter frame.

NOTE: Do not remove existing lock nut from bolt.

3. Attach the two lift arms (3) together at the top rear hole using cap screw (19), spacer sleeve (6) and flanged lock nut (20). Place both break links (2) together and position between front holes of lift arms. secure with cap screw (19), spacer sleeve (6) and flanged lock nut (20).

NOTE: Break links must rest on top of rear spacer sleeve (6).

4. Place sleeve (5) between front holes of break links. Align with rear holes of A-Frame assembly (1) and secure together with cap screw (21), sleeve (4) and lock nut (22).

NOTE: Break links must rest on top of rear spacer sleeve (6).

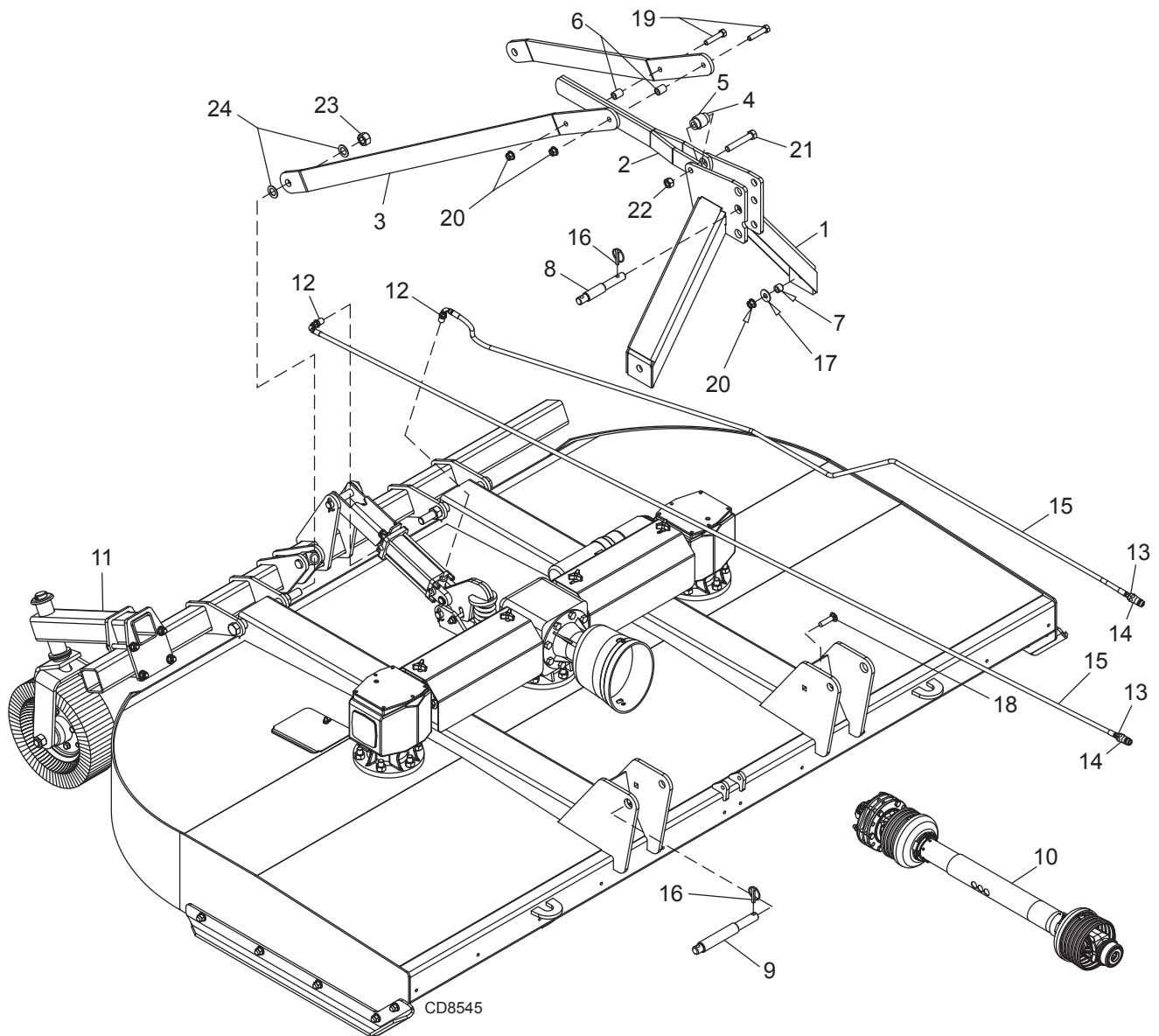
5. Place sleeve (5) between front holes of break links. Align with rear holes of A-Frame assembly (1) and secure together with cap screw (21), sleeve (4) and lock nut (22).

Install Hoses

1. Unwind hydraulic hose (15) from hydraulic cylinder.
2. Remove plug from rear side of hydraulic cylinder.
3. Install adapter (12) in port of cylinder. Position with elbow pointing toward front of cutter.
4. Install hydraulic hose (15) to adapter.
5. Attach reducer (13) and coupler (14) to end of hose.
6. Route both hoses on top of deck, under left spindle coupler and through hose ring on side of A-Frame assembly.
7. Install stroke control kit (not pictured) to cylinder rod. Stroke control kit is used to set cut height.

Install Driveline

1. Lightly coat splitter gearbox input shaft with grease.
2. Remove cap screws and lock nuts from yoke on slip clutch end of driveline (10). Attach driveline to input shaft of gearbox. Reinstall cap screws and lock nut through driveline and groove on input shaft.



- | | |
|----------------------------------|---------------------------------------|
| 1. A-Frame assembly | 13. Hydraulic restricter fitting |
| 2. Break link | 14. Male quick coupler |
| 3. Lift arm | 15. Hydraulic hose, 154" |
| 4. Sleeve, .781 x 1.38 x 2.40 | 16. Klik pin |
| 5. Sleeve, 1-3/8 x 1-3/4 x 1-1/4 | 17. 5/8 Flat washer |
| 6. Sleeve 5/8 x 1 x 1-1/4 | 18. 5/8 NC x 2-1/2 Carriage bolt, GR5 |
| 7. Sleeve, 5/8 x 1 x 13/16 | 19. 5/8 NC x 3 HHCS, GR5 |
| 8. Top link pin | 20. 5/8 NC Flanged lock nut |
| 9. Lower hitch pin | 21. 3/4 NC x 4-1/2 HHCS, GR5 |
| 10. Driveline | 22. 3/4 NC Hex lock nut |
| 11. Tailwheel assembly | 23. 1 NC Hex lock nut |
| 12. Hydraulic adapter fitting | 24. 1 Flat washer |

Figure 29. DS8.50 & DS10.50 3-Point Mounted Cutter Assembly

DSO8.50 & DSO10.50

3-POINT MOUNTED CUTTER

(Figure 30)

Place jackstands under cutter to raise it off the ground to provide clearance when assembling cutter. See “BLOCKING METHOD” on page 20 for jackstand placement.

Install Rear Tailwheel

1. Attach tailwheel arms (9) to the tailwheel yoke using eight (four per arm) cap screws and lock nuts (supplied with arms).

NOTE: Position tailwheel arms on yoke to desired location (usually on row crop centers).

Install Hitch Mechanism

1. Align left hitch arm (2), right hitch arm (3) and washers (29) to deck as shown.

NOTE: Remove and discard lock nut, leaving jam nut installed on bolt.

2. Secure hitch arms to cutter using flag pins (4), washers (27) and cap screws (28).
3. Align front ends of hitch arms, washers (29) and hitch assembly (1) as shown.
4. Secure hitch arms to hitch assembly with flag pins (4), washers (27) and cap screws (28).
5. Attach hydraulic cylinder (7) to left hitch arm (2) and lug on left side of cutter using pins (21) and cotter pins (24).
6. Install reducer busing (17) and restrictor swivel (18) in ports at each end of cylinder. Position elbow to point toward front of cutter.
7. Connect hoses (14) to elbows.
8. Attach reducer (17) and coupler (20) to end of each hose.

Install SMV Emblem

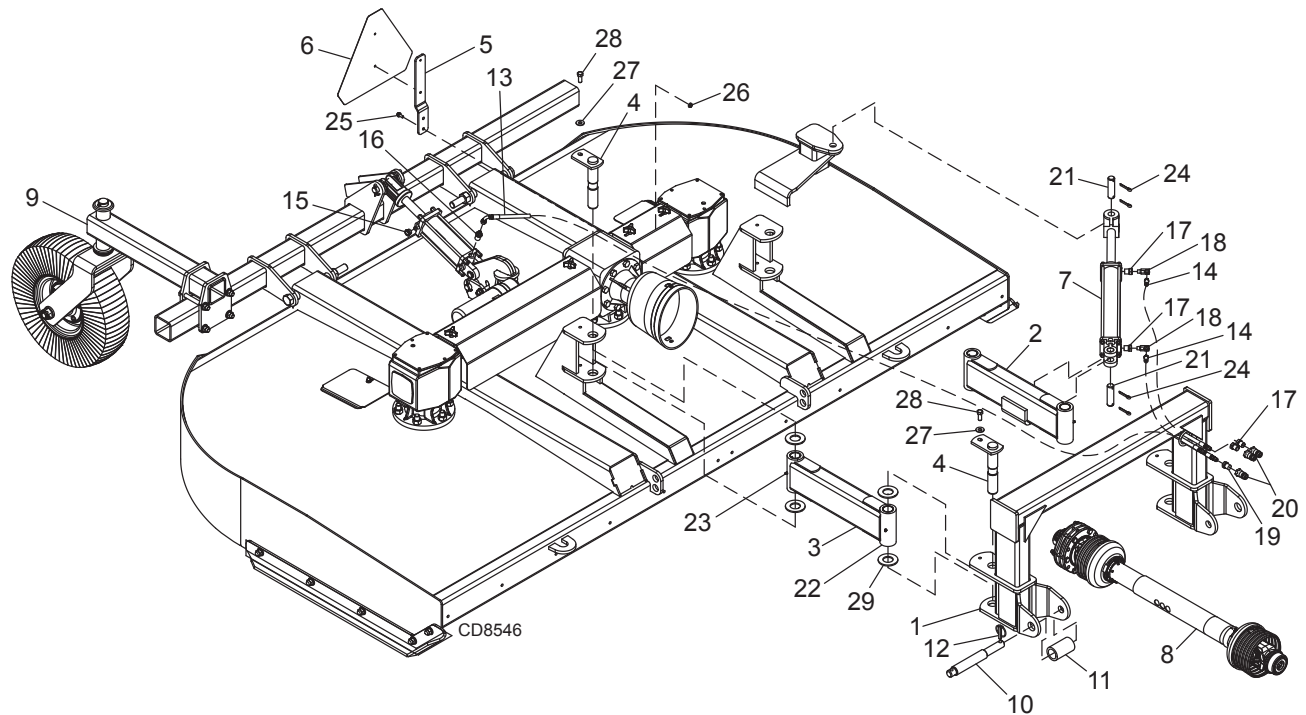
1. Align holes of SMV bracket (5) to rear of left spindle coupler shield. Secure with cap screws (25) and flanged lock nuts (26).

Install Driveline

1. Lightly coat splitter gearbox input shaft with grease.
2. Remove cap screws and lock nuts from yoke on slip clutch end of driveline (10). Attach driveline to input shaft of gearbox. Reinstall cap screws and lock nut through driveline and groove on input shaft.

Hydraulic Hose Routing

1. Unwind hydraulic hose (13) from cylinder.
2. Route hose on top of deck, under left spindle coupler.
3. Route all hoses through hose ring on hitch assembly.
4. Install stroke control kit (not pictured) to rear cylinder rod. Stroke control kit is used to set cut height.



- | | |
|----------------------------------|--|
| 1. Hitch assembly | 16. Hydraulic adapter fitting |
| 2. Left hitch arm | 17. Hydraulic reducer fitting |
| 3. Right hitch arm | 18. Hydraulic restricter elbow fitting |
| 4. 1.50 x 8.02 Flag pin | 19. Hydraulic restricter fitting |
| 5. SMV bracket | 20. Male quick coupler |
| 6. SMV emblem | 21. 1 x 2.72 Clevis pin |
| 7. Double acting cylinder | 22. Split bushing |
| 8. Driveline | 23. Grease fitting |
| 9. Tailwheel assembly | 24. 1/4 x 1-1/2 Cotter pin |
| 10. Lower hitch pin | 25. 5/16 NC x 3/4 Flanged cap screw |
| 11. Sleeve, 1.56 x 2.19 x 4.00 | 26. 5/16 NC Flange lock nut |
| 12. Klik pin | 27. 1/2 Flat washer |
| 13. Hydraulic hose, 154" | 28. 1/2 NC x 1-1/4 HHCS, GR5 |
| 14. Hydraulic hose, 156" | 29. 1.62 x 3 x .18 Flat washer |
| 15. Hydraulic cylinder vent plug | |

Figure 30. DSO8.50 & DSO10.50 3-Point Mounted Cutter Assembly

ALL MODELS

Fill Gearboxes

NOTICE

- Gearbox is not filled at the factory. Prior to delivery to customer, make sure gearbox is filled only half-full with 80W or 90W API GL-4 or GL-5 gear lube. Use side plug to remove any excess oil.
1. Make sure vent plug hole is clear (installed by dealer).
 2. Remove plug on side of gearbox.
 3. Fill gearbox until oil runs out the side plug on gearbox. Use a high quality gear oil with a viscosity index of 80W or 90W and an API service rating of GL-4 or GL-5.
 4. Install side plug and vent plug.

INSTALL CHAIN OR RUBBER SHIELDING

! DANGER

- Full chain or rubber shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.
- If this machine is not equipped with full chain or rubber shielding, operation must be stopped when anyone comes within 300 feet (92 m).
- This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).

Rubber Shielding

(Figure 31)

1. Attach rubber belting and deflector brackets to the front of the frame using cap screws (4), and lock nuts (6).
2. Attach rear band to the rear of the frame using carriage bolts (5), and lock nuts (6).

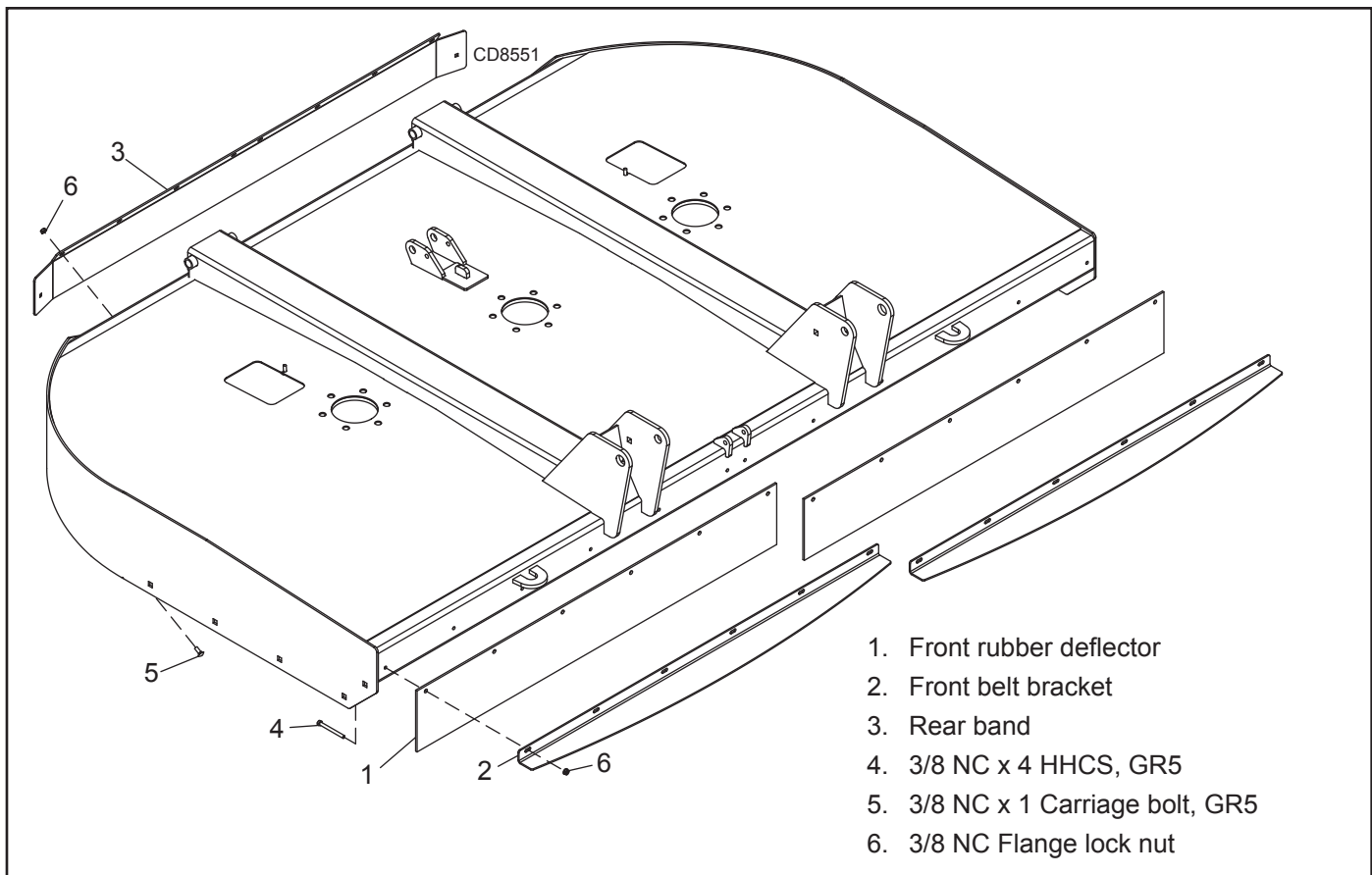


Figure 31. Rubber Belt Shielding Installation

Optional Chain Shielding

(Figure 32)

The optional chain shielding assemblies are ready for installation when you receive them.

1. Install front chain shielding to the front of the frame using cap screws (6) and lock nuts (8).
2. Attach rear chain shielding to the rear of the frame using carriage bolts (7) and lock nuts (8).

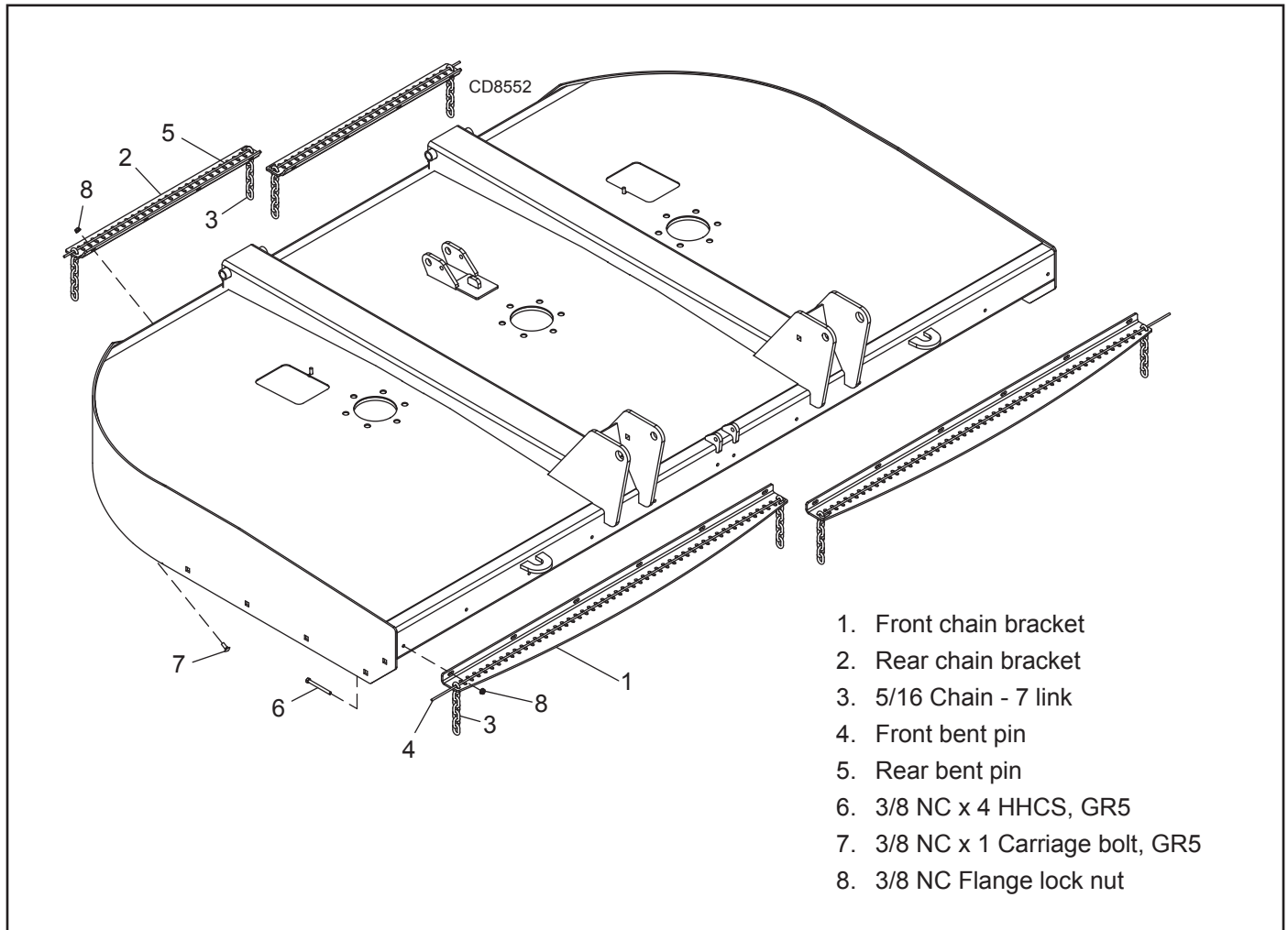


Figure 32. Optional Chain Shielding Installation

DEALER CHECKLISTS

DEALER PRE-DELIVERY CHECKLIST

(DEALER'S RESPONSIBILITY)

Inspect cutter thoroughly after assembly to make sure it is set up properly before delivering it to the customer. The following checklist is a reminder of points to inspect. Check off each item as it is found satisfactory, corrections are made, or services are performed.

IMPORTANT

- **Gearbox was not filled at the factory. It must be serviced before operating cutter. (See LUBRICATION, page 20). Failure to service will result in damage to gearbox.**

- _____ Check that gearbox is properly serviced and seals are not leaking.
- _____ Check and grease all lubrication points as identified in **Owner Service**, LUBRICATION, page 20.
- _____ Check that blades have been properly installed
- _____ Check all bolts to be sure they are properly torqued.
- _____ Check that all cotter pins are properly installed and secured.
- _____ Check that PTO shaft is properly installed.

DELIVERY CHECKLIST

(DEALER'S RESPONSIBILITY)

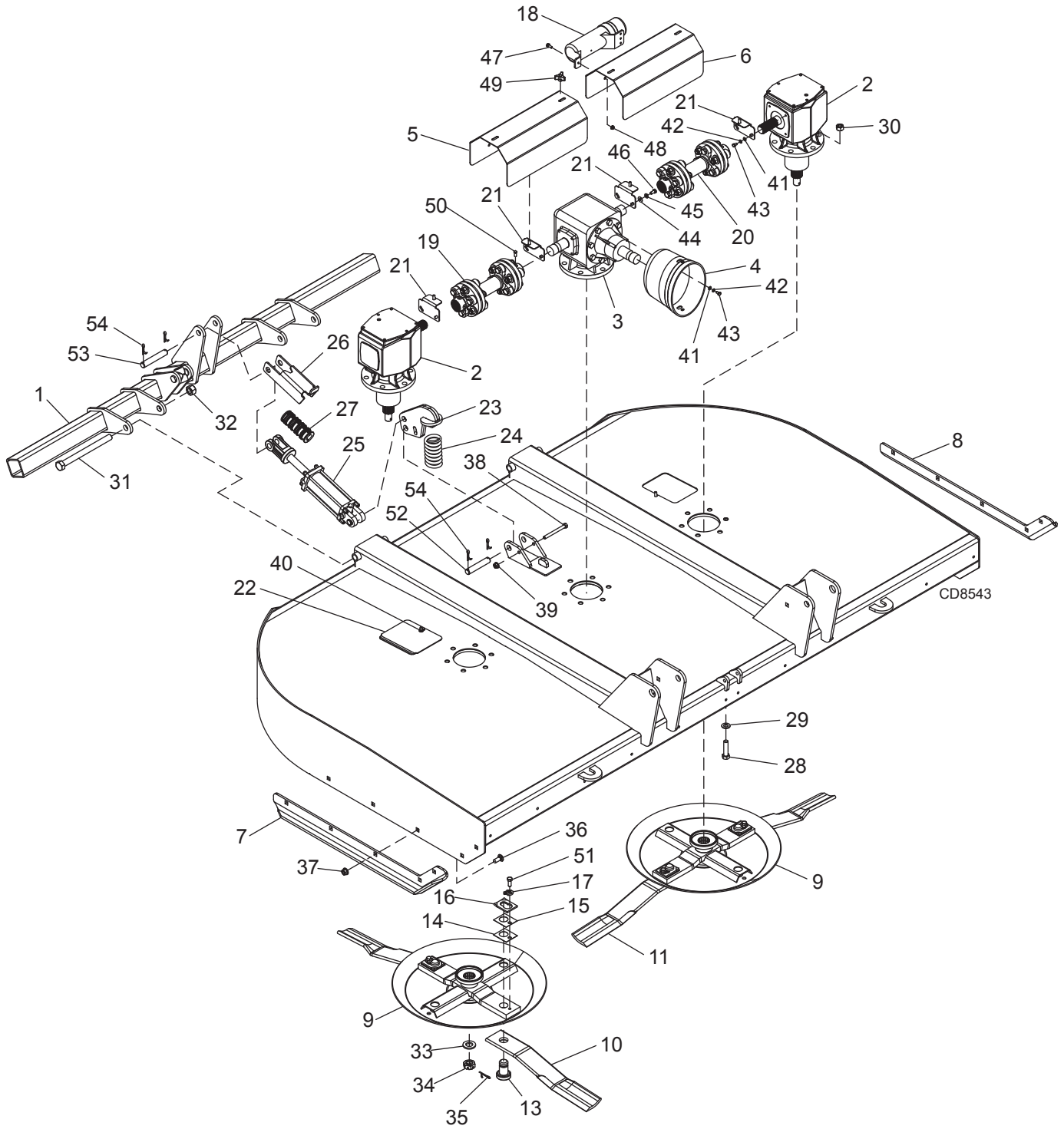
- _____ Show customer how to make adjustments. Describe the options available for this cutter and explain their purpose.
- _____ Explain importance of lubrication to customer and point out lubrication points on cutter.
- _____ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- _____ Point out all guards and shielding. Explain their importance and the safety hazards that exist when not kept in place and in good condition.
- _____ For mounted units, add wheel weights, ballast in front tires, and/or front tractor weight to enhance front end stability. A minimum 20% of tractor and equipment gross weight must be on front tractor wheels. **WheShow** customer how to make adjustments. Describe the options available for this cutter and explain their purpose.
- _____ Explain importance of lubrication to customer and point out lubrication points on cutter.
- _____ Point out all guards and shielding. Explain their importance and the safety hazards that exist when not kept in place and in good condition.
- _____ For mounted units, add wheel weights, ballast in front tires, and/or front tractor weight to enhance front end stability. A minimum 20% of tractor and equipment gross weight must be on front tractor wheels. When adding weight to attain 20% of tractor and equipment weight on front tractor wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not estimate!
- _____ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- _____ Explain to customer that when equipment is transported on a road or highway, safety devices should be used to give adequate warning to operators of other vehicles.

Rotary Cutters

DS8.50, DSO8.50, DS10.50 & DSO10.50

MAIN FRAME ASSEMBLY	46 - 47
DS8.50 / DS10.50 PULL-TYPE ASSEMBLY	48
DS8.50 / DS10.50 MOUNTED CUTTER ASSEMBLY	49
DSO8.50 / DSO10.50 CUTTER ASSEMBLY	50
GEARBOXES	
DS8.50 / DS10.50 / DSO8.50 / DSO10.50 SPLITTER GEARBOX ASSEMBLY	51
DS8.50 / DS10.50 / DSO8.50 / DSO10.50 SPINDLE GEARBOX ASSEMBLY	52
DRIVES	
DS8.50 / DS10.50 / DSO8.50 / DSO10.50 FLEXIBLE COUPLER	53
540 RPM FRONT CV DRIVE ASSEMBLY	54
1000 RPM FRONT CV DRIVE ASSEMBLY	55
DS8.50 REAR FIXED-LENGTH DRIVE	56
DS10.50 REAR FIXED-LENGTH DRIVE	57
DS8.50 & DS8.50Q SLIP CLUTCH DRIVE ASSEMBLY - MOUNTED	58
DS10.50 (Q) / DSO8.50 (Q) / DSO10.50 SLIP CLUTCH DRIVE ASSEMBLY - MOUNTED	59
DS8.50 / DS10.50 TONGUE ASSEMBLY	60
WHEEL & TIRE ASSEMBLY	61
TAILWHEEL ASSEMBLIES	
DS8.50 / DS10.50 MOUNTED	62
DSO8.50 / DSO10.50 MOUNTED	63
DS8.50 / DSO8.50 / DS10.50 / DSO10.50 BELT SHIELDING (STANDARD)	64
DS8.50 / DSO8.50 / DS10.50 / DSO10.50 CHAIN SHIELDING (OPTIONAL)	65
HYDRAULIC CYLINDER STROKE CONTROL KIT (OPTIONAL)	66
CROSSBAR PULLER (OPTIONAL)	66

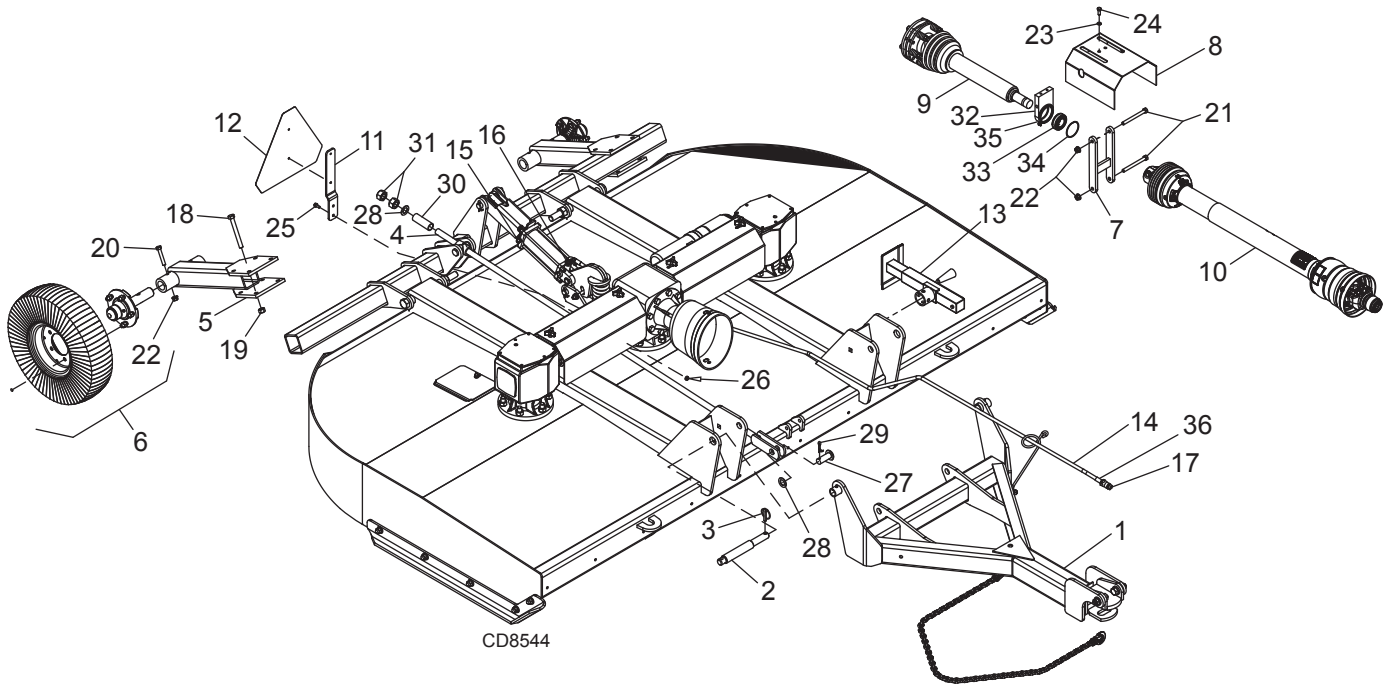
MAIN FRAME ASSEMBLY



MAIN FRAME ASSEMBLY

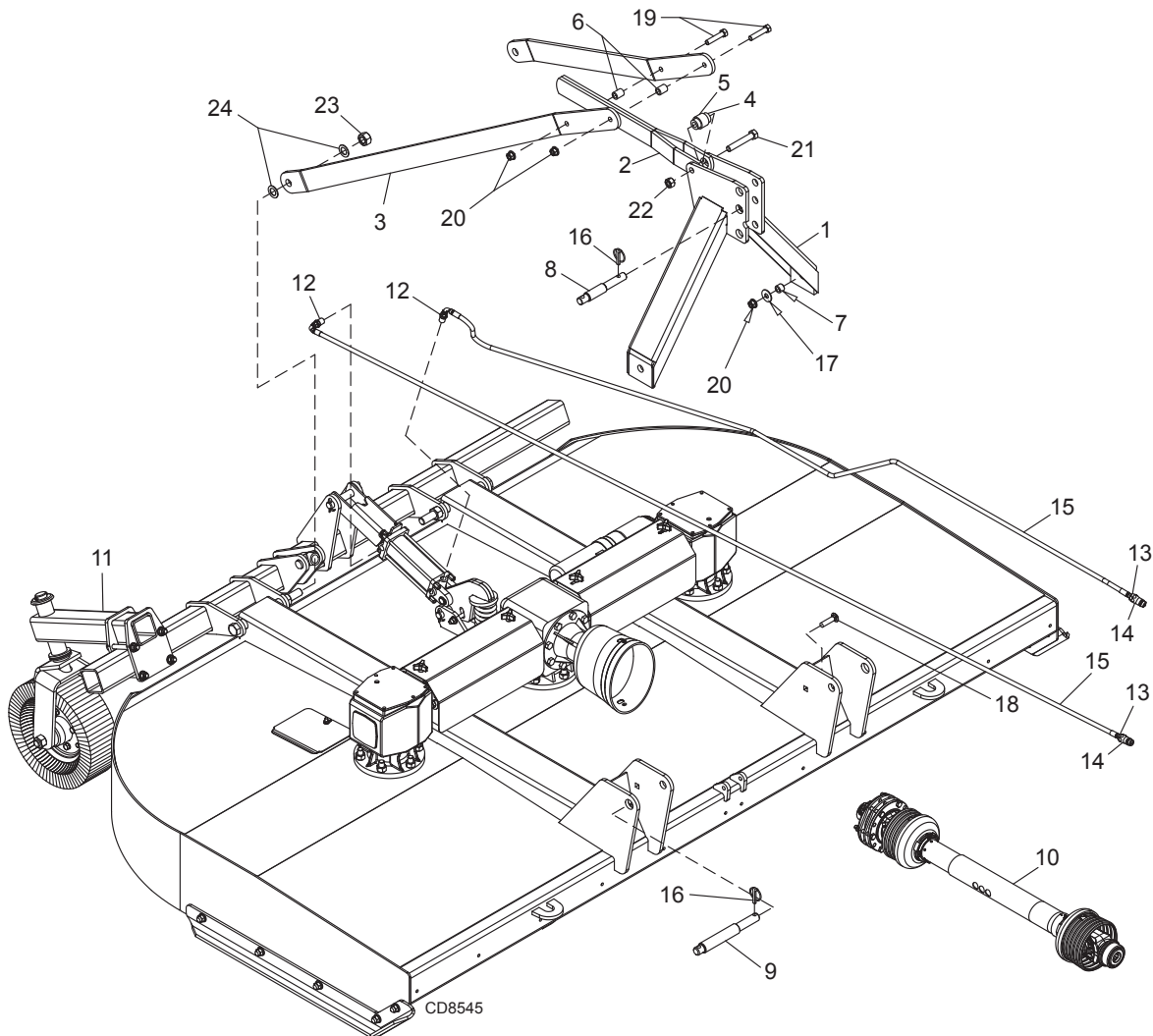
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1043000	1	Wheel yoke (DS8.50) -or-	20	1042961	1	Left flex coupler (DSO8.50, DSO10.50) -or-
1	1043001	1	Wheel yoke (DSO8.50) -or-	20	1040673	1	Left flex coupler (DS10.50)
1	1043002	1	Wheel yoke (DS10.50) -or-	21	1021371RP	4	Shield hold down
1	1043003	1	Wheel yoke (DSO10.50)	22	57050RP	2	Blade access cover
2	617164RP	2	Spindle gearbox (DS8.50, DSO8.50) (See page 52)	23	1009245RP	1	Spring arm
2	617167RP	2	Spindle gearbox (DS10.50, DSO10.50) (See page 52)	24	13316RP	1	Spring
3	640408RP	1	Splitter gearbox, 540 RPM (See page 54)	25	1035089	1	3 x 6 Hydraulic cylinder
3	640405RP	1	Splitter gearbox, 1000 RPM (See page 55)	25A	1038883	1	Seal kit for 1035089
4	1002048	1	Clutch shield	26	1038065RP	1	Transport lock-up
5	1043004	1	Right shield (DS8.50) -or-	27	24098A	1	1-1/4 Stroke control kit
5	1043006	1	Right shield (DSO8.50) -or-	28	14334 *		3/4 NC x 3 HHCS, GR5
5	1043005	1	Right shield (DS10.50) -or-	29	57798RP		3/4 Hardened flat washer
5	1043008	1	Right shield (DSO10.50)	30	2371RP *		3/4 NC Hex lock nut
6	1043004	1	Left shield (DS8.50) -or-	31	60407		1 NC x 11 HHCS, GR5
6	1043007	1	Left shield (DSO8.50, DSO10.50) -or-	32	34279RP		1 NC Hex lock nut
6	1043005	1	Left shield (DS10.50)	33	1024670		1.22 x 2.205 x .236 Washer
7	1043010	1	Right skid (DS8.50, DSO8.50) -or-	34	W39323		M30 x 2.0P Castle nut
7	57118RP	1	Right skid (DS10.50, DSO10.50)	35	64803RP *		3/16 x 2 Cotter pin
8	1043011	1	Left skid (DS8.50, DSO8.50) -or-	36	5607RP *		5/8 NC x 1-1/2 Carriage bolt, GR5
8	57119RP	1	Left skid (DS10.50, DSO10.50)	37	19025RP *		5/8 NC Flanged lock nut
9	1043009	2	Crossbar	38	23479RP *		1/2 NC x 5 HHCS, GR5
10	1003490KT	1	Right blade, CW (DS8.50, DSO8.50) -or-	39	11900RP *		1/2 NC Flanged lock nut
10	19161KT	1	Right blade, CW (DS10.50, DSO10.50)	40	14350RP *		3/8 NC Flanged lock nut
11	57099KT	1	Left blade, CCW (DS8.50, DSO8.50) -or-	41	35155RP *		5/16 Flat washer
11	19160KTRP	1	Left blade, CCW (DS10.50, DSO10.50)	42	2472RP *		5/16 Lock washer
12	1003675KT	2	Double edge blade, (DS8.50, DSO8.50) -or-	43	39254		M8-1.25P x 16 mm HHCS, CL8.8
12	19162KT	2	Double edge blade, (DS10.50, DSO10.50)	44	565RP *		3/8 Flat washer
13	1009199	4	Blade pin	45	5664 *		3/8 Lock washer
14	10520RP	4	Shim, 18 ga	46	63716 *		M10-1.50P x 20 mm HHCS, CL8.8
15	13946RP	4	Shim, 20 ga	47	71851 *		5/16 NC x 3/4 Flanged cap screw
16	32603	4	Keyhole plate	48	73163 *		5/16 NC Flanged whiz nut
17	32604RP	4	Blade pin lock clip	49	66840RP		3/8 NC Knob
18	1003828RP	1	Manual tube	50	90016031 *		3/8 NC x 3/4 Square head set screw
19	1040672	1	Right flex coupler (DS8.50) -or-	51	6100RP *		1/2 NC x 1-1/4 HHCS, GR5
19	1042960	1	Right flex coupler (DSO8.50) -or-	52	8346	1	1 x 4-1/2 Headless pin
19	1040673	1	Right flex coupler (DS10.50) -or-	53	8347	1	1 x 5 Headless pin
19	1042962	1	Right flex coupler (DSO10.50)	54	1285RP	*	1/4 x 1-1/2 Cotter pin
20	1040672	1	Left flex coupler (DS8.50) -or-				Standard hardware, obtain locally
					HHCS		Hex Head Cap Screw

DS8.50 / DS10.50 PULL-TYPE ASSEMBLY



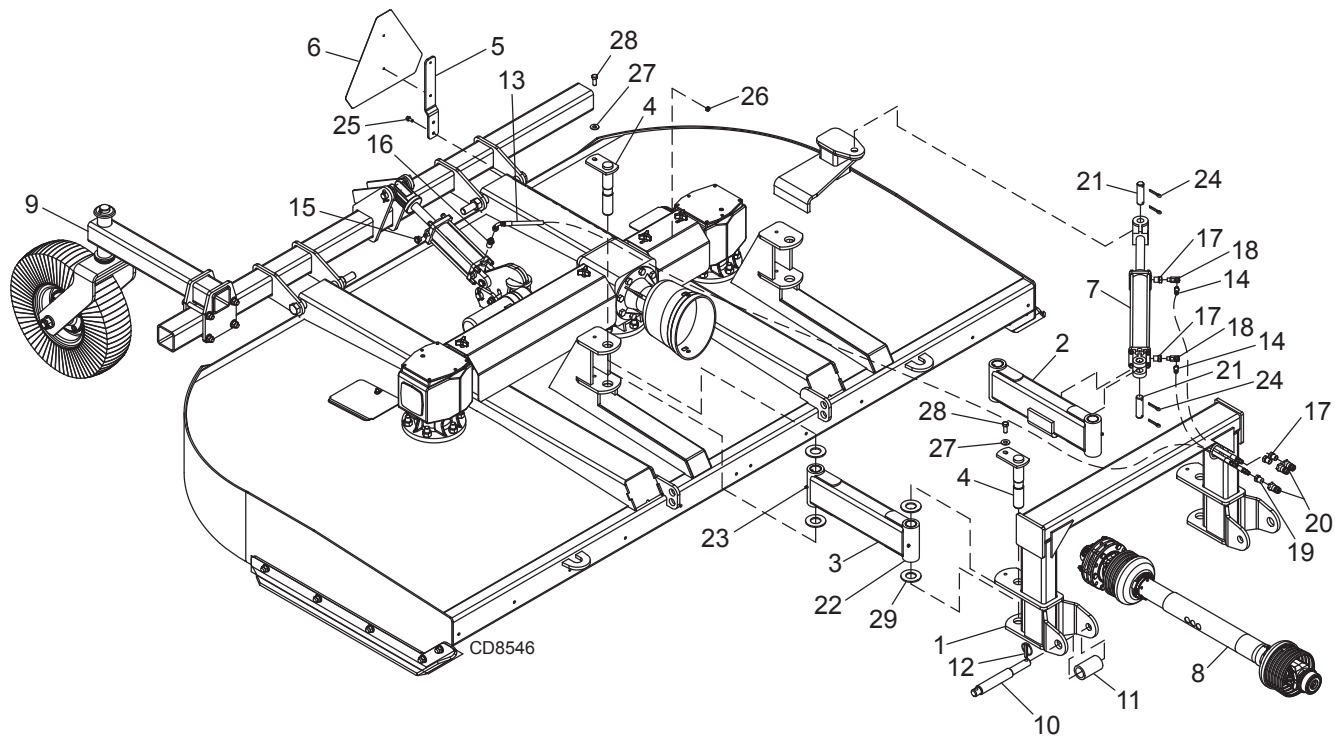
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1042250	1	Tongue assembly (See page 60)	18	990 *		5/8 NC x 5-1/2 HHCS, GR5
2	39064	2	Lower hitch pin	19	6239RP *		5/8 NC Hex lock nut
3	27542RP *	2	7/16 x 11/32 Klik pin	20	3489 *		1/2 NC x 3 HHCS, GR5
4	1013388	1	Attitude rod (DS8.50) -or-	21	65575 *		1/2 NC x 5-1/4 HHCS, GR5
4	39385	1	Attitude rod (DS10.50)	22	11900RP *		1/2 NC Flanged lock nut
5	1042240RP	2	Tailwheel arm	23	838RP *		3/8 Standard lock washer
6	-----	2	Tire & hub (See page 61)	24	839 *		3/8 NC x 1 HHCS, GR5
7	1042234RP	1	H-frame	25	71851 *		5/16 NC x 3/4 Flanged cap screw
8	1011761RP	1	Shield	26	73163 *		5/16 NC Flanged lock nut
9	1042288	1	Stub shaft (DS8.50) (See page 56) -or-	27	46605RP	1	1.00 x 4.08 Pin
9	1022221	1	Stub shaft (DS10.50) (See page 57)	28	1863 *		1" Standard flat washer
10	1024175	1	CV Drive 540 RPM (See page 54) -or-	29	1285 *		1/4 x 1-1/2 Cotter pin
10	1021102RP	1	CV Drive 1000 RPM, 21 spline (See page 55) -or-	30	27267	1	Pipe, 1" Scdl 40 x 3.75
10	1021101	1	CV Drive 1000 RPM, 20 spline (See page 55)	31	3132 *		1" NC Hex nut
11	1043012	1	SMV Bracket	32	32347	1	Bearing block (Includes items 33, 34 & 35)
12	24611	1	SMV Emblem	33	13133	1	Bearing
13	23790	1	Parking jack	34	12128	1	Snap ring
14	1038123	1	Hose 154" x 1/4 NPT x 9/16 JICF 90°	35	2985 *		1/4-28 x 90° Grease fitting
15	11975	1	1/2 NPT Vent plug	36	1038891	1	1/4 NPTF x 1/2 NPTM Adapter restrictr .06
16	54315	1	1/2 NPTM x 9/16 JICM Adapter		*		Standard hardware, obtain locally
17	66511RP	1	1/2 NPT Male coupler		HHCS		Hex Head Cap Screw

DS8.50 / DS10.50 MOUNTED CUTTER ASSEMBLY



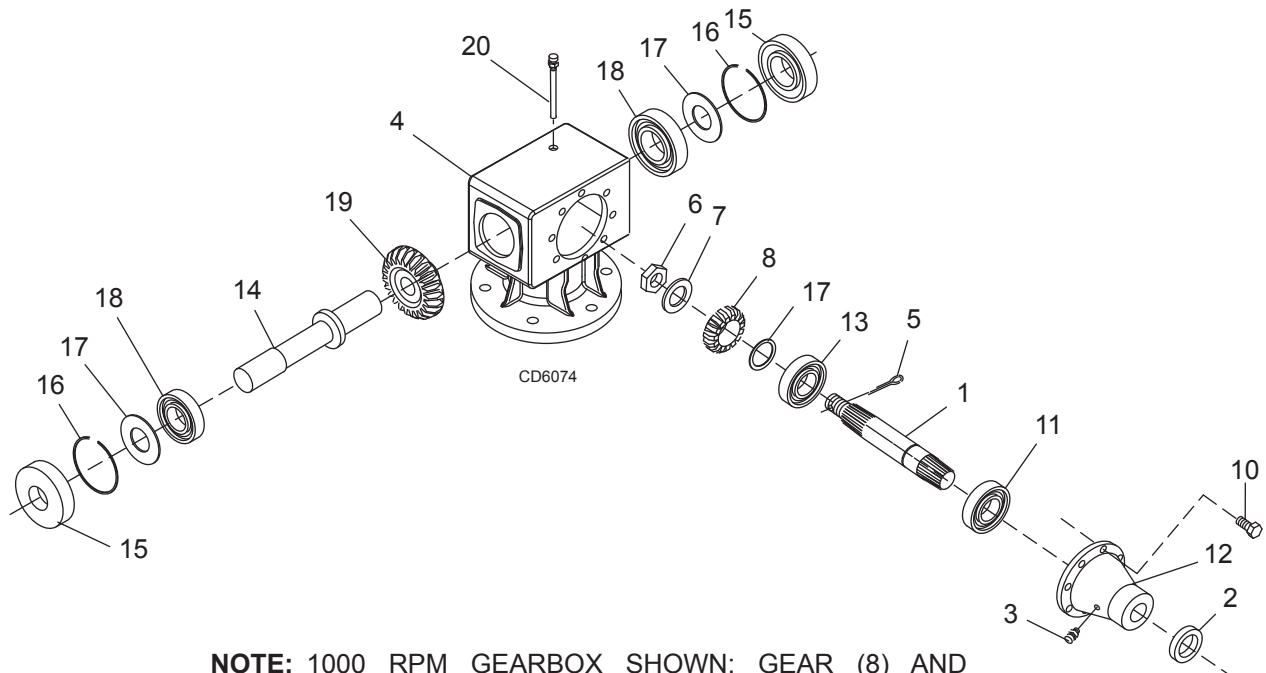
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1021350RP	1	A-Frame assembly	12	54315	2	1/2 NPTM x 9/16 JICM Adapter
2	1042244RP	2	Break link	13	1038891	2	1/4 NPTF x 1/2 NPTM Adapter rstr. .06
3	1042287	2	Lift arm (DS8.50) -or-	14	66511RP	2	1/2 NPT Male coupler
3	1042243	2	Lift arm (DS10.50)	15	1038123	2	Hose, 154" x 1/4 NPT x 9/16 JICF 90°
4	39071	1	Sleeve, .781 x 1.38 x 2.40	16	27542 *	3	7/16 x 11/32 Klik pin
5	7176	1	Sleeve, 1-3/8 x 1-3/4 x 1-1/4	17	692 *		5/8 Flat washer
6	66661RP	2	Sleeve, 5/8 x 1 x 1-1/4	18	5836 *		5/8 NC x 2-1/2 Carriage bolt, GR5
7	12313	2	Sleeve, 5/8 x 1 x 13/16	19	34473 *		5/8 NC x 3 HHCS, GR5
8	39065	1	Top link pin	20	19025 *		5/8 NC Flanged lock nut
9	39064	2	Lower hitch pin	21	12558 *		3/4 NC x 4-1/2 HHCS, GR5
10	1042761	1	540 RPM Drive (DS8.50) (See page 62)	22	2371 *		3/4 NC Hex lock nut
10	1042762	1	1000 RPM Drive (DS8.50Q) (See page 62)	23	34279		1" NC Hex lock nut
10	57419	1	540 RPM Drive (DS10.50) (See page 63)	24	1863 *		1" Standard flat washer
10	57290	1	1000 RPM Drive (DS10.50Q) (See page 63)				
11	-----	1	Tailwheel assembly (See page 62)				
					*		Standard hardware, obtain locally
					HHCS		Hex Head Cap Screw

DSO8.50 / DSO10.50 CUTTER ASSEMBLY



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1021775	1	Hitch assembly	14	8669	2	Hose, 156" x 1/4 NPTM x 1/4 NPTM
2	1042991	1	Left hitch arm (DSO8.50) -or-	15	11975	1	1/2 NPT Vent plug
2	1021783RP	1	Left hitch arm (DSO10.50)	16	54315	1	1/2 NPTM x 9/16 JICM Adapter
3	1021784RP	1	Right hitch arm	17	11893	4	1/2 to 1/4 Reducer fitting
4	1021398	4	1.50 x 8.02 Flag pin	18	10290	2	1/4 x 1/4 90° Elbow w/1/16 restricter
5	1043012	1	SMV Bracket	19	1038891	1	1/4 NPTF x 1/2 NPTM Adapter restctr .06
6	24611	1	SMV Emblem	20	66511RP	3	1/2 NPT Male coupler
7	597273	1	Cylinder, 3.5 x 1.25 x 8.0 NPT 8 AG	21	1631	2	1 x 2.72 Headless pin
7	1022208	1	2-1/2 x 16 Double acting cylinder (DSO10.50)	22	1012615	8	Split bushing
7A	23540		Seal Kit for 3-1/2 x 8 Cylinder w/ 1/2" tie rod nuts (3/4" across flat)	23	12296	*	1/4-28 Straight grease fitting
7B	600251		Seal Kit for 3-1/2 x 8 Cylinder w/ 14mm tie rod nuts (21mm across flat)	24	1285	*	1/4 x 1-1/2 Cotter pin
7C	N/A		Seal Kit for 2-1/2 x 16 Cylinder w' 10mm tie rod nuts (15 mm across flat)	25	71851	*	5/16 NC x 3/4 Flanged cap screw
8	57422	1	540 RPM Drive (See page 54) -or-	26	73163	*	5/16 NC Flanged lock nut
8	57425	1	1000 RPM Drive (See page 55)	27	854	*	1/2 Flat washer
11	1022238	2	Sleeve, 1.56 x 2.19 x 4.00	28	6100	*	1/2 NC x 1-1/4 HHCS, GR5
12	27542RP	* 2	7/16 x 11/32 Klik pin	29	2370	*	1.62 x 3 x .18 Washer
13	1038123	1	Hose, 154" x 1/4 NPT x 9/16 JICF 90°				Standard hardware, obtain locally
					HHCS		Hex Head Cap Screw

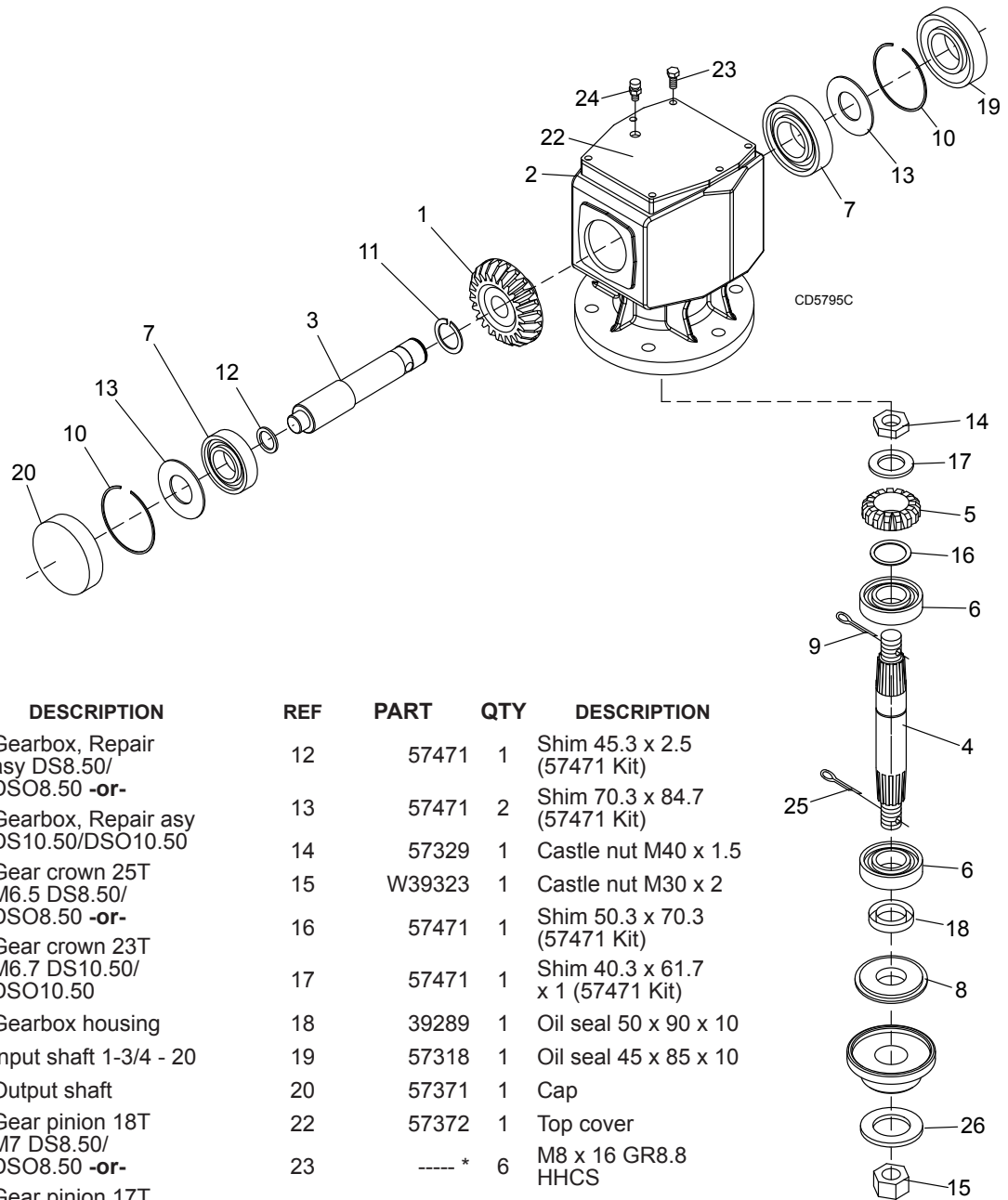
DS8.50 / DS10.50 / DSO8.50 / DSO10.50 SPLITTER GEARBOX ASSEMBLY



NOTE: 1000 RPM GEARBOX SHOWN; GEAR (8) AND GEAR (19) ARE REVERSED ON 540 RPM GEARBOX.

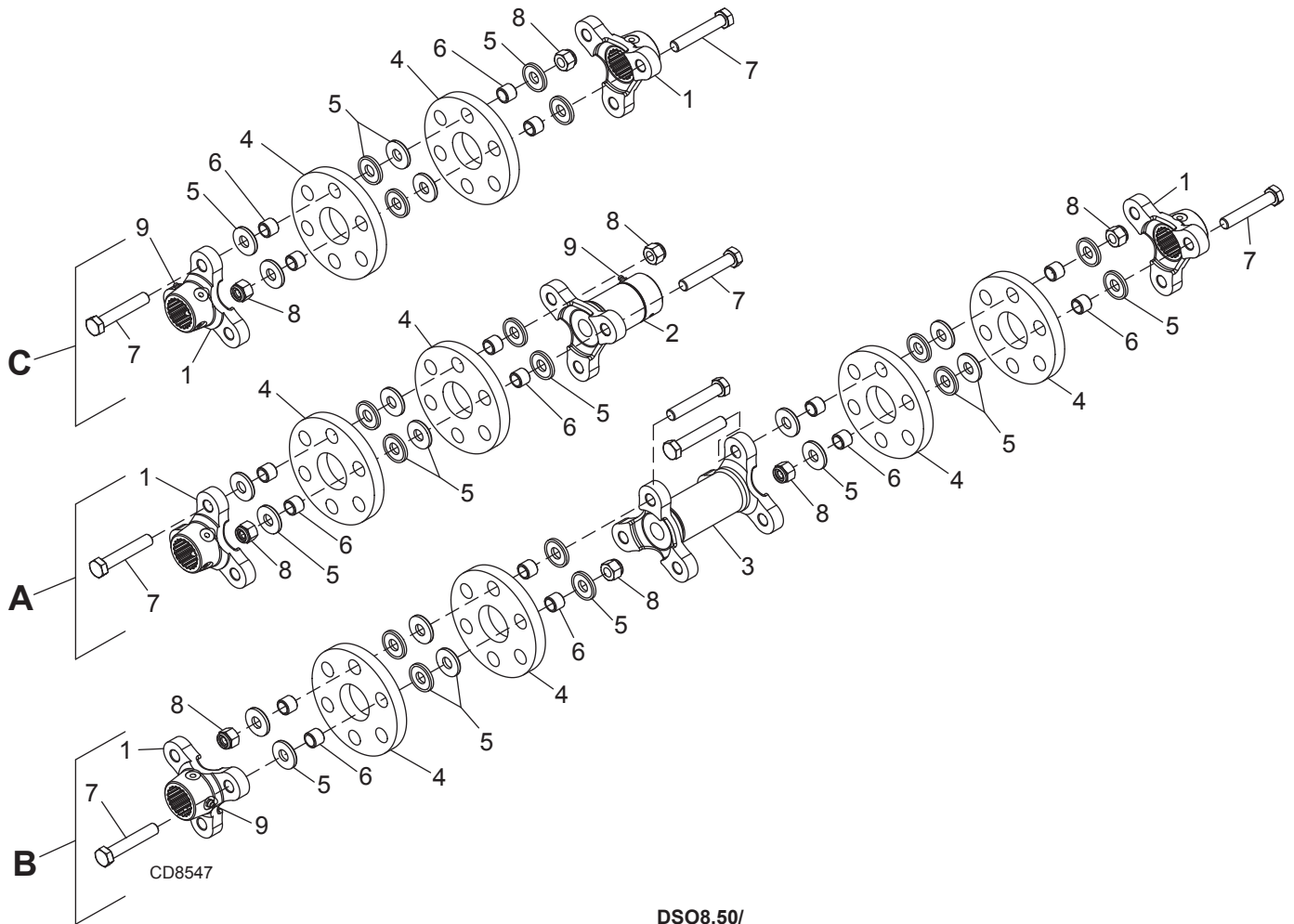
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	640408RP		Complete 540 rpm Gearbox assembly DS8.50, DSO8.50, DS10.50, DSO10.50 -or-	12	1002490	1	Housing, Gearbox input
A	640405RP		Complete 1000 rpm Gearbox assembly DS8.50Q, DSO8.50Q, DS10.50Q, DSO10.50Q	13	39263	1	Bearing, cup & cone
1	1002489	1	Input shaft	14	1002491	1	Output shaft
2	39289	1	Oil seal, metric 50 x 90 x 10	15	57318	2	Oil seal 45 x 85 x 10
3	NSS	1	Oil plug, 3/8	16	1002494	2	Snap ring 85 dia.
4	NSS	1	Gearbox housing	17	57471	2	Shim kit (as required)
5	----- *	1	Cotter pin B 4 x 60	18	39411	2	Bearing, cup and cone
6	57329	1	Castle nut M40 x 1.5	19	-----	1	Gear 16T M8 (540 rpm) See Item 21 for gear set -or-
7	1002492	1	Spacer	19	-----	1	Gear 22T M8 (1000 rpm) See Item 21 for gear set
8	-----	1	Gear 22T M8 (540 rpm) See Item 21 for gear set	20	57057RP	1	Dipstick / Plug
8	-----	1	Gear 16T M8 (1000 rpm) See Item 21 for gear set	21	640410	1	Gear Set (Contains both item 8 & 19)
10	----- *	8	M10 x 25 Hex head cap screw		NSS		Not Serviced Separately
11	1002493	1	Bearing, cup & cone		*		Standard hardware, obtain locally

DS8.50 / DS10.50 / DSO8.50 / DSO10.50 SPINDLE GEARBOX ASSEMBLY



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	617164RP		Gearbox, Repair asy DS8.50/ DSO8.50 -or-	12	57471	1	Shim 45.3 x 2.5 (57471 Kit)
A	617167RP		Gearbox, Repair asy DS10.50/DSO10.50	13	57471	2	Shim 70.3 x 84.7 (57471 Kit)
1	57315	1	Gear crown 25T M6.5 DS8.50/ DSO8.50 -or-	14	57329	1	Castle nut M40 x 1.5
1	57316	1	Gear crown 23T M6.7 DS10.50/ DSO10.50	15	W39323	1	Castle nut M30 x 2
2	NSS	1	Gearbox housing	16	57471	1	Shim 50.3 x 70.3 (57471 Kit)
3	57319	1	Input shaft 1-3/4 - 20	17	57471	1	Shim 40.3 x 61.7 x 1 (57471 Kit)
4	57356	1	Output shaft	18	39289	1	Oil seal 50 x 90 x 10
5	57359	1	Gear pinion 18T M7 DS8.50/ DSO8.50 -or-	19	57318	1	Oil seal 45 x 85 x 10
5	57358	1	Gear pinion 17T M6.7 DS10.50/ DSO10.50	20	57371	1	Cap
6	39263	2	Bearing, cup & cone	22	57372	1	Top cover
7	39411	2	Bearing, cup & cone	23	----	6	M8 x 16 GR8.8 HHCS
8	57338	1	Protective seal	24	57057RP	1	Dipstick 1/2 x 6.18
9	----	*	Cotter pin B 4 x 50	25	64803RP *	1	3/16 x 2 Cotter pin
10	57320	2	Snap ring 85 UNI7437	26	1024670	1	1.22 x 2.21 x .236 Washer
11	57321	1	Snap ring 50 UNI7435		NSS		Not Serviced Separately
					*		Standard hardware, obtain locally
					HHCS		Hex Head Cap Screw

DS8.50 / DS10.50 / DSO8.50 / DSO10.50 FLEXIBLE COUPLER



REF	PART	DS8.50 QTY	DS10.50 QTY	DSO8.50 Right QTY	DSO10.50 Right QTY	DSO8.50/ DSO10.50 Left QTY	DESCRIPTION
A	1040672	2	----	----	----	----	Complete flex coupler drive (DS8.50)
B	1040673	----	2	----	----	----	Complete flex coupler drive (DS10.50)
A	1042960	----	----	1	----	----	Complete flex coupler drive (DSO8.50) (Right)
B	1042962	----	----	----	1	----	Complete flex coupler drive (DSO10.50) (Right)
C	1042961	----	----	----	----	1	Complete flex coupler drive (DSO8.50/ DSO10.50) (Left)
1	1008147	1	2	1	2	----	Yoke, 1-3/4 20-spline
2	NSS	1	----	1	----	----	Single yoke & tube assembly
3	NSS	----	1	----	1	----	Double yoke & tube assembly
4	1008140	2	4	2	4	2	Rubber disc
5	1008141	24	48	24	48	24	Shaped washer
6	1008142	12	24	12	24	12	Bushing
7	1001042	6	12	6	12	6	M16 x 2.0P x 90 mm HHCS
8	1008146	6	12	6	12	6	M16 x 2.0P Lock nut
9	----*	1	1	1	1	2	M8 x 1.0P Grease fitting

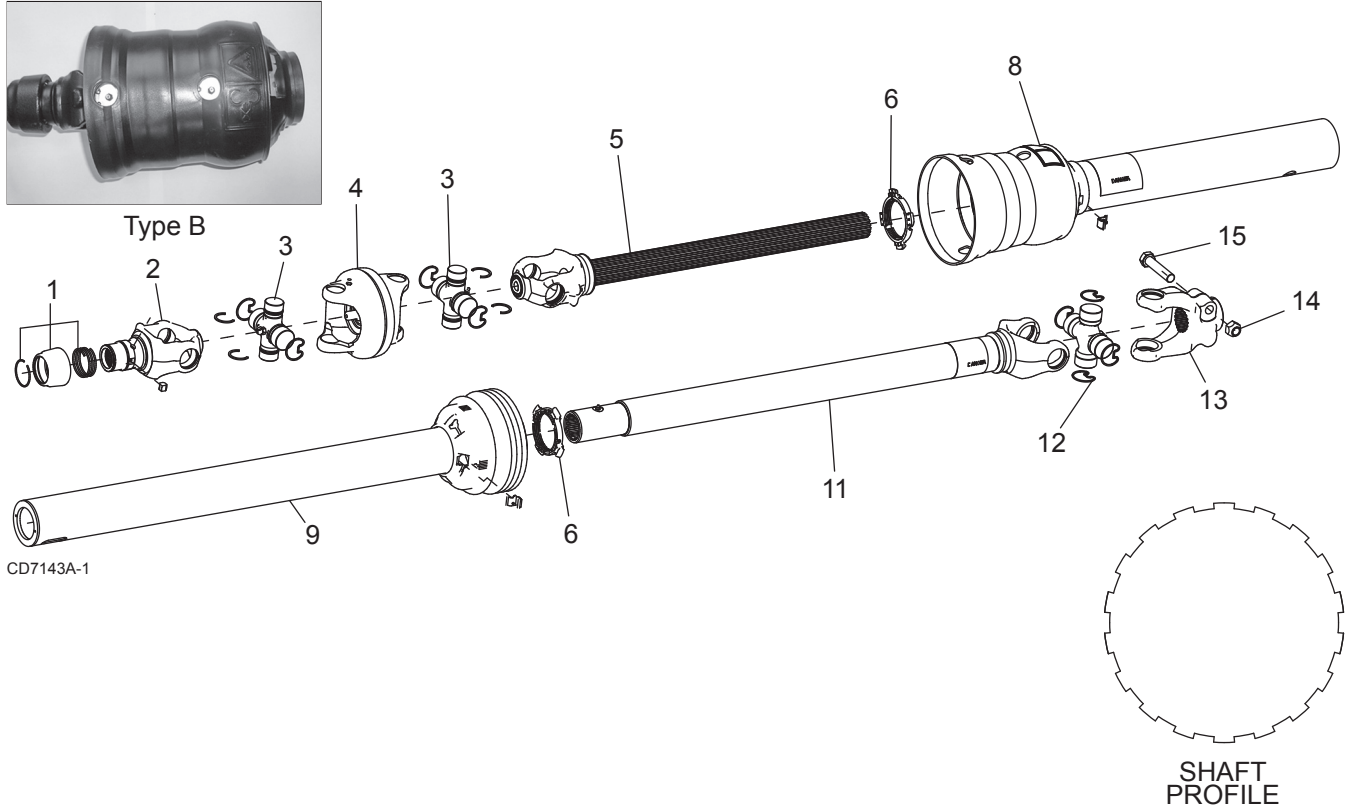
NSS

*

Not Serviced Separately

Standard Hardware, obtain locally

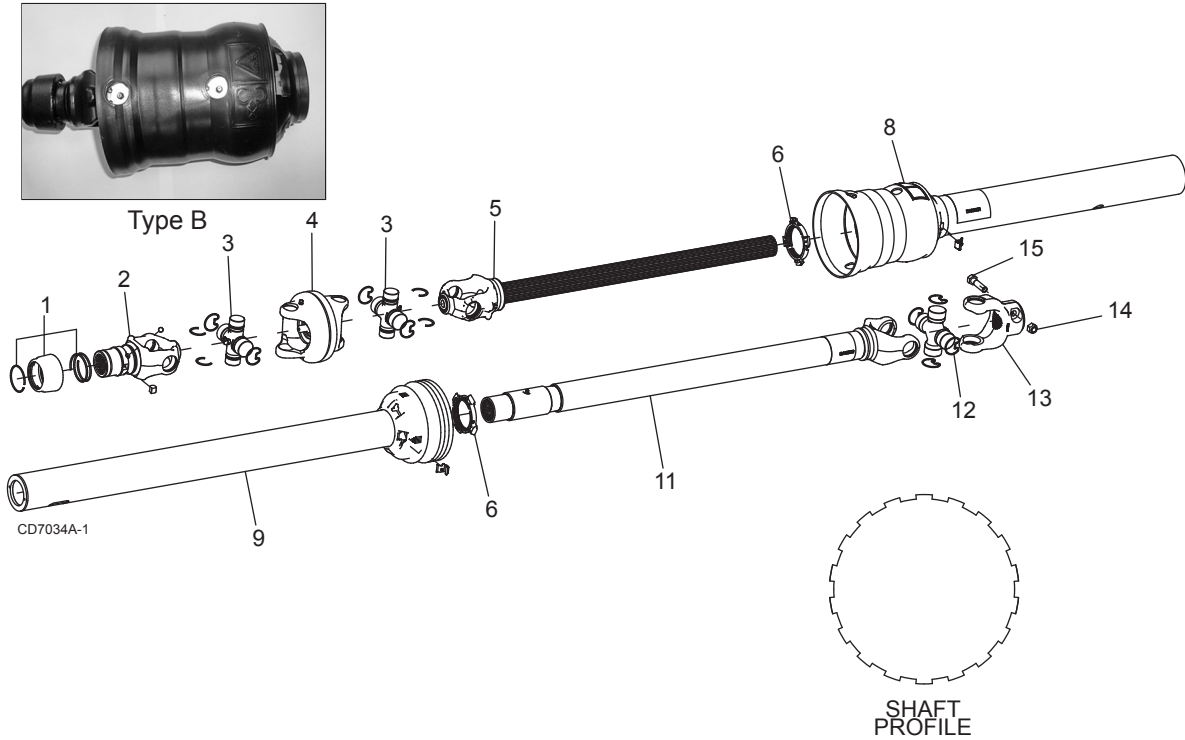
540 RPM FRONT CV DRIVE ASSEMBLY



REF	PART	QTY	DESCRIPTION
A	1024175	1	Complete 540 RPM front CV drive
1	19851	1	Slide lock repair kit, 1.38 ID
2	1033103	1	Yoke, QD CV 1.375-6
3	1033107	2	U-Joint repair kit, Cat 6 CV 55E
4	1033106	1	CV Body with fitting
5	1033114	1	Yoke & shaft - CV splined 30.4
6	1009065	2	Drive shield bearing kit
7	18864	1	Danger decal - rotating driveline (N/S)
8	1019641	1	Outer shield, CV
9	1021315	1	Inner shield, CV
10	33347	1	Danger decal - shield missing (NS)
11	1021316	1	Yoke, tube & sleeve, 55R x 36.4 x 1.69-20
12	58765	1	U-Joint cross & bearing kit 55E
13	1007869	1	Yoke, 55R x 4.50 x SP 1.5-23
14	765	1	1/2 NC Lock nut
15	3699	1	1/2 NC x 2 HHCS GR5

N/S Not Shown
 HHCS Hex head cap screw

1000 RPM FRONT CV DRIVE ASSEMBLY



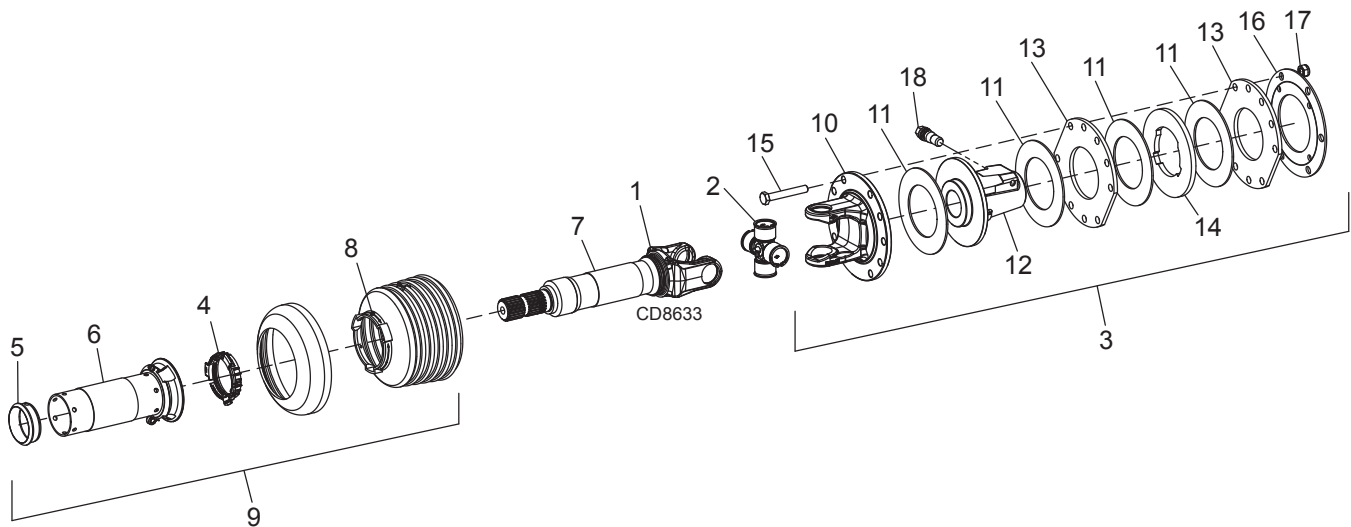
1000 RPM 1-3/8 21-SPLINED

REF	PART	QTY	DESCRIPTION
A	1021102RP	1	1000 RPM CV drive assembly complete, 21-spline
1	19851	1	Slide lock repair kit, 1.38 ID
2	1033104	1	Yoke, QD CV 1.375-21
3	1033107	2	U-Joint repair kit, 55E Cat 6 CV
4	1033106	1	CV Body with fitting
5	1033110	1	Yoke & shaft, CV splined 32.3
6	1009065	2	Drive shield bearing kit
7	18864	1	Danger decal - Rotating driveline (N/S)
8	1021306	1	CV Outer shield
9	1021319	1	CV Inner shield
10	33347	1	Danger decal - Shield missing (N/S)
11	1021320	1	Yoke, tube & sleeve, 55R x 38.4 x 1.69-20
12	58765	1	U-Joint cross & bearing kit 55E
13	1007869	1	Yoke, 55R x 1.50 x SP 1.5-23
14	765	1	1/2 NC Lock nut
15	3699	1	1/2 NC x 2 Hex head cap screw GR5
	N/S		Not Shown

1000 RPM 1-3/4 20-SPLINE

REF	PART	QTY	DESCRIPTION
A	1021101	1	1000 RPM CV drive assembly complete, 20-spline
1	19837	1	Slide lock repair kit, 1.75 ID
2	1033105	1	Yoke, QD CV 1.75-20
3	1033107	2	U-Joint repair kit, 55E Cat 6 CV
4	1033106	1	CV Body with fitting
5	1033110RP	1	Yoke & shaft, CV splined 32.3
6	1009065	2	Drive shield bearing kit
7	18864	1	Danger decal - Rotating driveline (N/S)
8	1021306	1	CV Outer shield
9	1021307	1	CV Inner shield
10	33347	1	Danger decal - Shield missing (N/S)
11	1021308	1	Yoke, tube & sleeve, 55R x 42.5 x 1.69-20
12	58765	1	U-Joint cross & bearing kit 55E
13	1007869	1	Yoke, 55R x 1.50 x SP 1.5-23
14	765	1	1/2 NC Lock nut
15	3699	1	1/2 NC x 2 Hex head cap screw GR5
	N/S		Not Shown

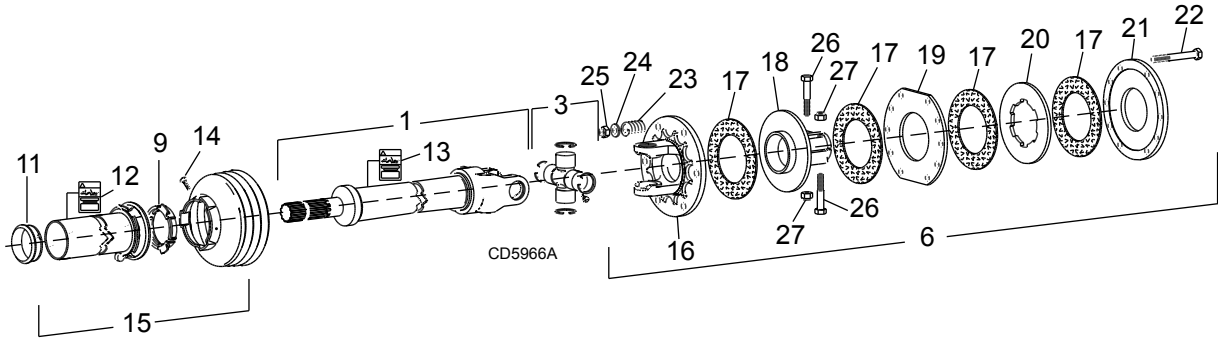
DS8.50 REAR FIXED-LENGTH DRIVE



REF	PART	QTY	DESCRIPTION
A	1042288	1	Drive assembly complete (DS8.50)
1	1041693	1	Drive without shield
2	W40566	1	Cross & bearing kit
3	1041678	1	Friction clutch
4	40766	1	Bearing ring
5	40767	1	Support bearing
6	18864	1	Decal, Danger, rotating driveline
7	33347	1	Decal, Danger, guard missing
8	40778	1	Screw
9	1041694	1	Shield asy, complete
10	1041695	1	Flange yoke
11	57432	4	Friction disc
12	1016490	1	Hub, 1-3/4 - 20-spline
13	57443	2	Drive plate
14	1016491	1	Clutch drive plate
15	----	6	M12 x 1.75P x 80 mm HHCS
16	1016492	1	Belleville spring
17	W57261	6	M12 x 1.75P Hex lock nut (pkg 10)
18	1016498	1	Clamp cone lock asy

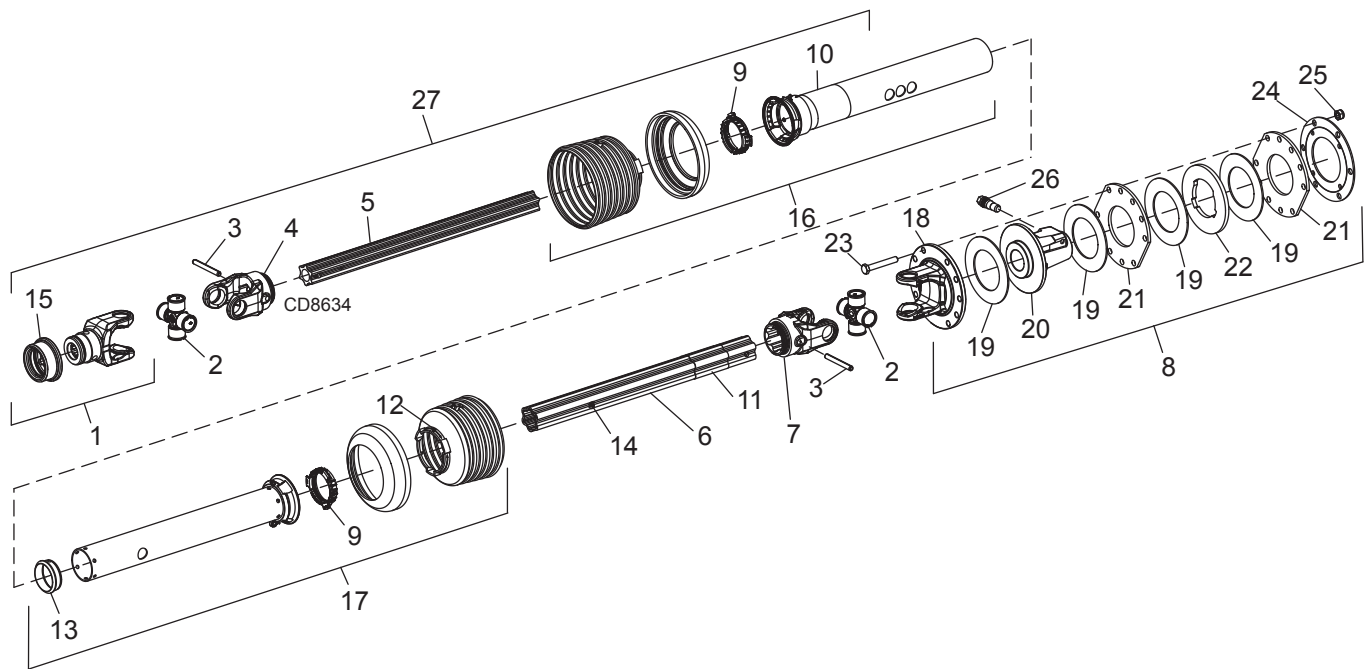
HHCS Hex head cap screw

DS10.50 REAR FIXED-LENGTH DRIVE



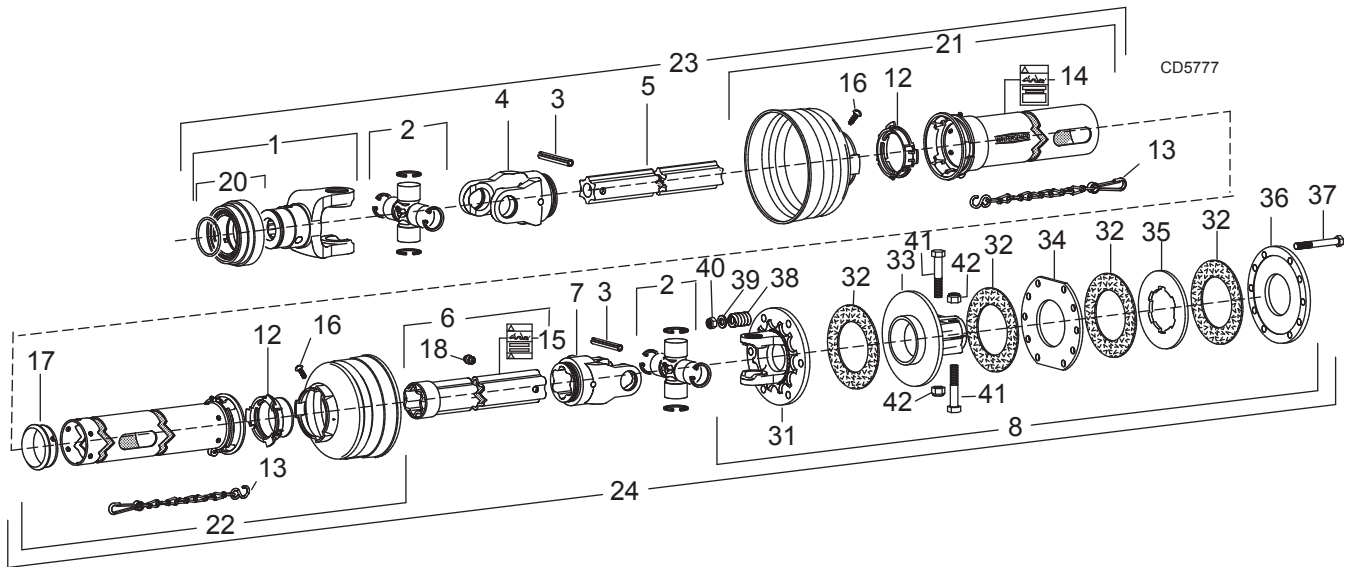
REF	PART	QTY	DESCRIPTION
A	1022221	1	Drive assembly complete (DS10.50)
1	1024775	1	Drive without shield
3	W40566	1	Cross & bearing kit
6	57421	1	Friction clutch
9	40766	1	Bearing ring
11	40767	1	Support bearing
12	18864	1	Danger decal - Rotating driveline
13	33347	1	Danger decal - Shield missing
14	40778	1	Screw
15	1024776	1	Shield
16	57441	1	Flange yoke
17	57432	4	Friction disc
18	57442	1	Hub, 1-3/4 - 20 I.C. - SN
19	57443	1	Drive plate
20	57256	1	Drive plate - SN
21	57257	1	Thrust plate
22	57263	6	M12 x 1.25P x 115 mm HHCS, CL8.8
23	57258	6	Spring, compression
24	57265	6	Flat washer, 24 x 13 x 2.5 mm
25	57264	6	M12 x 1.25P Hex lock nut
26	57262	2	M12 x 1.75P x 65 mm HHCS, CL8.8 (pkg 10)
27	W57261	2	M12 x 1.75P Hex lock nut (pkg 10)
	HHCS		Hex head cap screw

DS8.50 & DS8.50Q SLIP CLUTCH DRIVE ASSEMBLY - MOUNTED



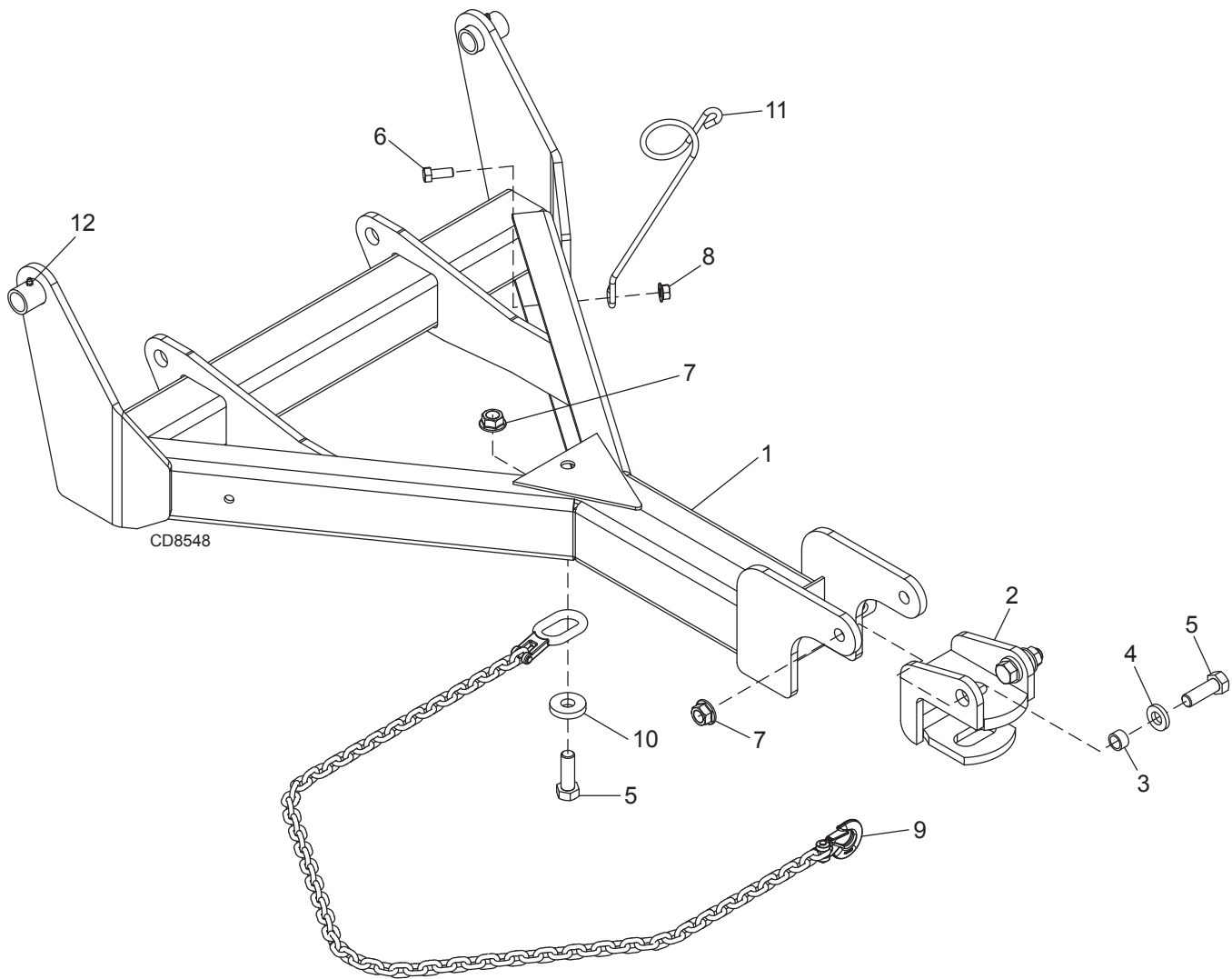
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	1042761	1	Complete 540 RPM drive assembly - DS8.50 -or-	12	40778	2	Screw
A	1042762	1	Complete 1-3/8, 1000 RPM drive assembly - DS8.50Q	13	1041679	1	Support bearing
1	40563	1	Yoke, 1-3/8 - 6 Spline ASG, DS8.50 -or-	14	40779	1	Grease fitting
1	40757	1	Yoke, 1-3/8 - 21 Spline ASG, DS8.50Q	15	40758	1	Slide lock collar repair kit, 1-3/8
2	W40566	2	Cross and bearing	16	1041680	1	Outer guard half, complete
3	40765	2	Spring pin, 10 x 90 (pkg 10)	17	1041681	1	Inner guard half, complete
4	40750	1	Inboard yoke, S4	18	1041695	1	Flange yoke
5	40752	1	Inner profile, S4	19	57432	4	Friction disc
6	44676	1	Outer profile & sleeve, S5	20	1016490	1	Hub, 1-3/4 - 20-spline
7	40751	1	Inboard yoke, S5	21	57443	2	Drive plate
8	1041678	1	Friction clutch, 1-3/4, 20-spline	22	1016491	1	Clutch drive plate
9	40766	2	Bearing ring, SC25	23	-----	6	M12 x 1.75P x 80 mm HHCS
10	18864	1	Decal, Danger, rotating driveline	24	1016492	1	Belleville spring
11	33347	1	Decal, Danger, guard missing	25	W57261	6	M12 x 1.75P Hex lock nut (pkg 10)
				26	1016498	1	Clamp cone lock asy
					HHCS		Hex Head Cap Screw

DS10.50 (Q) / DSO8.50 (Q) / DSO10.50 SLIP CLUTCH DRIVE ASSEMBLY - MOUNTED



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	57419	1	Complete 540 RPM drive assembly - DS10.50 -or-	20	40758	1	Slide lock collar repair kit, 1-3/8 -or-
A	57290	1	Complete 1-3/8, 1000 RPM drive assembly - DS10.50Q -or-	20	1003465	1	Slide lock collar repair kit, 1-3/4
A	57422	1	Complete 540 RPM drive assembly - DSO8.50, DSO10.50 -or-	21	40727	1	Outer guard half
A	57425	1	Complete 1-3/8, 1000 RPM drive assembly - DSO8.50Q, DSO10.50Q	22	57273	1	Inner guard half - DS10.50 (Q)
A	1032109	1	Complete 1-3/4, 1000 RPM drive assembly	22	57271	1	Inner guard half - DSO8.50 (Q), DSO10.50 (Q)
1	40563	1	Yoke, 1-3/8 - 6 Spline ASG -or-	23	40754	1	Male drive half, Complete (540 rpm) - DS10.50 -or-
1	40757	1	Yoke, 1-3/8 - 21 Spline ASG -or-	23	1003455	1	Male drive half, Complete (1000 rpm) - DS10.50Q -or-
1	1001525	1	Yoke, 1-3/4 - 20 Spline ASG	23	57423	1	Male drive half, Complete (540 rpm) - DSO8.50, DSO10.50 -or-
2	W40566	2	Cross and bearing	23	57426	1	Male drive half, Complete (1000 rpm) - DSO8.50Q, DSO10.50Q
3	40765	2	Spring pin 10 X 90	31	57441	1	Flange yoke
4	40750	1	Inboard yoke S4	32	57432	4	Friction disc
5	40752	1	Inner profile S4	33	57442	1	Hub 1-3/4 - 20 I.C. -SN
6	44676	1	Outer profile & sleeve S5	34	57443	1	Drive plate
7	40751	1	Inboard yoke S5	35	57256	1	Drive plate - SN
8	57421	1	Friction clutch, 1-3/4, 20-spline	36	57257	1	Thrust plate
12	40766	2	Bearing ring SC25	37	57263	6	M12 x 1.25P 115 mm HHCS, CL8.8
13	40777	2	Anti-rotation chain	38	57258	6	Spring, compression (pkg 6)
14	18864	1	Decal, Danger Rotating driveline	39	57265	6	Flat washer, 24 x 13 x 2.5 mm
15	33347	1	Decal, Danger guard missing	40	57264	6	M12 x 1.25P Hex lock nut (pkg 10)
16	40778	2	Screw	41	57262	2	M12 x 1.75P x 65 mm HHCS, CL8.8 (pkg 10)
17	40767	1	Support bearing	42	W57261	2	M12 x 1.75P Hex lock nut (pkg 10)
18	40779	1	Grease fitting				
					HHCS		Hex Head Cap Screw

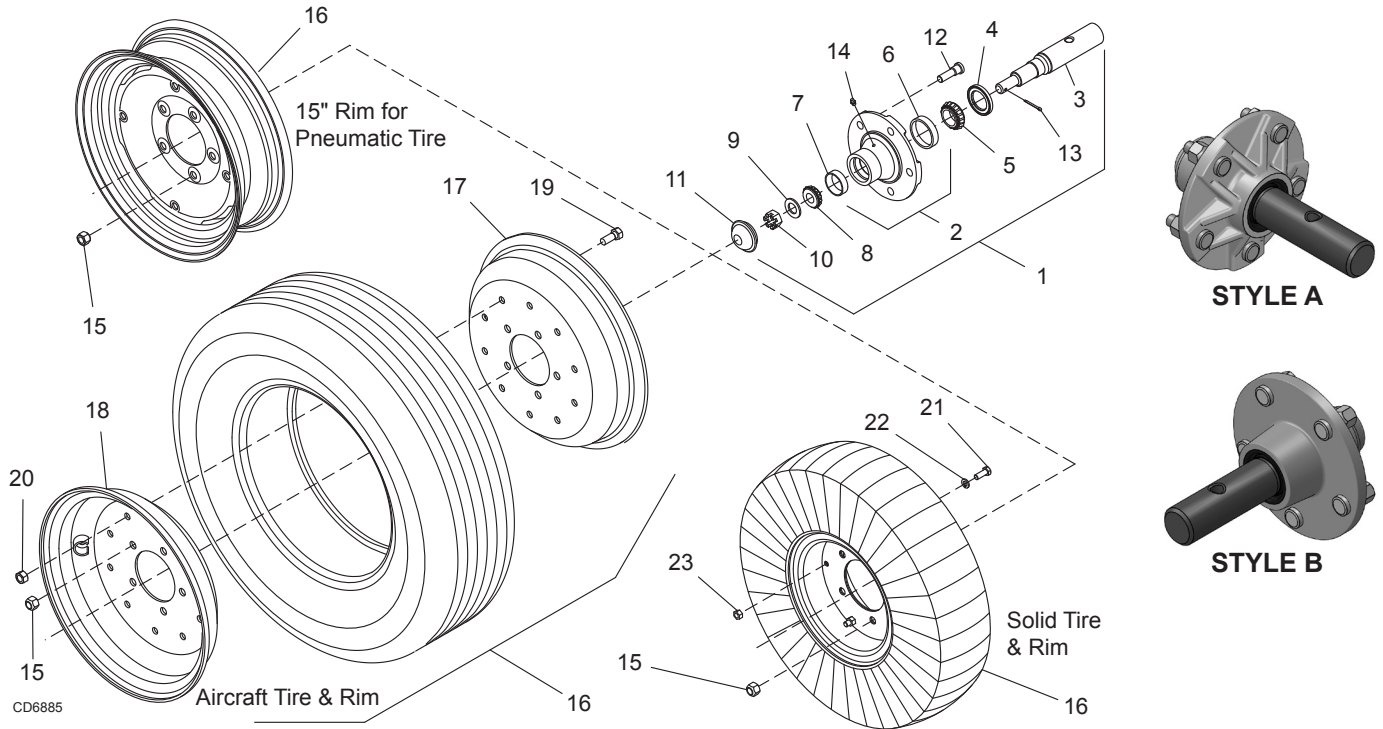
DS8.50 / DS10.50 TONGUE ASSEMBLY



REF	PART	QTY	DESCRIPTION
A	1042250	1	Tongue assembly, complete
1	1042251RP	1	Tongue weld asy
2	1005595RP	1	Hitch, category 2 clevis
3	13087	2	3/4 x 1 x 9/16 Sleeve, HT
4	28873	2	3/4 x 1-1/2 x 1/4 Washer
5	13759 *		3/4 NC x 2-1/4 HHCS, GR5
6	6100 *		1/2 NC x 1-1/4 HHCS, GR5
7	302207 *		3/4 NC Flanged lock nut
8	11900 *		1/2 NC Flanged lock nut
9	19407	1	Safety chain, 6400 lb.
10	8424	1	3/4 x 2 x 3/8 Washer
11	3443	1	Hydraulic hose holder
12	12296 *		1/4-28 Straight grease fitting

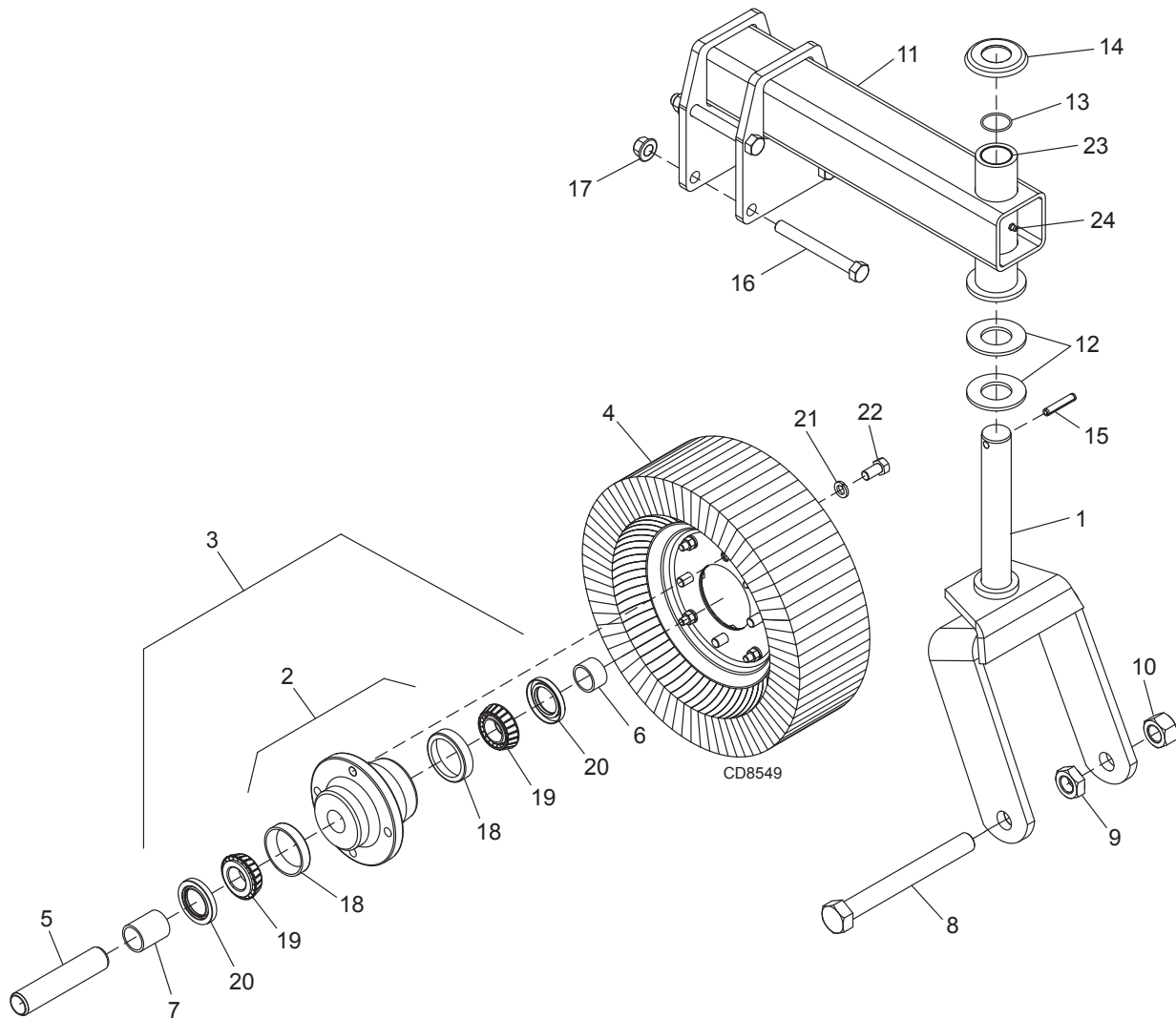
* Standard hardware, obtain locally
 HHCS Hex Head Cap Screw

WHEEL & TIRE ASSEMBLY



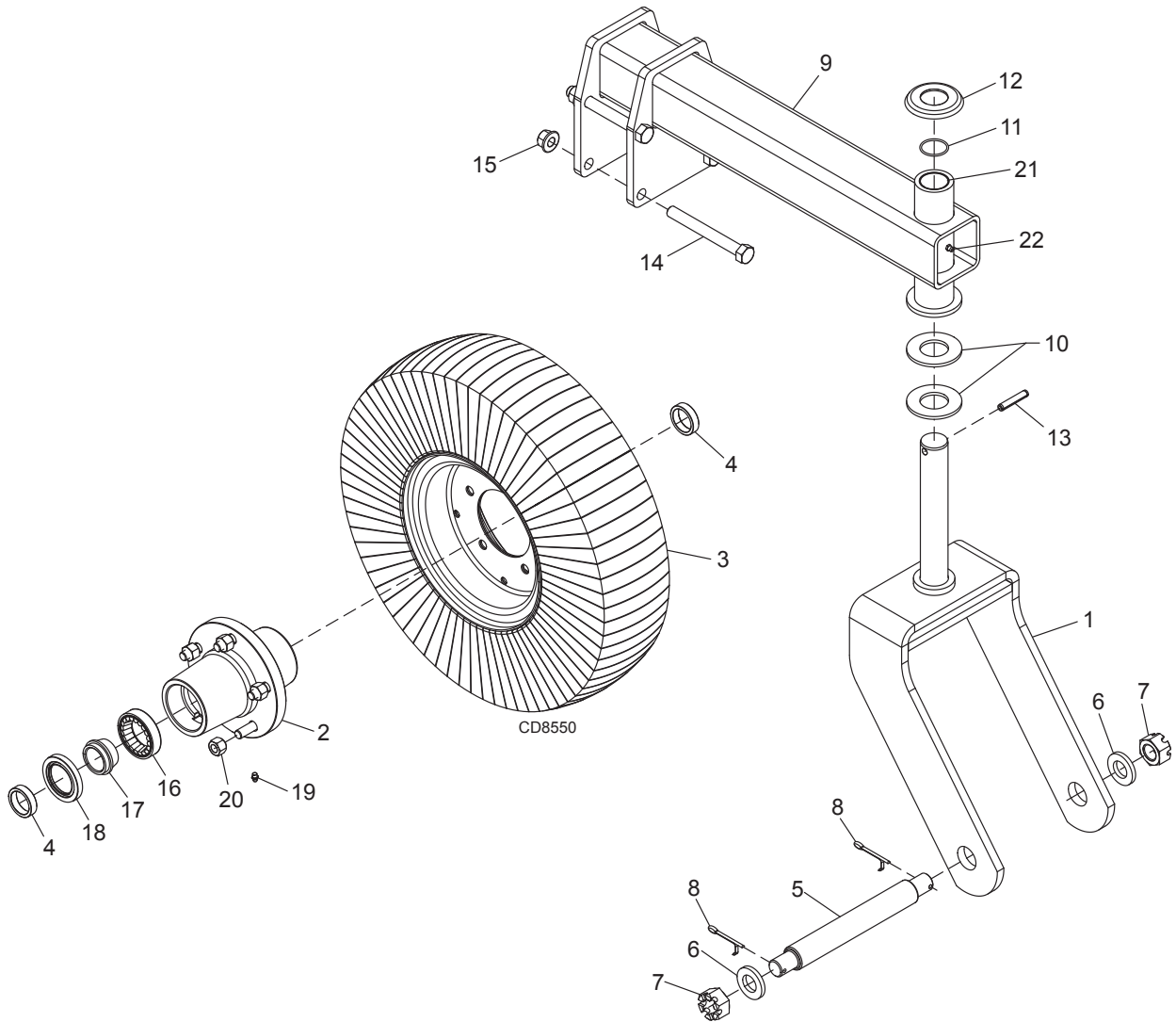
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1A	1017050	1	Heavy hub assembly - Style A (includes items 2 - 15)	16	1017040	1	6.00 x 9 Solid tire, rim & hardware - 5 bolt -or-
1B	603798	1	Hub assembly - Style B (includes items 2 - 15)	16	1039976	1	25 x 8 -14 Severe duty ag tire, rim & hardware - 5 bolt -or-
2	1017034	1	Heavy wheel hub with cups - Style A (includes items 6, 7, 14)	16	1039976F	1	25 x 8 - 14 Severe duty ag tire, rim & hardware, foam filled - 5 bolt -or-
3A	1017033	1	Axle (for use with Style A)	16	1017030	1	29 x 9 x 15 Aircraft tire, rim & hardware - 5 bolt
3B	603799	1	Axle (for use with Style B)	17	1017026	1	15.0 x 6.0 Rim half (for 29" aircraft wheel only)
4	1017027	1	Seal	18	1017025	1	15.0 x 6.0 Rim half w/ valve hole (for 29" aircraft wheel only)
5	1017028	1	Bearing cone	19	6100 *	1	1/2 NC x 1-1/4 HHCS GR5
6	1017036	1	Bearing cup	20	765 *	1	1/2 NC Locknut
7	1017037RP	1	Bearing cup	21	19887 *	1	3/8 NC x 1 HHCS GR8
8	1017029	1	Bearing cone	22	838 *	1	3/8 Standard lock washer
9	1017031	1	Washer	23	835 *	1	3/8 NC Hex nut
10	1017032	1	Castle nut (for use with Style A)	-	1015833	1	29 x 9 x 15 Inner tube
11	1017035	1	Hub cap	-	1017042	2	Rim half for 6 x 9 solid tire
12	1017038	5	Stud				
13	1017069	1	Cotter pin				
14	1017067	1	Grease fitting				
15	35317	5	Nut, lug 1/2 NF				
16	1017088	1	15" Rim for pneumatic tire - 5 bolt -or-				
					*		Standard hardware, obtain locally
					HHCS		Hex Head Cap Screw

DS8.50 / DS10.50 MOUNTED TAILWHEEL ASSEMBLY



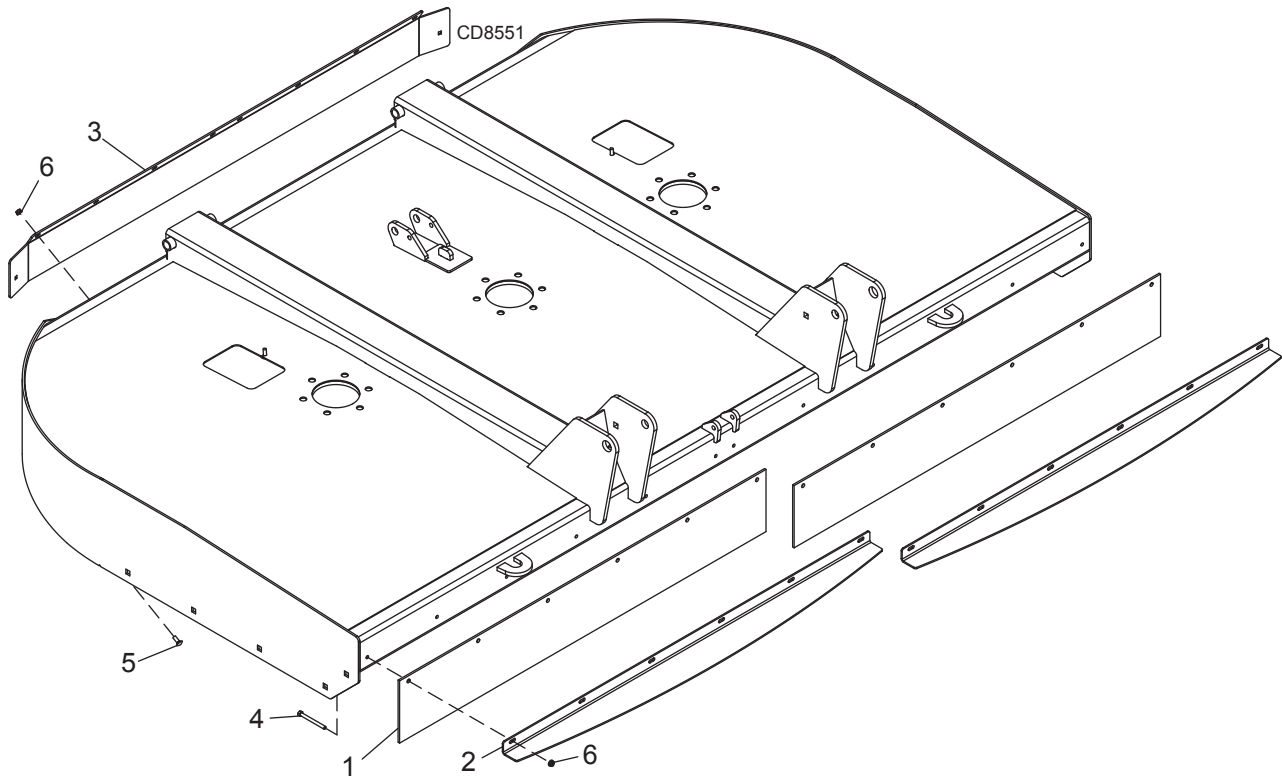
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	15580RP	1	Caster yoke	15	4674	1	3/8 x 2 Spirol pin
2	15591	1	Hub w/cups (Includes item 18)	16	990 *		5/8 NC x 5-1/2 HHCS, GR5
3	15277RP	1	Hub assembly (Includes items 18 - 20)	17	19025 *		5/8 NC Flange lock nut
4	12577	1	4 x 8 Rim & laminated tire	18	309	2	Bearing cup
5	15573RP	1	Sleeve, 1.00 x 1.25 x 5.81	19	310	2	Bearing cone
6	15574RP	1	Sleeve, 1.25 x 1.50 x .903	20	314	2	Seal
7	15575RP	1	Sleeve, 1.25 x 1.50 x 1.86	21	855 *		1/2 Standard lock washer
8	15087	1	1 NC x 9 HHCS, GR5	22	4119 *		1/2 NF x 1 HHCS, GR5
9	1386	1	1 NC Hex jam nut	23	W11011	2	1-1/2 x 1-5/8 x 1-1/2 Bronze bushing
10	34279	1	1 NC Hex lock nut	24	12296 *		1/4-28 Straight grease fitting
11	1042245RP	1	Caster arm (Includes items 23 & 24)		*		Standard hardware, obtain locally
12	2370	2	Washer, 1.62 x 3 x .18		HHCS		Hex Head Cap Screw
13	12889	1	O-Ring, 3/32 x 1-9/16 OD				
14	W12881	1	Cap washer				

DSO8.50 / DSO10.50 TAILWHEEL ASSEMBLY



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1043014	1	Caster yoke	15	19025 *	1	5/8 NC Flange lock nut
2	1041000RP	1	Hub (Includes items 16 - 20)	16	7069	2	Bearing cup
3	1017040	1	6.00 x 9 Solid tire, rim & hardware (See page 61)	17	1041042	2	Bearing cone
4	1042979	2	Spacer	18	1041043	2	Seal
5	1042980	1	Axle	19	1972 *	1	1/4-28 Tapered thread grease fitting
6	11920RP	2	Washer, 1 x 1-7/8 x 1/4	20	35317	5	1/2 NF Wheel nut
7	1006861	2	1"-8 UNC Hex slotted nut	21	W11011	2	1-1/2 x 1-5/8 x 1-1/2 Bronze bushing
8	64803 *	2	3/16 x 2 Cotter pin	22	12296 *	1	1/4-28 Straight grease fitting
9	1043015	1	Caster arm (Includes items 21 & 22)				
10	2370	2	Washer, 1.62 x 3 x .18		*		Standard hardware, obtain locally
11	12889	1	O-Ring, 3/32 x 1-9/16 OD		HHCS		Hex Head Cap Screw
12	W12881	1	Cap washer				
13	4674	1	3/8 x 2 Spirol pin				
14	990 *	1	5/8 NC x 5-1/2 HHCS, GR5				

DS8.50 / DSO8.50 / DS10.50 / DSO10.50 BELT SHIELDING (STANDARD)



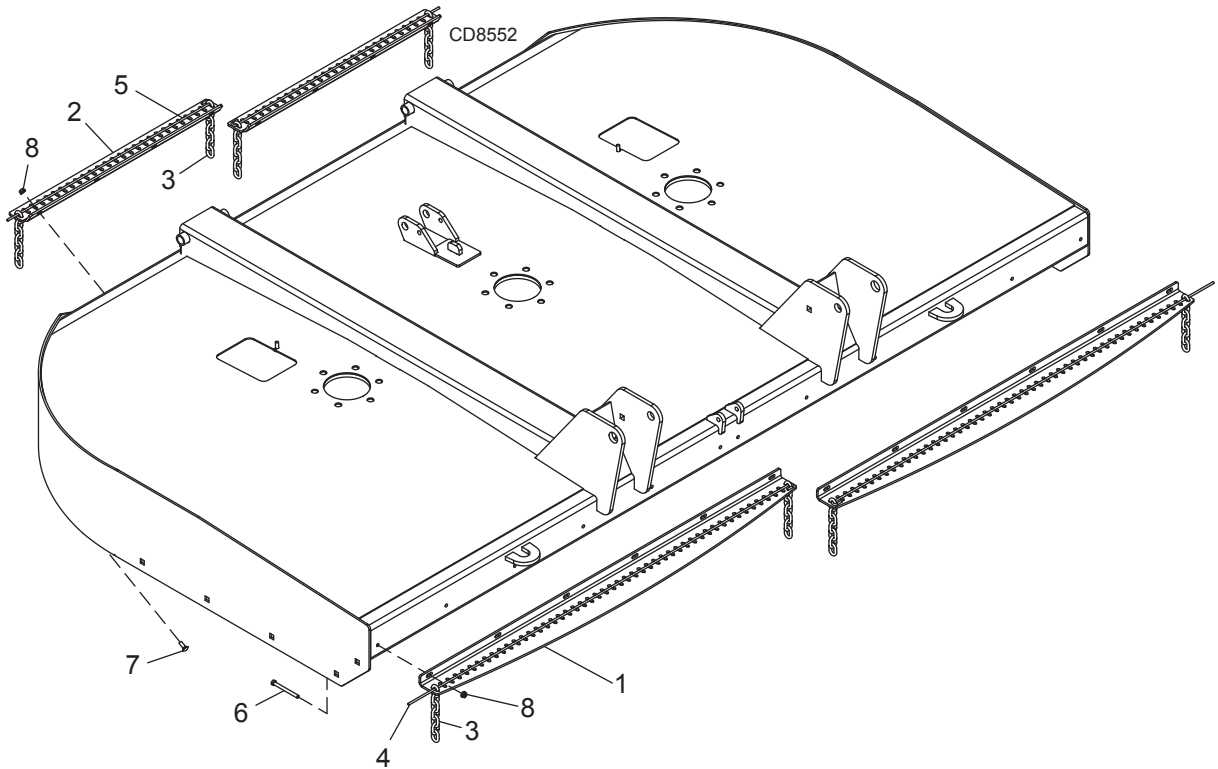
DS8.50 / DSO8.50

REF	PART	QTY	DESCRIPTION
1	1042751	2	Front rubber deflector
2	1043016	2	Front belt bracket
3	1043017	1	Rear band
4	14478 *		3/8 NC x 4 HHCS, GR5
5	6697 *		3/8 NC x 1 Carriage bolt, GR5
6	14350 *		3/8 NC Flange lock nut
	*		Standard hardware, obtain locally
	HHCS		Hex Head Cap Screw

DS10.50 / DSO10.50

REF	PART	QTY	DESCRIPTION
1	1042264	2	Front rubber deflector
2	1043018	2	Front belt bracket
3	1043019	1	Rear band
4	14478 *		3/8 NC x 4 HHCS, GR5
5	6697 *		3/8 NC x 1 Carriage bolt, GR5
6	14350 *		3/8 NC Flange lock nut
	*		Standard hardware, obtain locally
	HHCS		Hex Head Cap Screw

DS8.50 / DSO8.50 / DS10.50 / DSO10.50 CHAIN SHIELDING (OPTIONAL)



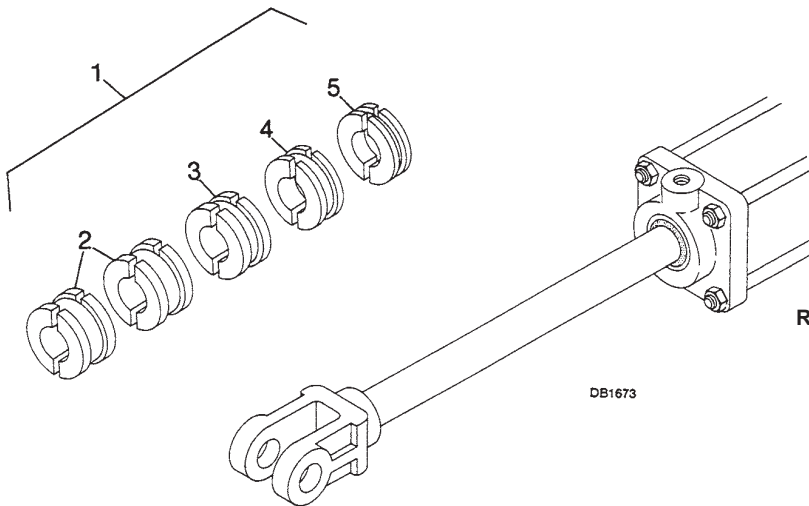
DS8.50 / DSO8.50

REF	PART	QTY	DESCRIPTION
1	1043020	2	Front chain bracket
2	1043021	2	Rear chain bracket
3	5496	A/R	5/16 - 7 Link chain
4	1007853	2	Pin, bent, .243 Dia x 37 to 39 chains
5	1007854	2	Pin, bent, .243 Dia x 40 to 42 chains
6	14478	*	3/8 NC x 4 HHCS, GR5
7	6697	*	3/8 NC x 1 Carriage bolt, GR5
8	14350	*	3/8 NC Flange lock nut
	A/R		As Required
	*		Standard hardware, obtain locally
	HHCS		Hex Head Cap Screw

DS10.50 / DSO10.50

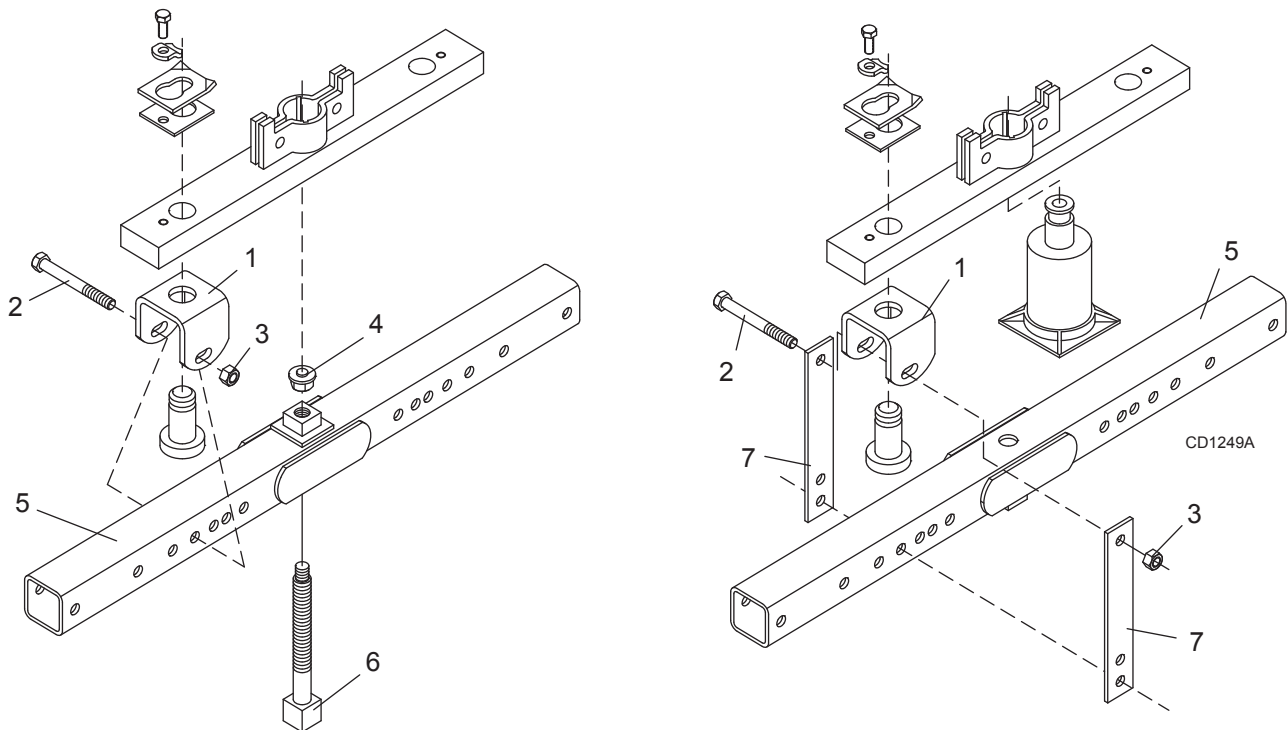
REF	PART	QTY	DESCRIPTION
1	1043022	2	Front chain bracket
2	1043023	2	Rear chain bracket
3	5496	A/R	5/16 - 7 Link chain
4	1007855	2	Pin, bent, .243 Dia x 49 to 51 chains
5	1003645	2	Pin, bent, .243 Dia x 25 to 27 chains
6	14478	*	3/8 NC x 4 HHCS, GR5
7	6697	*	3/8 NC x 1 Carriage bolt, GR5
8	14350	*	3/8 NC Flange lock nut
	A/R		As Required
	*		Standard hardware, obtain locally
	HHCS		Hex Head Cap Screw

HYDRAULIC CYLINDER STROKE CONTROL KIT (OPTIONAL)



REF	PART	QTY	DESCRIPTION
1	24098A	1	Stroke control set for 1-1/4" cylinder rod (contains items 2 - 5)
2	----	2	1-1/2" Segment
3	----	1	1-1/4" Segment
4	----	1	1" Segment
5	----	1	3/4" Segment

CROSSBAR PULLER (OPTIONAL)



REF	PART	QTY	DESCRIPTION
A	8811	1	Crossbar puller, complete
1	19914	2	Crossbar puller clevis
2	3097 *	4	5/8 NC x 4-1/2 HHCS GR5
3	230 *	4	5/8 NC Hex nut
4	24879	1	Crossbar puller pad assembly
5	24876	1	Crossbar puller tube assembly

REF	PART	QTY	DESCRIPTION
6	24881	1	Crossbar puller screw assembly
7	24885	4	Crossbar puller link
	*		Standard hardware, obtain locally
	HHCS		Hex Head Cap Screw

BOLT TORQUE CHART

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

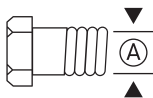
Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware. Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.

SAE SERIES TORQUE CHART

SAE Bolt Head Identification



SAE Grade 2
(No Dashes)



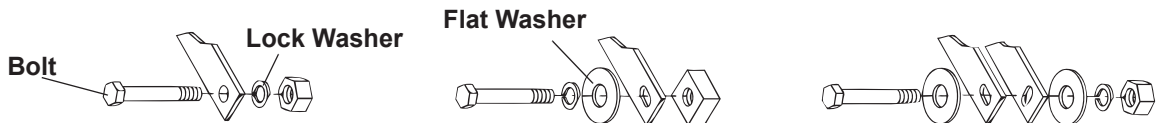
SAE Grade 5
(3 Radial Dashes)



SAE Grade 8
(6 Radial Dashes)

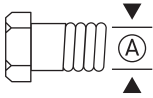
Ⓐ Diameter (Inches)	Wrench Size	Marking on Head					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383

TYPICAL WASHER INSTALLATIONS



METRIC SERIES TORQUE CHART

Metric Bolt Head Identification



Metric
Grade 8.8



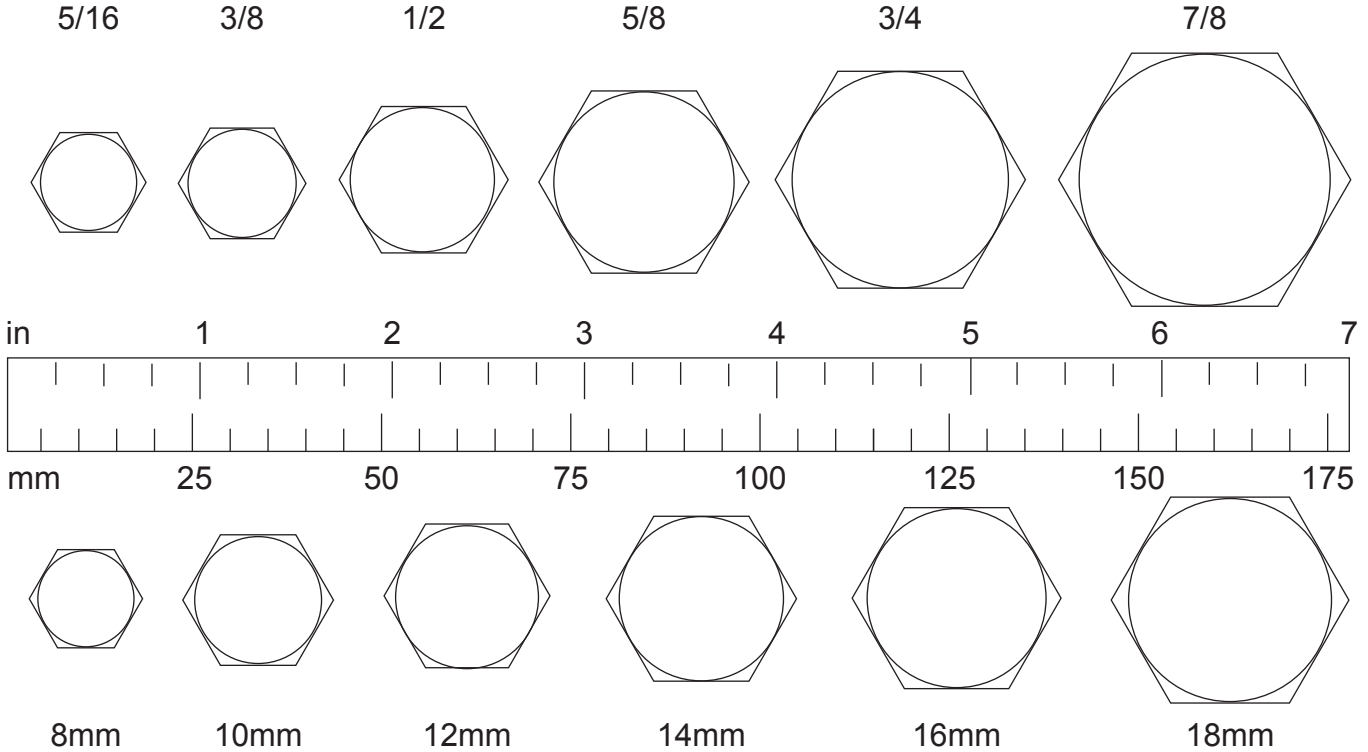
Metric
Grade 10.9

Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	Coarse Thread				Fine Thread				Ⓐ Diameter & Thread Pitch (Millimeters)
		Marking on Head								
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

BOLT SIZE CHART

NOTICE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.

SAE BOLT THREAD SIZES



METRIC BOLT THREAD SIZES

ABBREVIATIONS

AG Agriculture	HT Heat-Treated	ORBM O-Ring Boss - Male
ASABE American Society of Agricultural & Biological Engineers (formerly ASAE)	JIC Joint Industry Council 37° Degree Flare	P Pitch
ASAE American Society of Agricultural Engineers	LH Left Hand	PBY Power-Beyond
ATF Automatic Transmission Fluid	LT Left	psi Pounds per Square Inch
BSPP British Standard Pipe Parallel	m Meter	PTO Power Take Off
BSPTM British Standard Pipe Tapered Male	mm Millimeter	QD Quick Disconnect
CV Constant Velocity	M Male	RH Right Hand
CCW Counter-Clockwise	MPa Mega Pascal	ROPS Roll-Over Protective Structure
CW Clockwise	N Newton	RPM Revolutions Per Minute
F Female	NC National Coarse	RT Right
FT Full Thread	NF National Fine	SAE Society of Automotive Engineers
GA Gauge	NPSM National Pipe Straight Mechanical	UNC Unified Coarse
GR (5, etc.) Grade (5, etc.)	NPT National Pipe Tapered	UNF Unified Fine
HHCS Hex Head Cap Screw	NPT SWF National Pipe Tapered Swivel Female	UNS Unified Special

INDEX

ASSEMBLY

- Dealer Set-Up Instructions
 - DS8.50 & DS10.50
 - Pull-Type Models 36
 - DS8.50 & DS10.50
 - 3-Point Mounted Cutter 38
 - DSO8.50 & DSO10.50
 - 3-Point Mounted Cutter 40

DEALER CHECKLISTS

- Delivery (Dealer's Responsibility) 44
- Pre-Delivery (Dealer's Responsibility) 44

DEALER SERVICE

- Crossbar
 - Installation 33
 - Removal 32
 - Timing 34
- Gearbox Maintenance 27
 - Horizontal Shaft Seal Repair 28
 - Seal Installation 27
 - Seal Replacement 27
 - Vertical Shaft Seal Repair (Spindle Gearbox) 27
- Side Drive Service 32
- Spindle Gearbox Repair Assembly 28
 - Disassembly 28
 - Installation 29
 - Removal 28
- Splitter Gearbox Repair
 - Assembly 31
 - Disassembly 30
 - Installation 31
 - Removal 30
- Universal Joint
 - Assembly 35
 - Disassembly 34
 - Repair 34

GENERAL

- Abbreviations 68
- Bolt Size Chart 68
- Bolt Torque Chart 67
- General Information 4
- Introduction 2
- Obtaining Replacement Manuals 2
- Product Registration 2
- Specifications 4
- Warranty 2

OPERATION

- Attitude Adjustment (Pull-Type) 17
 - Normal Mowing 17
 - Shredding 17
- Blade Selection 17
- Connect Cutter to Tractor Mounted 14
 - Category 2 & 3 Quick Hitches 15
 - Category 2 Standard Hitch 14
 - Category 3 Standard Hitch 15
 - Tractor Adjustments 14

- Pull-Type 13
 - Hydraulic Connection 14
 - Interference Check 14
 - Turning Limits for CV Driveline 14
- Cutting Height Adjustment 16
 - Mounted 16
 - Pull-Type 16
- Driveline Adjustment (Mounted) 156
 - Shorten Driveline 15
- Driveline Attachment Mounted
 - Driveline Interference Check 16
- Operating Technique 17
 - Cutter Operation 17
 - Mowing Tips 18
- Pre-Operation Checklist (Owner's Responsibility) 19
- Recommended Speed 13
- Storage 18
- Tractor Operation 17
- Transporting 18
- Wheel Spacing 17

OWNER SERVICE

- Blade Servicing 22
 - Installation 22
 - Removal 22
 - Sharpening 22
- Blocking Method 20
- Cleaning 25
- Flexible Coupler Rubber Disk Replacement 24
- Jackstand Placement Diagram 21
 - Lubrication 20
 - Driveline 20
 - Gearbox 20
 - Lubrication Points Diagram 21
- Service Tires Safely 25
- Shielding Repair
 - Optional Chain Shielding 24
 - Rubber Shielding 24
- Slip Clutch Adjustment 23

PARTS

- Index to Parts Lists 45

SAFETY

- Blocking Method 20
- Checklists
 - Delivery (Dealer's Responsibility) 44
 - Pre-Delivery (Dealer's Responsibility) 44
 - Pre-Operation (Owner's Responsibility) 19
- Online Safety Video 5–6
- Safety & Instructional Decals 10–12
- Safety Rules 7–9
- Safety Symbols Explained 2

TROUBLESHOOTING

- Mowing Conditions 26

PART NO.
MAN1168

WOODS®

2606 South Illinois Route 2
Post Office Box 1000
Oregon, Illinois 61061 USA

800-319-6637 tel
800-399-6637 fax
woodsequipment.com



© 2023 Woods Equipment Company. All rights reserved. Woods® and the Woods logo are trademarks of Woods Equipment Company. All other trademarks, trade names, or service marks not owned by Woods Equipment Company that appear in this manual are the property of their respective companies or mark holders. Specifications subject to change without notice.