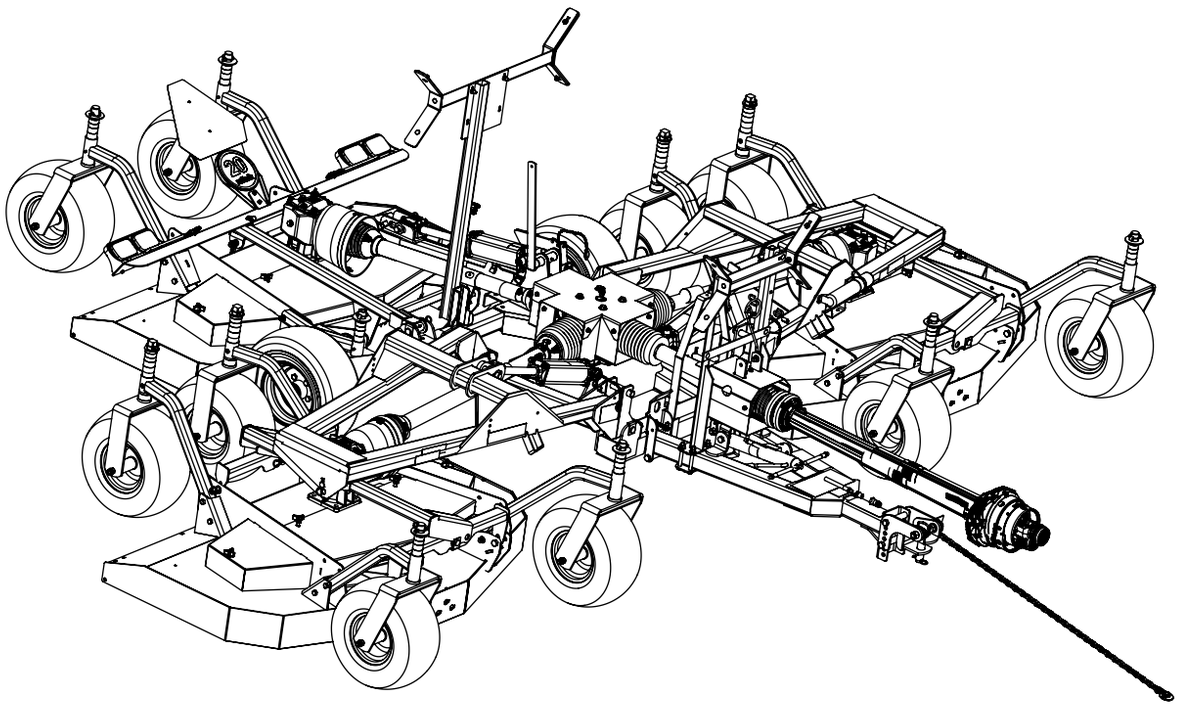
TURF BATWING®

TBW12.40
TBW15.40
TBW17.40



OPERATOR'S MANUAL

MAN1331
(Rev 12/19/2025)

WOODS®

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.

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

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

CAUTION 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

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

MODEL	TBW12.40	TBW15.40	TBW17.40
Cutting Width	12'	15'	17'
Cutting Height Range	1.5 - 5.5"	1.5 - 5.5"	1.5 - 5.5"
Shipping Weight (Approximately)	2819 lbs	3454 lbs	3569 lbs
Blade Speed (feet per minute)	18,000	18,000	18,000
Blade Spindles	9	9	9
Number of Blades	9	9	9
Universal Drive Series	(Input: ASAE Cat 4; Wing: ASAE Cat 3)		
Operating Temperature Range	-20° to 110° F		
Transport Wheels	20.5" x 8.0" - 10	20.5" x 8.0" - 10	20.5" x 8.0" - 10
Caster Wheels	15" x 6.00" - 6	18" x 9.50" - 8	18" x 9.50" - 8
Tractor PTO Speed	540 rpm	540 rpm	540 rpm
Recommended Minimum Tractor Horsepower	30 hp	35 hp	40 hp

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 Turf Batwing Mower. 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. However, 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 direction. These are determined by standing behind the tractor facing the direction of forward travel. Blade rotation is clockwise as viewed from the top of the mower.

¡LEA EL INSTRUCTIVO!

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

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

- **This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.**
- **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 responsible, trained, familiar with the instructions and be physically 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.**
- **Route hydraulic 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 hose immediately.**
- **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.**
- **When attaching a pull-type unit to the tractor drawbar, always use a high-strength drawbar pin that meets the requirements of the latest version of ANSI/ASABE S625. The drawbar pin must have a device that will lock it into position. Secure safety chain to attachment and tractor.**
- **Do not leave a running machine unattended. Always park on level ground, disengage tractor PTO, set parking brake, and stop engine.**
- **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.**

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

- **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 driveline before putting equipment into service.**
- **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.**
- **Before starting the power unit, check all equipment driveline guards for damage. Replace any damaged guards. Make sure all guards rotate freely on all drivelines. If guards do not rotate freely on drivelines, repair and replace bearings before putting equipment into service.**
- **Power unit must be equipped with Roll Over Protection System (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 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.)**
- **Make sure shields and guards 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.**
- **Never attach the mower release rope to the operator, the operator's clothing, or the tractor seat.**
- **Make test turns, both left and right. Check that both the hydraulic hose and the mower transport lock release rope do not become taut or caught on any parts of the tractor or mower.**
- **Keep the area of operation clear of all bystanders, particularly small children [within 300 ft (92 m)]. Stop the machine and attachments(s) if anyone enters the area.**

TRANSPORTATION

- **The maximum travel speed is the lesser of:**
  - **The limit of the road conditions;**
  - **The maximum specified ground speed;**
    - **For towing operations as indicated in the operator's manual or SIS;**
    - **For the tow vehicle as indicated in its operator's manual, SIS, or informational sign.**
- **The maximum ground speed of the towed equipment combination shall be limited to the lowest specified ground speed of any of the towed machines. This speed is the ground speed limitation.**

  EXAMPLE: If the tractor is capable of 40 km/h the first implement has a SIS for 30 km/h, and the last implement's operator's manual state its specified ground speed is 25 km/h the towed equipment combination ground speed limitation is 25 km/h.
- **The maximum transport speed for this machine 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.**
- **Always raise unit and install transport locks before transporting. Leak down or failure of mechanical or hydraulic system can cause equipment to drop.**
- **Always comply with all state and local lighting and marking requirements.**
- **Never allow riders on power unit or attachment.**
- **Do not operate PTO during transport.**
- **Do not operate or transport equipment while under the influence of alcohol or drugs.**
- **Do not operate or transport on steep slopes. Refer to tractor manual for proper ballasting and slope recommendations.**

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

OPERATION

- **Only engage power when equipment is at ground operating level. Always disengage power when equipment is raised off the ground.**
- **Do not allow bystanders within 25 feet (7.6 m) of the area when operating, attaching, removing, assembling, or servicing equipment.**
- **Never walk, stand, or place yourself or others under a raised wing or in the path of a lowering wing. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause wings to drop unexpectedly and cause severe injury or death.**
- **Full chain shielding is recommended 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 is recommended to 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).**
- **Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.**
- **Check that chain shielding is in good condition and replace any damaged chain links.**
- **Avoid discharging material against a wall or obstruction. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).**
- **Stop the blade(s) when crossing gravel surfaces.**
- **Do not operate machine when shields or guards are removed.**
- **Do not leave a running machine unattended. Always park on level ground, disengage tractor PTO, set park brake, and stop engine.**
- **Always comply with all state and local lighting and marking requirements. Turn on flashing warning lights whenever traveling on a public roadway.**
- **Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.**
- **Keep children out of the operating area and under the watchful care of a responsible adult other than the operator.**
- **Do not carry children, even with the blade(s) shut off. Children could fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past could suddenly appear in the mowing area for another ride and be run over or backed over by the machine.**
- **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.**
- **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 driveline before putting equipment into service.**
- **Never allow riders on power unit or attachment.**
- **Power unit must be equipped with Roll Over Protection System (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. Do not exceed.**
- **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.**
- **Do not operate mowers on terrain that raises mowers beyond 25 degrees. Exceeding this design limit will result in U-joint "knocking noise" and potential driveline failure and could cause driveline to pull apart.**
- **Look down and to the rear and make sure area is clear before operating in reverse.**
- **Do not operate or transport on steep slopes. Refer to tractor manual for proper ballasting and slope recommendations.**
- **Do not leave a running machine unattended. Always park on level ground, disengage tractor PTO, set parking brake, and stop engine.**

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

- **Do not stop, start, or change directions suddenly on slopes.**
- **Use extreme care and reduce ground speed on slopes and rough terrain.**
- **Use caution while operating near dropoffs.**
- **Watch for hidden hazards on the terrain during operation.**
- **Do not operate machine under any condition where traction, steering, or stability is in question. Tires could slide even if the wheels are stopped.**
- **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**
- **Always connect safety chain from equipment to towing vehicle when transporting.**

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 performing any service or maintenance, lower equipment to ground or block securely, turn off engine, remove key, and disconnect driveline from tractor PTO.**
- **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-souled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**
- **Before servicing blades, raise and lock mower in transport position, turn off engine, set parking brake, remove key and install tethered lock pins in lockout position.**
- **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.**
- **To prevent contamination, clean and then cover hose ends, fittings, and hydraulic ports with tape.**
- **Do not allow bystanders within 25 feet (7.62 m) of the area when operating, attaching, removing, assembling, or servicing equipment.**
- **Make sure attachment is properly secured, adjusted, and in good operating condition.**
- **Make certain all movement of equipment components has stopped before approaching for service.**
- **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**
- **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.**
- **Keep machine in good working order. Replace worn or damaged parts.**
- **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 engine is stopped, power unit is properly secured, equipment and all components are lowered to the ground, and system pressure is released by operating all valve control levers.**
- **When lubricating telescoping PTO drives, keep fingers out of shield access slots to prevent injury.**
- **Wear gloves when installing belt. Be careful to prevent fingers from being caught between belt and pulley.**
- **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

STORAGE

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

SAFETY & INSTRUCTIONAL DECALS

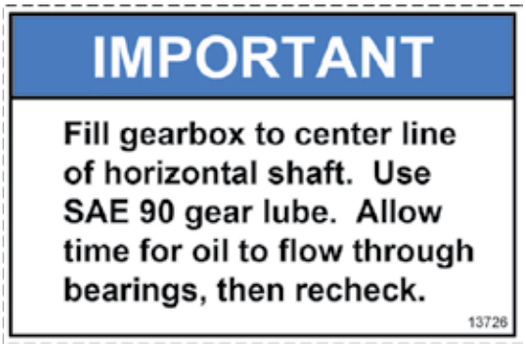
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

5 - 626798

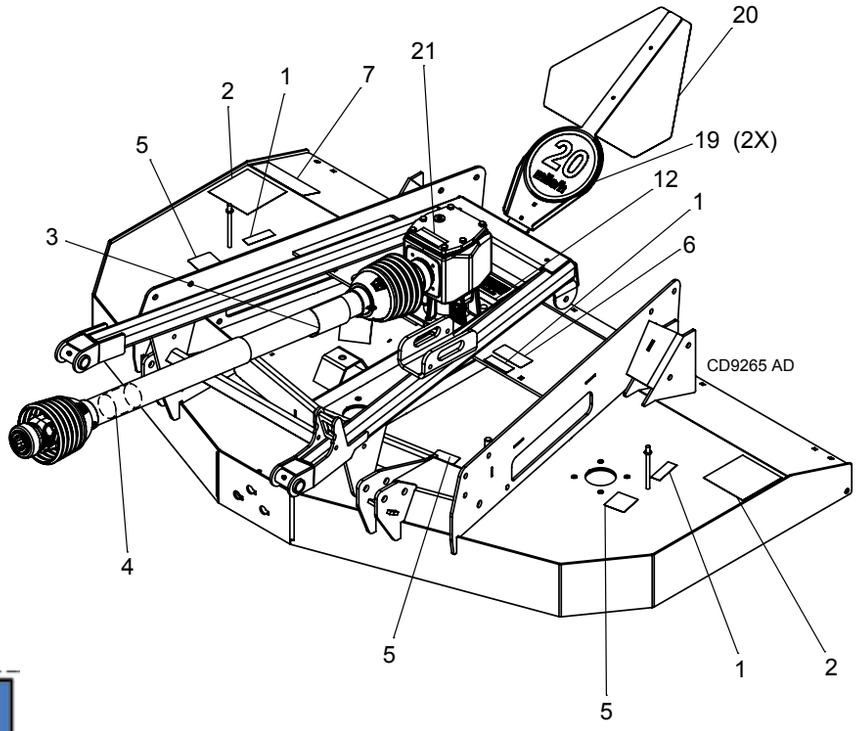
6 - 1032450

12 - 13726



19 - 611520

TBW15.40 & TBW17.40 REAR DECK (TBW12.40 SIMILAR)



BE CAREFUL!

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.

Replacement safety decals can be ordered free from your Woods 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.

20 - 24611 SMV SIGN

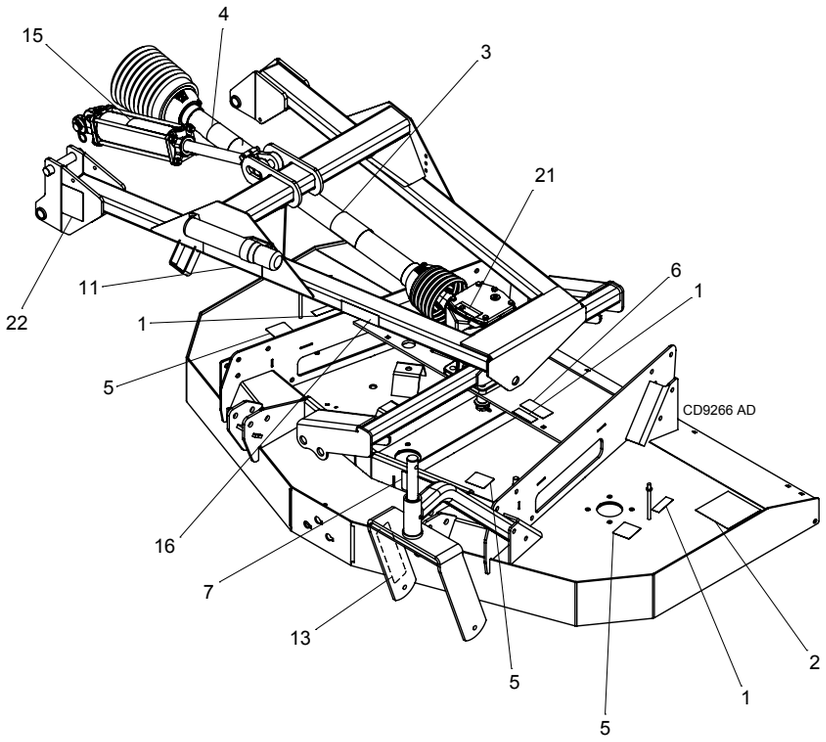
SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

1 -18869

WING DECK

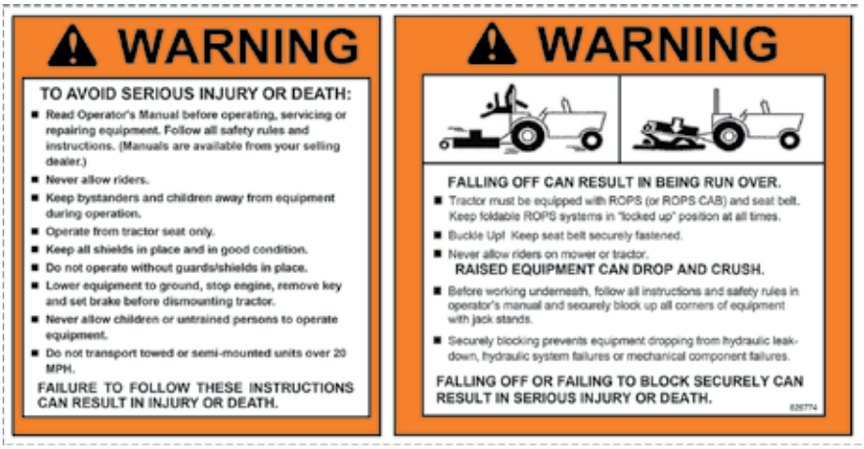


3 -18864

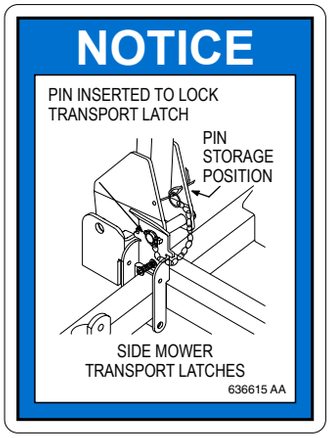
16 - 38446

13 - 1002940 YELLOW FRONT REFLECTOR

9 - 626774



22 - 636615



SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

7 - 632865

DANGER

632865 AA

RAISED MOWER CAN DROP AND CRUSH

- Before working underneath mowers, lower mowers and securely block up. See manual.
- Blocking up prevents mower dropping from mechanical release or failure, hydraulic leak down or hydraulic system failure.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

11 - 632854

632854 AA

DANGER

RAISED MOWERS CAN DROP AND CRUSH

- Keep away. Do not go underneath.
- When raised, insert pins to lock transport latches.
- Lower after transport.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

4 - 33347

DANGER

GUARD MISSING.
DO NOT OPERATE.

DANGER

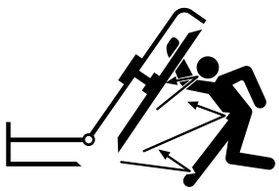
GUARD MISSING.
DO NOT OPERATE.

33347

DANGER

17 - 44656

WARNING



44656SP AA

RAISED MOWERS EXPOSE BLADES AND INCREASE THROWN OBJECT HAZARDS

- Only raise for transport.
- Stop mowers before raising.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

2 - 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-C

21 - 1004114

DANGER

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

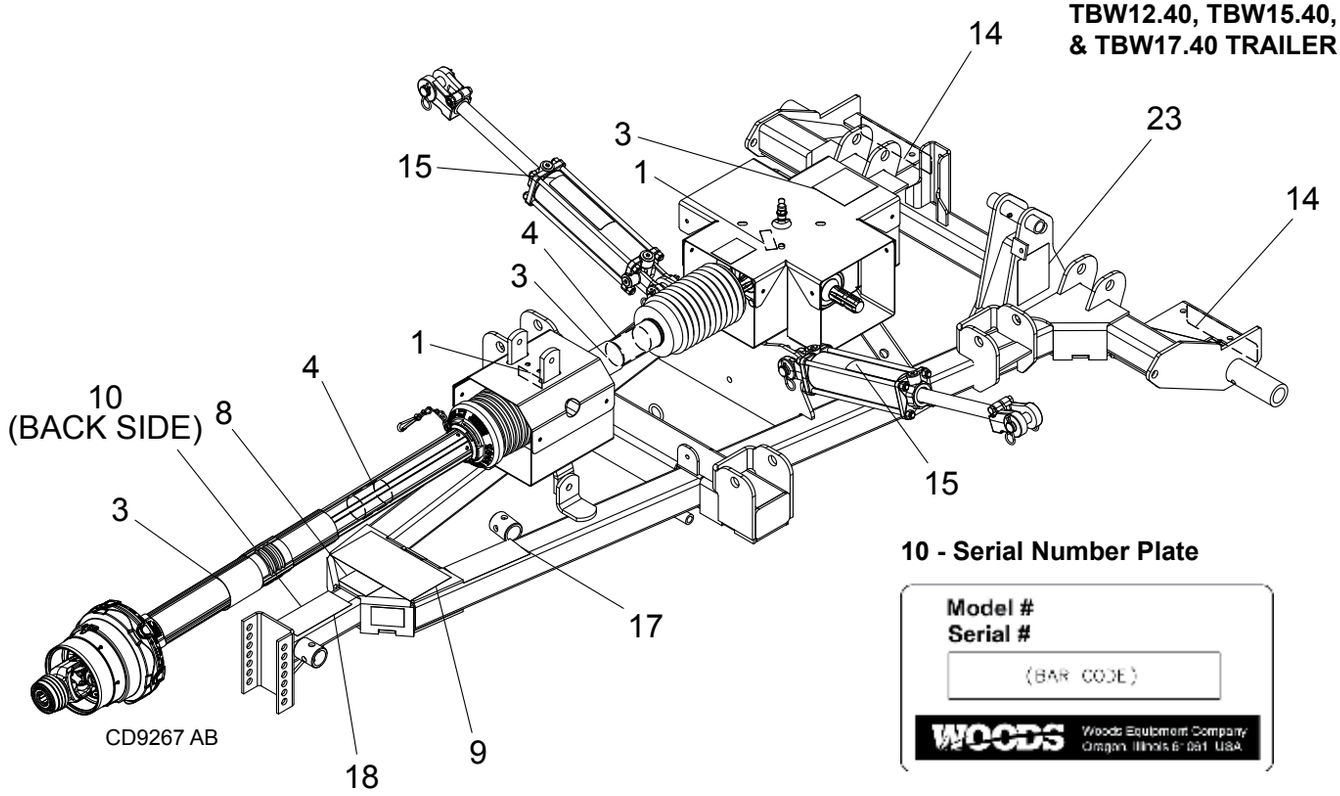
1004114

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

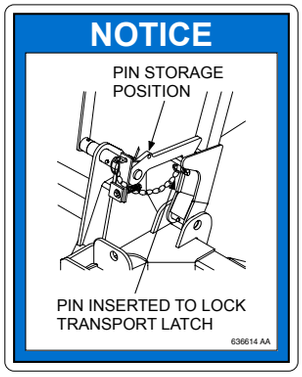
TBW12.40, TBW15.40, & TBW17.40 TRAILER



10 - Serial Number Plate

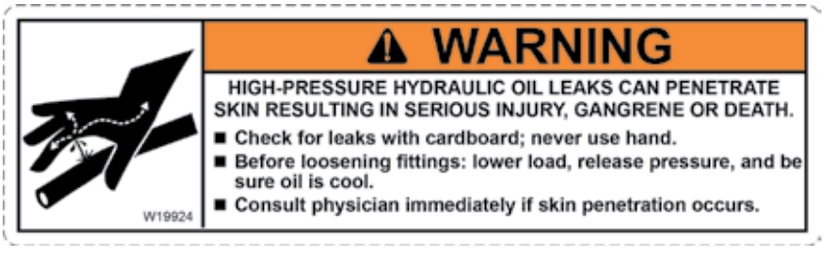
8 - 18866

23 - 636614

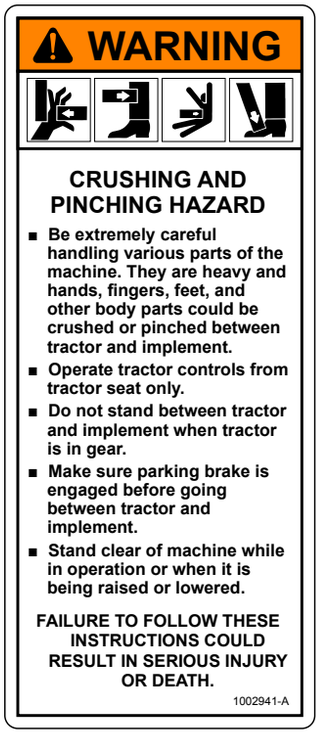


14 - 57123 RED REAR REFLECTOR

15 - W19924



18 - 1002941



OPERATION

The operator is responsible for the safe operation of the mower. The operator must be properly trained. Operators should be familiar with the mower, the tractor, and all safety practices before starting operation. Read the **Safety Rules** and **Safety Decals** on **page 5** through **page 12**.

This mower is designed for lawn and grass mowing. It is not designed for rough conditions or heavy weed mowing. It is equipped with suction type blades for best results in lawn mowing.

Recommended mowing speed for most conditions is from 2 to 5 mph. Always operate power unit PTO at 540 RPM.

This section provides information for attaching the mower to the tractor and preparing it for field operation. Review this data prior to tractor hook-up and operation.

Lower mower to the ground when not in use.

⚠ DANGER

- **Full chain shielding is recommended 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 is recommended to 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).
  - Check that chain shielding is in good condition and replace any damage chain links.

⚠ WARNING

- **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.**
- **Never allow riders on power unit or attachment.**
- **Never allow children or untrained persons to operate equipment.**
- **Keep bystanders away from equipment.**
- **Operate tractor PTO at 540 RPM. Do not exceed.**
- **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

⚠ CAUTION

- **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**
- **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.**

ATTACHING MOWER TO TRACTOR

⚠ WARNING

- **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**
- **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**
- **Never attach the mower release rope to the operator, the operator's clothing, or the tractor seat.**
- **When routing the rope, do not route through the hydraulic hose guide and do not allow slack to drop between the driveline shields and the gearbox rotating shaft. The rope may tighten unexpectedly and cause the wings to drop without warning.**
- **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.**

1. Park mower and tractor on a level, hard-surfaced area.
2. Adjust tractor hitch bracket on trailer frame so the trailer is level when attached to the tractor. Pin the mower to the tractor. See Leveling Mower, page 15.

NOTE: When attaching mower to tractor drawbar, make sure the correct drawbar pin is used. A Category 1 drawbar pin is 1". A category 2 pin is 1-1/8". Failure to use the correct pin size will result in premature wear of hitch and drawbar hole. If the hitch on the mower doesn't match your tractor drawbar, contact your dealer to order the correct size hitch for your tractor. If mower will be attached to tractor for a long period of time, secure hitch to drawbar using a Grade 5 bolt, locknut, and washers assembled tightly. This will reduce wear on drawbar and hitch.

3. Attach the safety chain to the tractor as shown in Figure 2. Do not allow more slack than the minimum necessary for articulation. Do not use an intermediate support as the primary attaching point.
4. Attach the end of the mower's transport lock release rope to a location on the tractor within easy reach of the operator.

INSTALLATION AND REMOVAL OF DRIVELINE (TRACTOR PTO)

⚠ WARNING

- **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.**

To Install

Pull locking collar back, and at the same time, push driveline onto tractor PTO shaft until locking device engages.

To Remove

Hold driveline into position, pull locking collar back, and slide driveline off tractor PTO shaft.

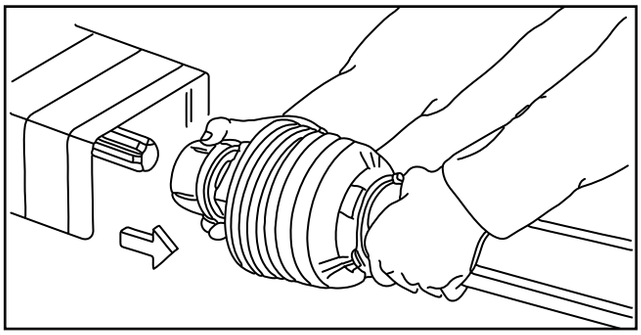


Figure 1. Lock Collar

A 1-3/8" 6B spline PTO shaft is used for connecting the mower to the tractor. This mower is designed for 540 rpm PTO only.

The PTO drive shaft is intended for use with tractors that have 14 inches between the end of the PTO shaft and the tractor's drawbar hitch pin hole.

NOTE: When routing the rope, do not route through the hydraulic hose guide and do not allow rope slack to drop between the driveline shields and the gearbox rotating shafts.

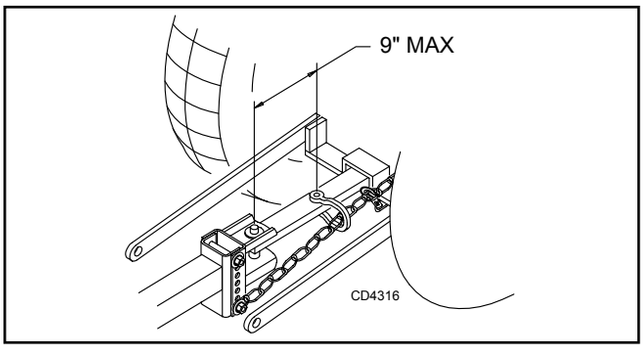


Figure 2. Tow Chain Installation

Attaching Hydraulic Hoses and Electrical Light Harness

NOTE: In all cases hydraulic lines and/or electrical cables used to operate the towed machine shall have more slack than the safety chain so that if a failure of the primary attaching system should occur, trailer will remain operable.

1. Attach the hydraulic hose from the mower to the tractor.
2. Route the hose through the hose guide of the trailer frame and be sure the hose can slide freely in the guide. Do not allow hose slack to drag on the ground or become caught on tractor protrusions.
3. From the operator position, start the tractor, raise and lower the wings, and the rear deck several times. This will purge the hydraulic cylinders and hoses of trapped air.
4. Connect the 7 pin light connector to tractor receptacle.

Interference Checks

NOTICE

- **Do not operate tractor and mower until this interference check has been performed. If you change tractors, you must perform the check for that mounting.**
- **Perform this check with all the spacers above the tubular wheel arm. This will place the caster wheels in their highest position and provide the lowest cutting height for the mower.**

NOTE: Do not operate mower with a quick hitch on the tractor. Damage may occur between the driveline and quick hitch when turning.

1. Be sure that the tractor 3-point arms do not interfere with hydraulic hoses, driveline or mower frame.
2. Check for straight ahead operation and full turning angles. If there is any interference, remove the 3-point arms.
3. If the mower makes contact with the inside rear tractor tire, make note of the turn angle and be sure to avoid turns of this tight angle.

NOTE: Contact between 3-point arms and mower can cause damage, especially when turning.

CV Driveline Turning Limits

NOTICE

- **Do not exceed turning angle of 80 degrees at the head of the Constant Velocity (CV) driveline or damage will occur.**

Check for excessive turn angle:

1. Disconnect the driveline from the tractor.
2. Start engine and turn as far right or left as possible.
3. Shut off the engine and connect the CV driveline to the tractor. If it cannot be connected, the turn angle is too severe.
4. Restart the tractor and straighten the angle slightly.
5. Shut off the engine and connect the CV driveline to tractor.
6. Repeat the process until the driveline can be connected. The point at which the driveline can be connected is the maximum turn that can be made.

NOTE: The lesser of the two angles determined in Interference Checks and during the CV Driveline Turning Limits is the maximum turning angle that can be made.

Leveling Mower

NOTE: To ensure satisfactory mower performance, the trailer frame and decks must be leveled before operating the mower. During normal operation, the mower should be leveled twice each season. The mower must be leveled each time a tractor with a different drawbar height is used.

Follow this procedure to level the mower for operation:

1. Park the tractor and mower on a flat level surface with the decks in mowing position.
2. Inflate all tires to the recommended pressure: 70 psi for trailer tires and 30 psi for deck gauge tires. Check that trailer tire lug bolts are torqued to 85 ft-lbs.
3. Level the trailer frame by adjusting the hitch. (See Figure 3.)
4. Remove the hitch clevis from the trailer frame and pin to the tractor drawbar.
5. Use the parking jack to adjust the trailer frame to the level position. Align the nearest hitch adjustment hole in the hitch clevis with a hole in the trailer frame.
6. Tighten the hardware to specifications in the Bolt Torque Chart on page 71. Readjust the level of the frame each time the drawbar height changes.
7. Attach the mower and the driveline to the tractor. Level the driveline by placing a bolt through the carrier bearing and the driveline height adjustment holes.

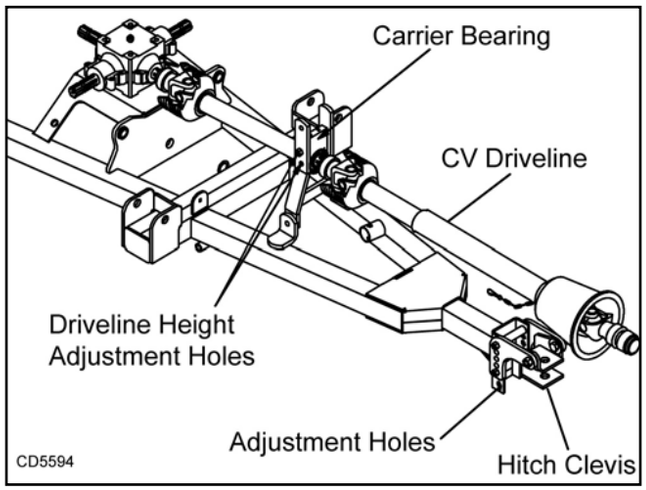


Figure 3. Level Trailer Frame

CUTTING HEIGHT ADJUSTMENT

⚠ WARNING

- **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**
- **Carefully read Operator's Manual instructions, disconnect driveline, raise mower, securely block up all corners with jackstands, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.**
- **Before adjusting cutting height, raise and lock mower in transport position, turn off engine, set parking brake, remove key and installed tethered lock pins in lockout positon.**

NOTICE

- **Avoid low cutting heights. Striking the ground with blades produces one of the most damaging shock loads a mower can encounter. Allowing blades to contact ground repeatedly will cause damage to mower, drive, and blades.**

1. Level mower from side to side. Check by measuring from mower frame to the ground at each deck rail.
2. Verify that the same amount of spacers are under all caster arms.
3. Loosen cap screws that attach caster arm assembly to deck.
4. Set mower on the ground.
5. Re-tighten cap screws. This equalizes the clearance in the bolt holes.
6. Best mowing results will be obtained with front of mower level with, or slightly lower than, the rear.

7. Cutting height is controlled with front and rear caster wheel adjustment.
8. To raise rear of mower, move caster adjustment spacers under caster arms.
9. To raise front of mower, move spacers under front caster wheel arms.

Remember, measurement at location A (Figure 4) should not be less than location B and should not be over 1/2" greater than location B.

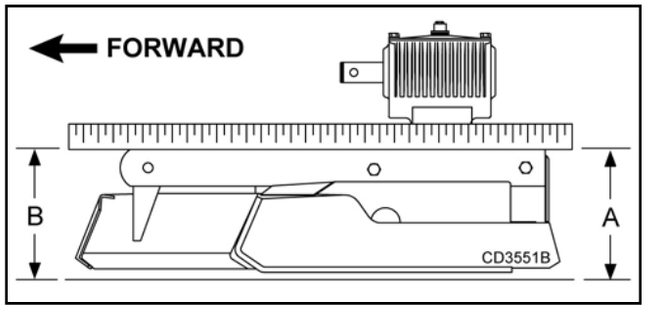


Figure 4. Cutting Height Adjustment

Table 1: Cutting Height Chart

Spacers Required Under Caster Arm Pivot Tube			
Cut Height	1/2" Spacer	3/4" Spacer	1" Spacer
1-1/2"			
2"	1		
2-1/2"			1
3"	1		1
3-1/2"			2
4"	1		2
4-1/2"	1	2	1
5"		2	2
5-1/2"	1	2	2

TRANSPORTATION

When transporting the mower short distances, raise the wings and the rear deck until all three transport locks engage automatically.

Install locking pins to secure the mower wings for transport as shown in Figure 5 and Figure 6.

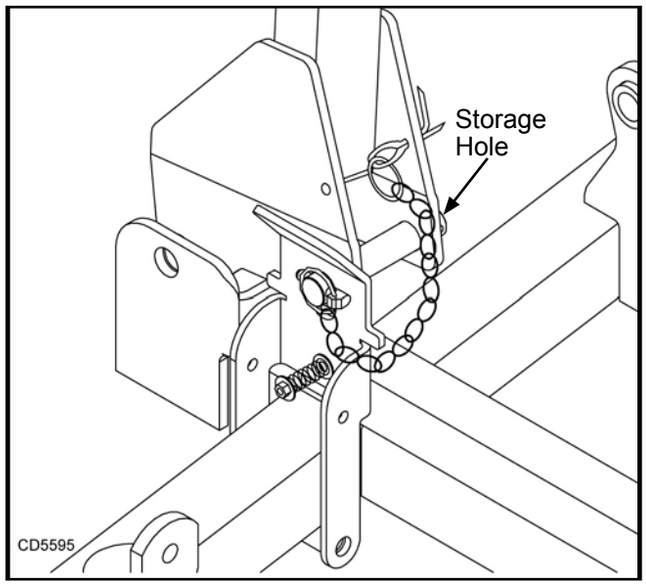


Figure 5. Lock Pin Installed (Right Wing)

NOTE: In all cases hydraulic lines and/or electrical cables used to operate the towed machine shall have more slack than the safety chain so that if a failure of the primary attaching system should occur, the trailer will remain operable.

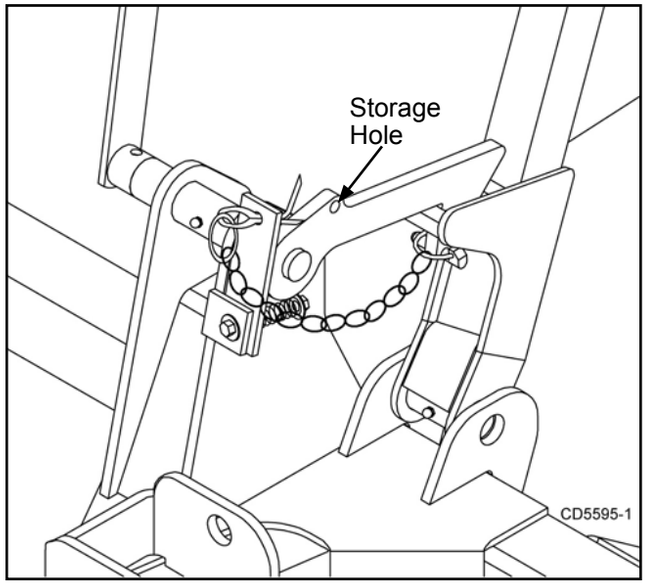


Figure 6. Lock Pin Storage Installed (Rear Deck)

To lower the wings and the rear deck:

1. Remove the locking pins and store in holes provided.
2. Slightly raise the wings and rear deck to take pressure off the locking mechanisms.
3. Pull the transport lock release rope to disengage the locks. Lower the wings and rear deck and release the rope.

WING OVERLAP ADJUSTMENT

The Woods Turf Batwing® mower is designed with 6 inches of overlap between mower decks to ensure an even cut under most conditions including sharp turns and uneven terrain. When operating on steep side hills it is recommended that the overlap pin be moved to the inside hole of the wing deck link. This will provide 8.75" of deck overlap to control streaking.

⚠ WARNING

- **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**
- **Before adjusting wing offset, lower mower to operating position, turn off engine, set parking brake, and remove key.**
- **Do not allow bystanders within 25 feet (7.62 m) of the area when operating, attaching, removing, assembling, or servicing equipment.**
- **Do not operate or transport on steep slopes. Refer to tractor manual for proper ballasting and slope recommendations.**
- **Do not stop, start, or change directions suddenly on slopes.**
- **Use extreme care and reduce ground speed on slopes and rough terrain.**
- **Do not operate machine under any condition where traction, steering, or stability is in question. Tires could slide even if the wheels are stopped.**

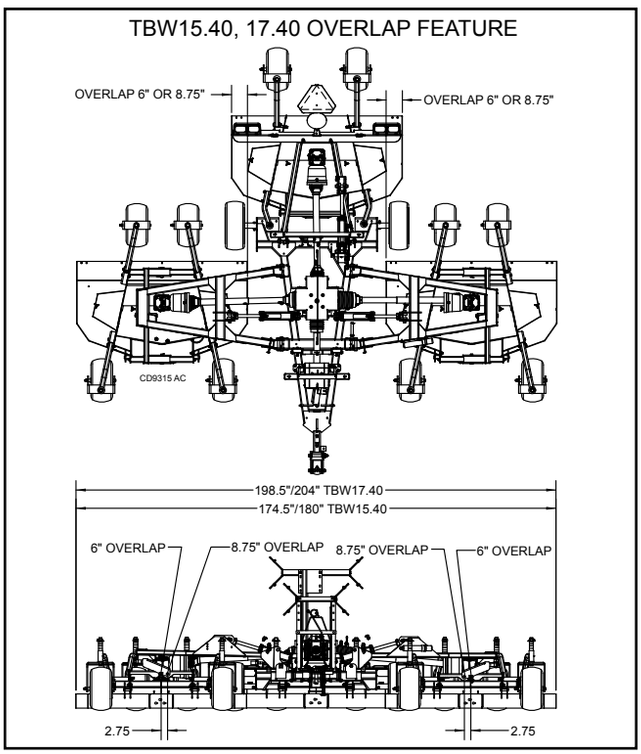


Figure 7. Wing Overlap Adjustment

Follow this procedure to change deck offset.

1. Park the tractor and mower on a flat level surface with the decks in mowing position.
2. Remove hair pin clips from offset pins and remove offset pins from front and rear trunnions.
3. Position pin and other hole and reinsert hair pin clip.
4. Repeat steps 1-3 for other wing.
5. Move front wing stop to new position per Figure 9.

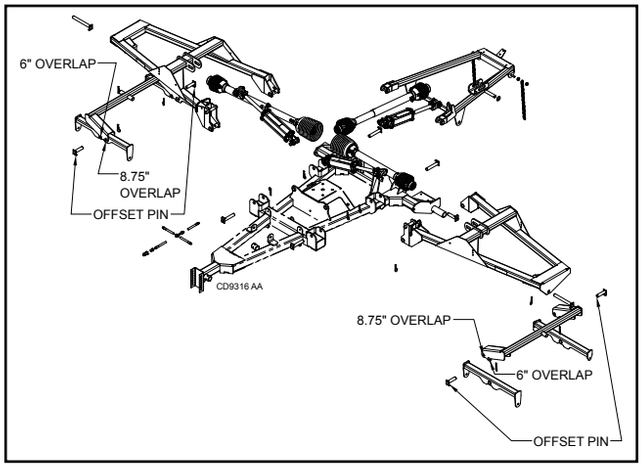


Figure 8. Wing Overlap Pin Locations

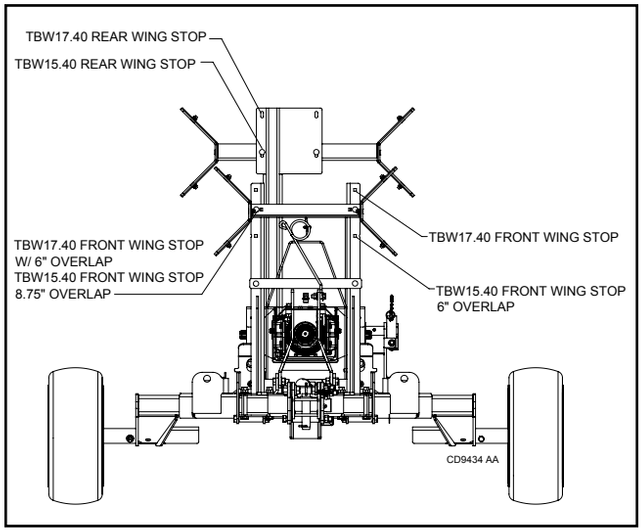


Figure 9. Wing Overlap Stops

PRE-OPERATION CHECKLIST

(OWNER'S RESPONSIBILITY)

_____ Review and follow all safety rules and safety decal instructions on page 5 through page 12.

_____ Check that all safety decals are installed and in good condition. Replace if damaged.

_____ Check that all shields and guards are properly installed and in good condition. Replace if damaged.

_____ Check that chain shielding is in good condition and replace any damaged chain links.

_____ Check that all hardware and cotter pins are properly installed and secured.

_____ Check to ensure blades are sharp, in good condition, and installed correctly. 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.

_____ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.

_____ Do not allow riders.

_____ Check all lubrication points and grease as instructed in Lubrication Information, page 21. Make sure the PTO slip joint is lubricated and that the gearbox fluid levels are correct.

_____ 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.

_____ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.

_____ 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.

STARTING AND STOPPING MOWER

⚠ WARNING

- **Do not operate PTO during transport.**
- **Never direct discharge toward people, animals, or property.**
- **Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.**

⚠ CAUTION

- **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**
- **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.**

NOTICE

- **Stopping the mower with belt in contact with a very hot pulley will bake and ruin belt.**

Power for operating the mower is supplied from the tractor PTO. Refer to your tractor manual for instructions on engaging and disengaging the PTO.

Operate PTO at 540 RPM. Know how to stop tractor and mower quickly in case of an emergency.

If the mower becomes plugged causing the belt to slip for over two seconds, follow these steps:

1. Raise mower just enough to clear accumulated material.
2. Continue running at least two minutes, allowing pulleys to cool.

To reduce the risk of thrown objects, do not raise the mower higher than necessary

OPERATING

⚠ WARNING

- **Do not operate mowers on terrain that raises or lowers mowers beyond 25 degrees. Exceeding this design limit will result in U-joint "knocking noise" and potential driveline failure and could cause driveline to pull apart.**

When engaging the PTO, engine rpm should always be low. Once engaged and ready for mowing, increase PTO speed to 540 RPM and maintain speed throughout the cutting operation.

Mower vibration tends to loosen bolts. All hardware should be checked regularly to maintain proper torque. Each time the mower is used, check all hardware to be sure it is secure. Recommended torque values can be found on page 71.

The condition of the terrain will determine cutting results. For best results, mower blades should be kept sharp at all times and the platform as level as possible. When mower blades show excessive wear, they should be replaced.

Operating Technique

⚠ CAUTION

- **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**

Proper ground speed will depend upon the terrain, the height, type, and density of material to be cut.

Normally, ground speed will range from two to five 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 540 RPM to maintain proper blade speed to produce a clean cut.

Under certain conditions, tractor tires may roll some grass down and prevent it from being cut at the same height as the surrounding area. When this occurs, reduce your ground speed, but maintain PTO at 540 RPM. The lower ground speed will permit grass to partially rebound.

In general, lower cutting heights give a more even cut with less tendency to leave tire tracks. However, it is better to cut grass frequently rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing seasons. Follow local recommendations for the suitable cutting height in your area.

Operating Tips

⚠ WARNING

- **Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.**

Extremely tall material should be cut twice. Set mower at a higher cutting height for the first pass. Then cut at desired height 90 degrees to the first pass.

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

Analyze area to be cut to determine the best procedure. Consider height and type of grass and terrain type: hilly, level, or rough.

Uneven Terrain

⚠ WARNING

- **Refer to tractor manual for proper ballasting and slope recommendations.**
- **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.**

In extremely uneven terrain, rear wheel weights, front tractor weights and/or front tire ballast should be used to improve stability per tractor manual recommendations.

Pass diagonally through sharp dips and avoid sharp drops to prevent “hanging up” the tractor and the mower. Practice will improve your skills in maneuvering rough terrain.

Avoid sudden starts and stops when traveling up or down hill.

Always mow down slopes, never up or across the face. Avoid operating on steep slopes.

Slow down on sharp turns and slopes to prevent tipping and losing control.

REMOVING MOWER FROM TRACTOR

1. Park the unit on a level, hard surface with the wings and rear deck fully lowered to the ground.
2. Block the wheels to keep the mower from rolling when unhitched from tractor.
3. Attach the jack to the side of the tongue and adjust the height to take the weight off the tractor hitch.
4. Disconnect the PTO shaft and the hydraulic hose, untie the mower transport lock release rope from the tractor, and remove the hitch pin.
5. Store the PTO shaft end and the hydraulic hose couplings off the ground and keep them clean.

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.

⚠ DANGER

- **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 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

- **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.

- **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**
- **Do not disconnect hydraulic lines until engine is stopped, power unit is properly secured, equipment and all components are lowered to the ground, and system pressure is released by operating all valve control levers.**
- **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.**

⚠ 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.**

BLOCKING METHOD

The only approved blocking devices for this mower are jack stands with a load rating of 1,000 pounds or more. Twelve jack stands, located as shown in Figure 10, must be installed before working underneath this unit.

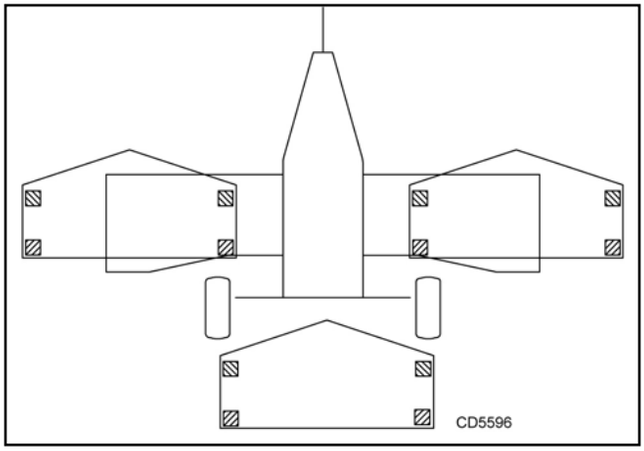


Figure 10. Jackstand Placement

Do not work underneath mower unless it is properly attached to tractor and blocked securely. When properly attached, the unit will be anchored to minimize front to rear movement.

Before blocking, be sure that the mower is securely attached to the tractor. Lower mower units to the ground. Raise the mower units as needed for working room and securely block them. Set tractor brakes, turn engine off and remove key, then disconnect mower driveline.

When blocking, you must consider the overall stability of the unit. Just placing jackstands under the unit will not ensure your safety. The working surface must be level and solid to support the loaded weight of the jack stands. Ensure that jackstands are stable at both top and bottom. Before working under any portion of the mower, test the stability of your blocking with the full weight of the mower units lowered onto the jackstands.

LUBRICATION INFORMATION

⚠ CAUTION

- **When lubricating telescoping PTO drives, keep fingers out of shield access slots to prevent injury.**

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

See Figure 11 and Figure 12 for lubrication points and frequency or lubrication based on normal operating conditions. Sever or unusual operating 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.

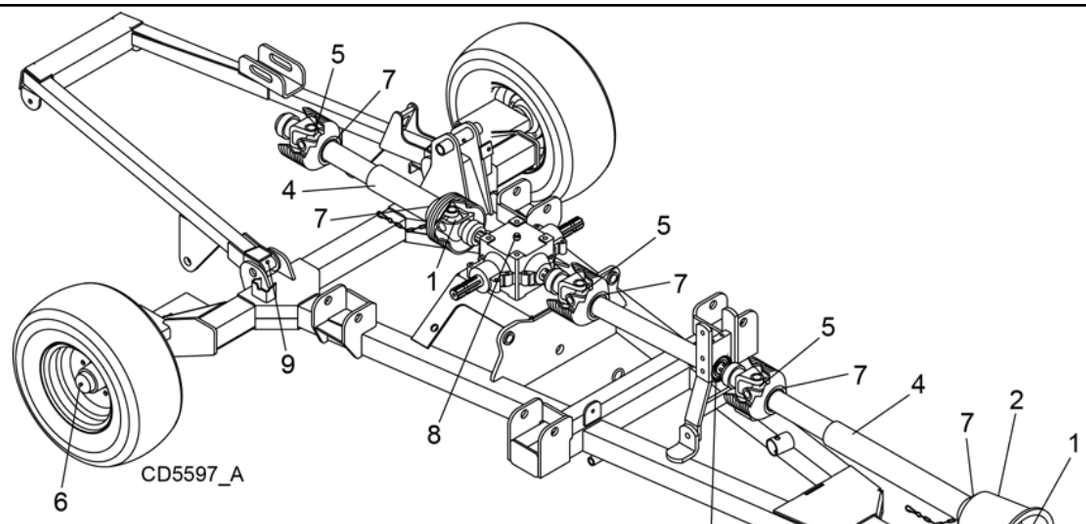
Fill blade spindles until grease purges out of the upper seal.

Be sure to clean fittings thoroughly before attaching grease gun. When applied according to the lubrication chart, one good pump of most guns is sufficient.

Use SAE 90W gear lube in gearboxes. Check level of oil in gearboxes using provided dipstick in vent plug or until oil runs out of side plug.

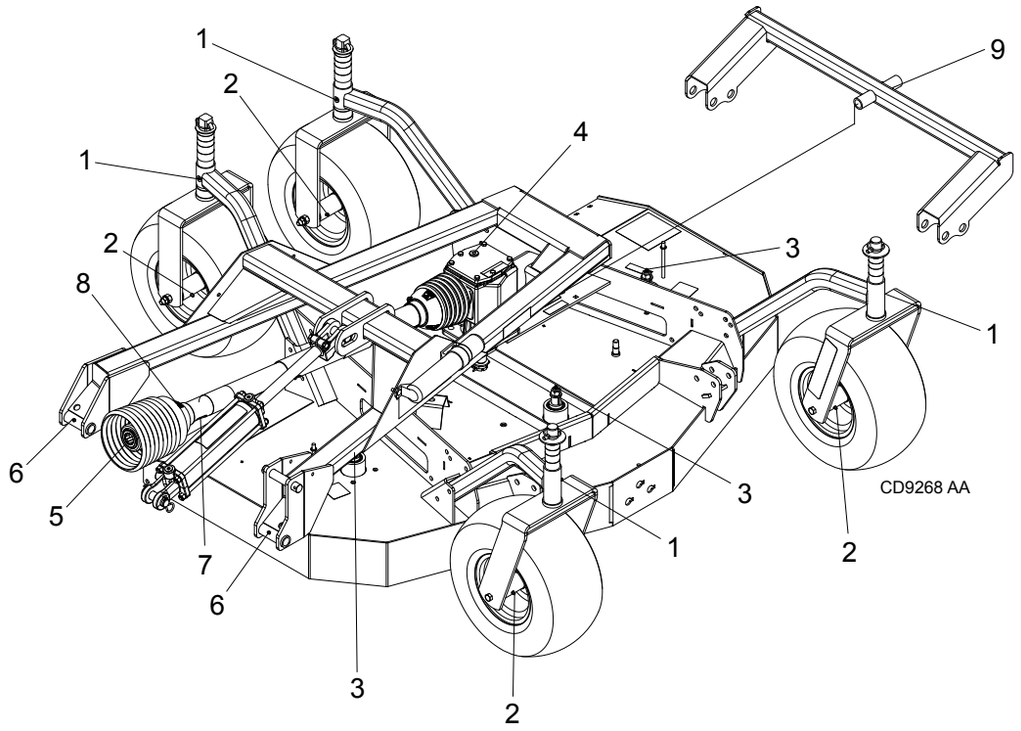
Daily lubrication of PTO slip joints is necessary. Failure to maintain proper lubrication can result in damage to U-joints, gearboxes and/or drive shafts. Raise or lower mower until grease fittings in PTO shields are exposed. Insert grease gun through slots and apply grease to all sides of shafts. Always stand clear of mower and wing arm mechanism to avoid being pinched or crushed should the mower or wing suddenly lower.

Raise and lower mower after applying grease so that it spreads over the slip joint working area.



REF	DESCRIPTION	FREQUENCY
1	Driveline U-Joint	8 Hours
2	Drive Carrier Bearing	8 Hours
3	CV Body	8 Hours
4	Telescoping Shaft	8 Hours
5	Rear Deck Pivot Arm	8 Hours
6	Transport Wheel Hub	8 Hours
7	Shield Bearing	8 Hours
8	Splitter Gearbox (Fill 1/2 full w/SAE 90W gear lube)	Check For Leaks Daily

Figure 11. Lubrication Points - Trailer



REF	DESCRIPTION	FREQUENCY
1	Caster Wheel Pivots	8 Hours
2	Caster Wheel Hubs	8 Hours
3	Blade Spindles	24 Hours
4	Gearbox (Fill 1/2 full with SAE 90W gear lube	Check For Leaks Daily
5	Driveline U-Joints	8 Hours
6	Wing Pivots	8 Hours
7	Telescoping Shaft	8 Hours
8	Shield Bearing	8 Hours
9	Deck Pivot	8 Hours

Figure 12. Lubrication Points - Deck

BELT SERVICING

Belt Replacement

⚠ CAUTION

- **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

One of the major causes of belt failure is improper installation. Before installing a new belt, check the following:

1. Check pulley shafts and bearings for wear.
2. Check pulley grooves for cleanliness.
3. Make sure spindles turn freely and without wobble.

If grooves require cleaning, moisten a cloth with a non-flammable, non-toxic degreasing agent or commercial detergent and water.

Avoid excessive force during installation. Do not use tools to pry belt into pulley groove. Do not roll belt over pulleys to install. This can cause hidden damage and premature belt failure.

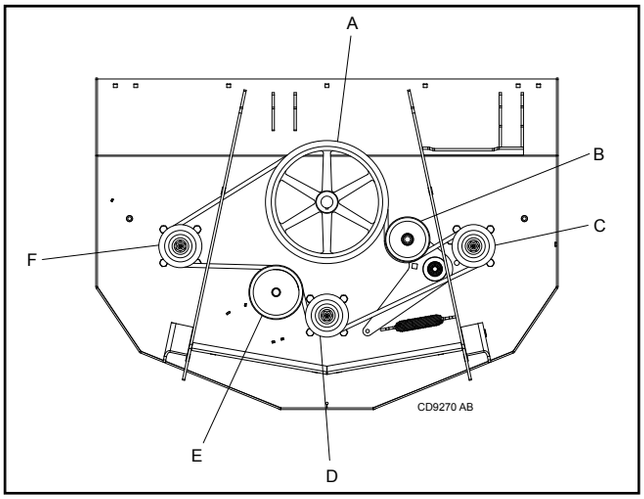


Figure 13. Belt Routing for TBW12.40 Wing Deck

4. Grasp belt between spindle sheave C, spring-loaded idler B, and spindle sheave D. Pull spring-loaded idler with belt to obtain enough belt length to route it over sheave C.
5. Check that spring-loaded idler pivots freely. Clean and lubricate if necessary.
6. Remove belt from remaining sheave grooves and then from mower. Inspect belt for damage. A belt that will not lay flat on the ground indicates broken cords.

Alternate Removal Method

1. Insert 1/2" ratchet or breaker bar into square hole on idler arm. Rotate idler arm clockwise to remove tension on belt. Obtain enough belt length to route it over spring-loaded idler B then slowly rotate idler arm counterclockwise to reduce tension in spring.
2. Check that spring-loaded idler pivots freely. Clean and lubricate as necessary.
3. Remove belt from remaining sheave grooves and then from mower. Inspect belt for damage. A belt that will not lay flat on the ground indicates broken cords.

Install Belt

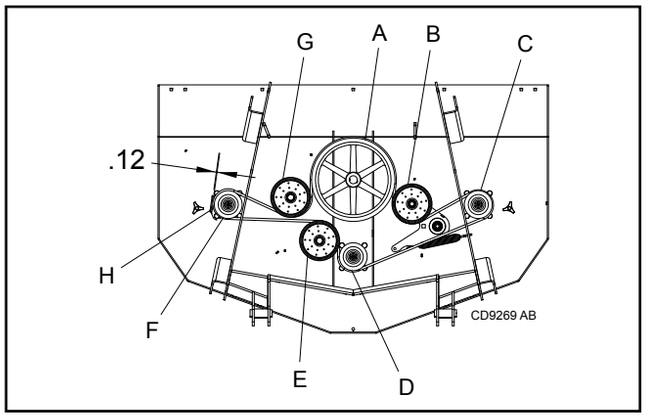


Figure 14. Belt Routing for TBW15.40 Wing Deck, TBW12.40 Rear Deck

⚠ CAUTION

- **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

1. Route belt around spindle sheave F, backside idler E, and spindle sheave D as shown in Figures 13–15.
2. Route belt around backside idler G then slide belt under drive sheave A and over spring loaded backside idler B. Position belt in drive sheave grooves, except for spindle C.
3. Grasp belt between spindle sheave C, spring-loaded idler B, and spindle sheave D. Pull spring-loaded idler with belt to obtain enough belt length to route it over sheave C.
4. Adjust belt guide G to provide 1/16" to 1/8" clearance from belt for decks in Figures 13 & 14. Tighten bolt to 85 ft-lbs.

5. Remove thumb screws from studs. Replace belt shields. Ensure tabs on end shields are fitted into slots in deck rails. Thumb screws to be secured tightly to prevent loss.

Alternate Installation Method

1. Route belt around spindle Sheave F, backside idler E, and spindle sheaves C & D as shown in Figures 13–15.
2. For decks in Figures 14 & 15, route belt around backside idler G. Slide belt under drive sheave A for all decks.
3. Insert 1/2" ratchet or breaker bar into square hole on idler arm. Rotate idler arm clockwise to remove tension on belt. Obtain enough belt length to route it over spring-loaded idler B then slowly rotate idler arm counterclockwise to tension belt.
4. Remove thumb screws from studs. Replace belt shields. Ensure tabs on end shields are fitted into slots in deck rails. Thumb screws to be secured tightly to prevent loss.

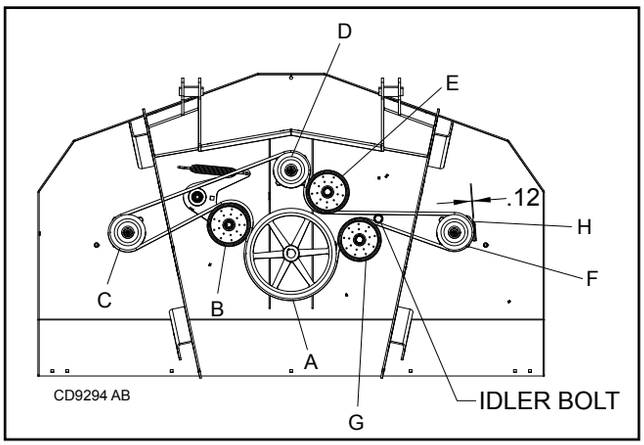


Figure 15. Belt Routing for TBW17.40 Wing Deck, TBW15.40 & TBW17.40 Rear Deck

BLADE SERVICING

⚠ WARNING

- **Before servicing blades, raise and lock mower in transport position, turn off engine, set parking brake, remove key, and install tethered lock pins in lockout position.**
- **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

⚠ CAUTION

- **Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.**

1. Raise mower decks to the transport position and make sure transport locks are engaged.
2. Shut off tractor, relieve hydraulic pressure in cylinders, set parking brake and remove key.
3. Inspect blades before each use to determine that they are mounted securely and are in good condition.
4. Replace any blade that is bent, excessively nicked, worn, or has any other damage.
5. Small nicks can be ground out when sharpening.

Blade Removal

⚠ WARNING

- **Do not handle blades with bare hands. Careless or improper handling may result in injury.**

1. Remove cap screw (4) and washer (3) Figure 16.
2. Remove blade (2)

Blade Sharpening

NOTICE

- **When sharpening blades, be sure to balance them. Unbalanced blades will cause excessive vibration that can damage blade spindle bearings. Vibration may also cause structural cracks in mower housings.**

1. Remove blades.
2. Always sharpen both ends to maintain balance.
3. Follow original sharpening pattern.
4. Do not sharpen blade to a razor edge. Leave from 1/32" to 1/16" blunt edge.
5. Do not sharpen back side.

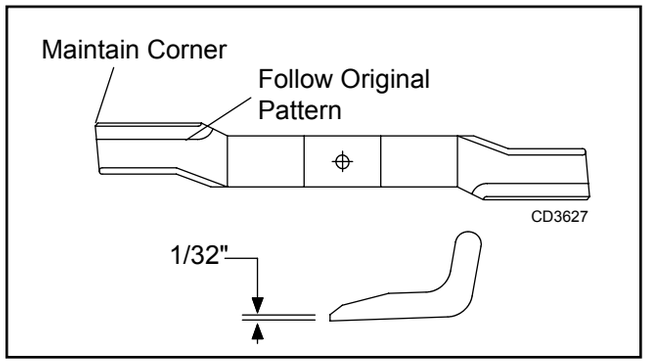


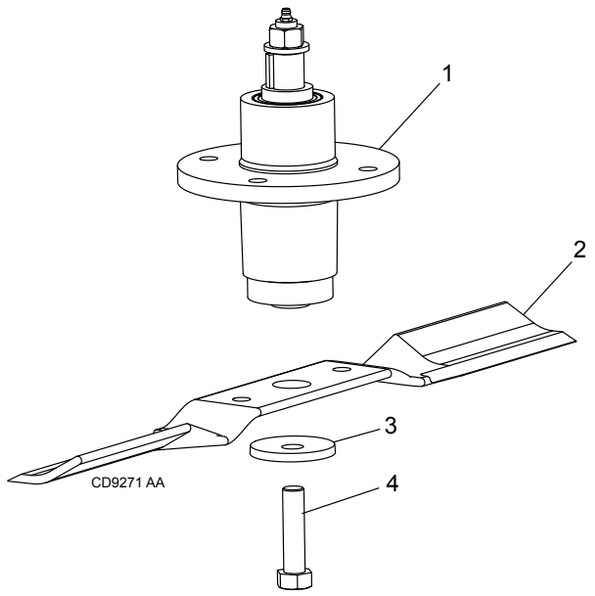
Figure 16.

Blade Installation

⚠ CAUTION

- **Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.**
- **When installing blade, the lift of the blade must be toward the blade spindle housing as shown in Figure 17, page 25.**

1. Make sure blade cutting edge is positioned to lead in a clockwise rotation, as viewed from top of mower.
2. Place cap screw through Belleville washer, with cupped edge on blade, and into spindle shaft.
3. Torque cap screw to 100 ft-lbs.



1. Spindle assembly
2. Blade
3. Washer, Belleville
4. Screw, HHCS 5/8 NF X 2-1/2 GR5

Figure 17. Blade Installation

CLEANING

⚠ CAUTION

- **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.**

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove belt shields and clean out all accumulated grass, dirt and other debris.
- 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
Grass cut higher in center of swath than at edge	Height of mower higher at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2 inch of same height. See instructions on page 15.
	Loose blade	Check blade hardware.
Grass cut lower in center of swath than at edge	Height of mower lower at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2 inch of same height. See instructions on page 15.
	Loose blade	Check blade hardware.
Streaking conditions in swath	Conditions too wet for mowing	Allow grass to dry before mowing.
	Blades unable to cut that part of grass pressed down by path of tractor tires	Slow ground speed of tractor but keep engine running at full PTO rpm. Cutting lower will help. Adjust tractor tire spacing if possible.
	Dull blades	Sharpen or replace blades.
	Loose blade	Check blade hardware.
Material discharges from mower unevenly; bunches of material along swath	Material too high and too much material	Reduce ground speed but maintain 540 RPM at tractor PTO, or make two passes over material. Raise mower for the first pass and lower for the second and cut 90 degrees to first pass. Raise rear of mower high enough to permit material discharge.
	Grass is wet	Allow grass to dry before mowing. Slow ground speed of tractor but keep engine running at full PTO rpm.

TROUBLESHOOTING

BELT CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Belt slippage	Mower overloading; material too tall or heavy	Reduce tractor ground speed but maintain full PTO RPM. Cut material twice, one high pass and then mow at desired height. Cut 90-degrees to first pass.
	Oil on belt from over lubricating	Be careful not to over-lubricate. Clean lubricant from belt and pulleys with clean rag. Replace oil-soaked belt.
	Belt hung up or rubbing	Check belt position in pulleys and idlers. Check belt for free travel in pulleys. Check under mower and around blade spindle shaft for wire, rags, or other foreign material. Clean all material from under mower.
Frayed edges on belt cover	Belt is misaligned	Re-align belt. Be sure belt does not rub any other part while running.
	Pulley is misaligned	Inspect to ensure belt is running in center of backside idler. Shim idler as necessary to align.
Belt rollover	Pulley is misaligned	Re-align.
	Damaged belt	Replace belt. *
	Foreign object in pulley groove	Inspect all pulley grooves for rust, paint, or weld spots and remove.
	Worn pulley groove	Replace pulley.
Damaged belt	Rollover, high shock loads or installation damaged	Replace belt. *
Belt breakage	High shock loads	Avoid abusive mowing. Avoid hitting the ground or large obstructions.
	Belt came off drive	Check pulleys for foreign material in grooves. Avoid hitting solid objects or ground.

* Check belt for damage by laying it flat on the floor. A belt that does not lie flat (has humps or twists, indicating broken or stretched cords) must be replaced.

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, you may be time and money ahead to replace complete assemblies.

⚠ WARNING

- **Before working underneath, read manual instructions, securely block up, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failure, or mechanical component failure.**
- **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.**

BLOCKING METHOD

NOTE: See Blocking Method, pg. 20

BLADE SPINDLE REPAIR

Spindle Repair

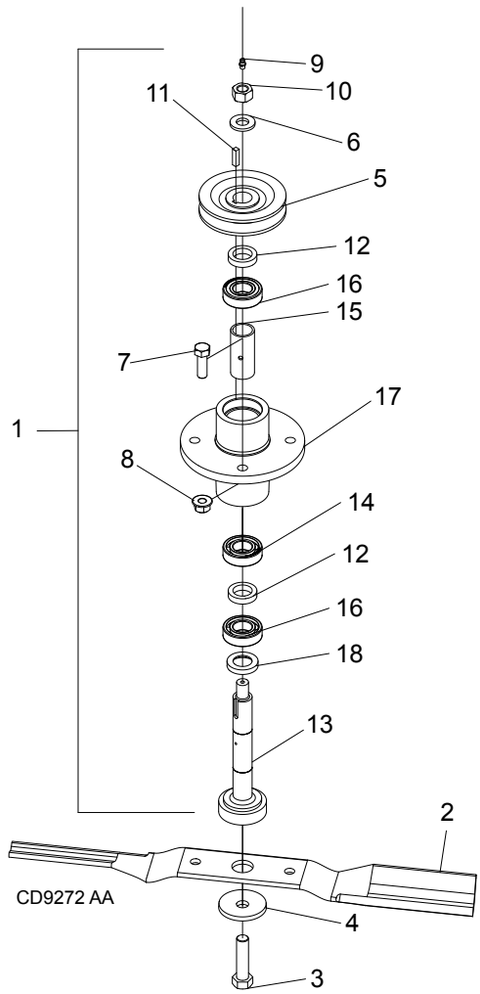
Spindle repair requires special skills and tools. If your shop is not properly equipped or your mechanics are not trained in this type of repair, you may be time and money ahead to use a new spindle assembly.

For reference, the grease fitting is in the top of the spindle shaft.

Permatex®[1] 3D Aviation Form-A-Gasket or equivalent is recommended as a sealant.

Remove Spindle

1. Remove blade from spindle.
2. Remove belt from pulleys.
3. Remove lock nut (10) and washer (6) from top of spindle shaft.
4. Remove pulley (5).
5. Remove bolts (7) that attach spindle to mower frame and remove spindle.
6. Remove grease fitting from top of shaft (9).



5. Pulley
6. Washer
7. Bolts
9. Grease Zerk
10. Nut, lock 5/8 NC.

Figure 18. Sheave and Blade Assembly

1. Permatex is a registered trademark of the Permatex Corporation.

Spindle Disassembly

1. Place spindle assembly in press and press shaft down through housing.
2. Remove components from shaft.

Spindle Assembly

(Figure 19)

NOTICE

- **Improper positioning of seals can cause seal damage. An improperly installed seal will leak and could cause bearing failure.**

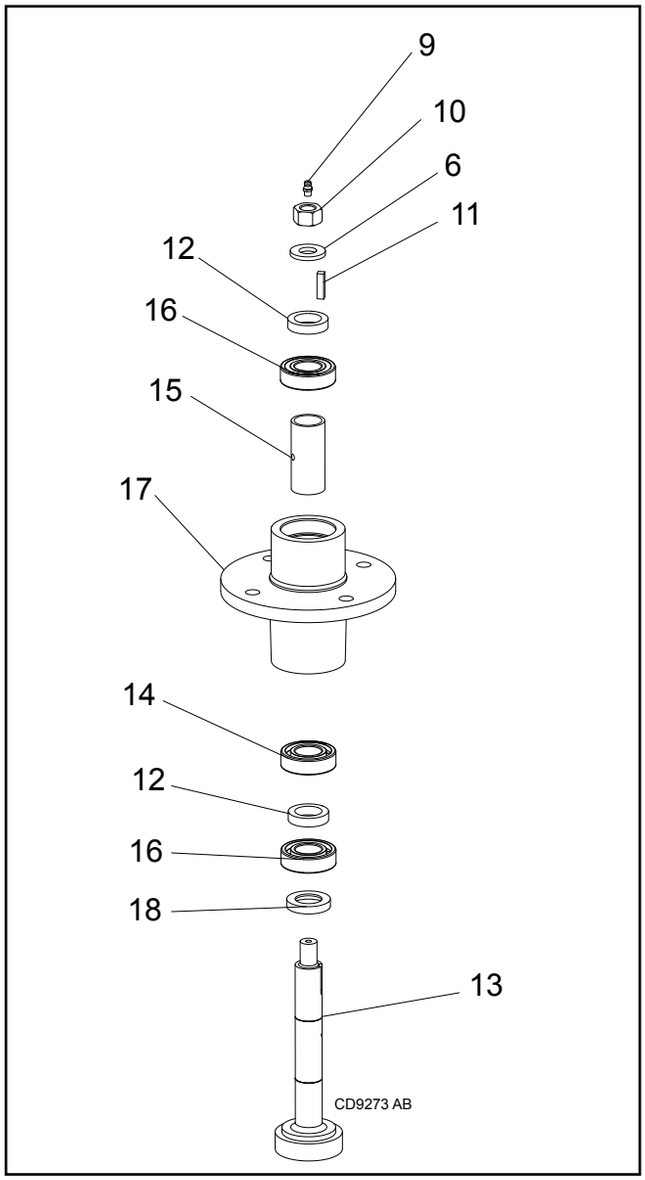


Figure 19. Spindle and Shaft Assembly

Bearing cones and cups are designed to work together. It is important to position them so bearing cone taper mates with cup taper.

1. Install spacer (18) on shaft with bevel side down.
2. Place bearing (16) on shaft with seal facing down.
3. Install sleeve (12) and bearing (14) on shaft.
4. Install sleeve (15) on shaft.
5. Install shaft into spindle from bottom up.
6. Install bearing (16) with seal up onto shaft.
7. Install sleeve (12) key (11), washer (6) on shaft.
8. Rotate housing on spindle shaft, checking for free movement.
9. Install grease fitting in spindle shaft and grease spindle.

Spindle Installation

NOTICE

- **Pulley installation sequence is very important for bearing life. Follow the sequence exactly.**

1. Install spindle through bottom of mower and secure with four mounting bolts.
2. Install pulley on spindle shaft.
3. Install hardened washer and nut on pulley and tighten to 100 ft-lbs.

SPLITTER GEARBOX REPAIR

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

Fill gearbox with SAE 80W or 90W gear lube until it runs out of side level plug (front). Gearbox capacity is 1 liter/34 ounces.

Repair to this gearbox is limited to replacing bearings and seals. Replacing gears, shafts, and a housing is not cost effective. It is more economical to purchase a complete gearbox if repair to anything other than replacement of bearings and seals is required.

Inspect gearbox for leakage and bad bearings.

Leakage is a very serious problem and must be corrected immediately.

Bearing failure is indicated by excessive noise and side to side or end play in gear shafts.

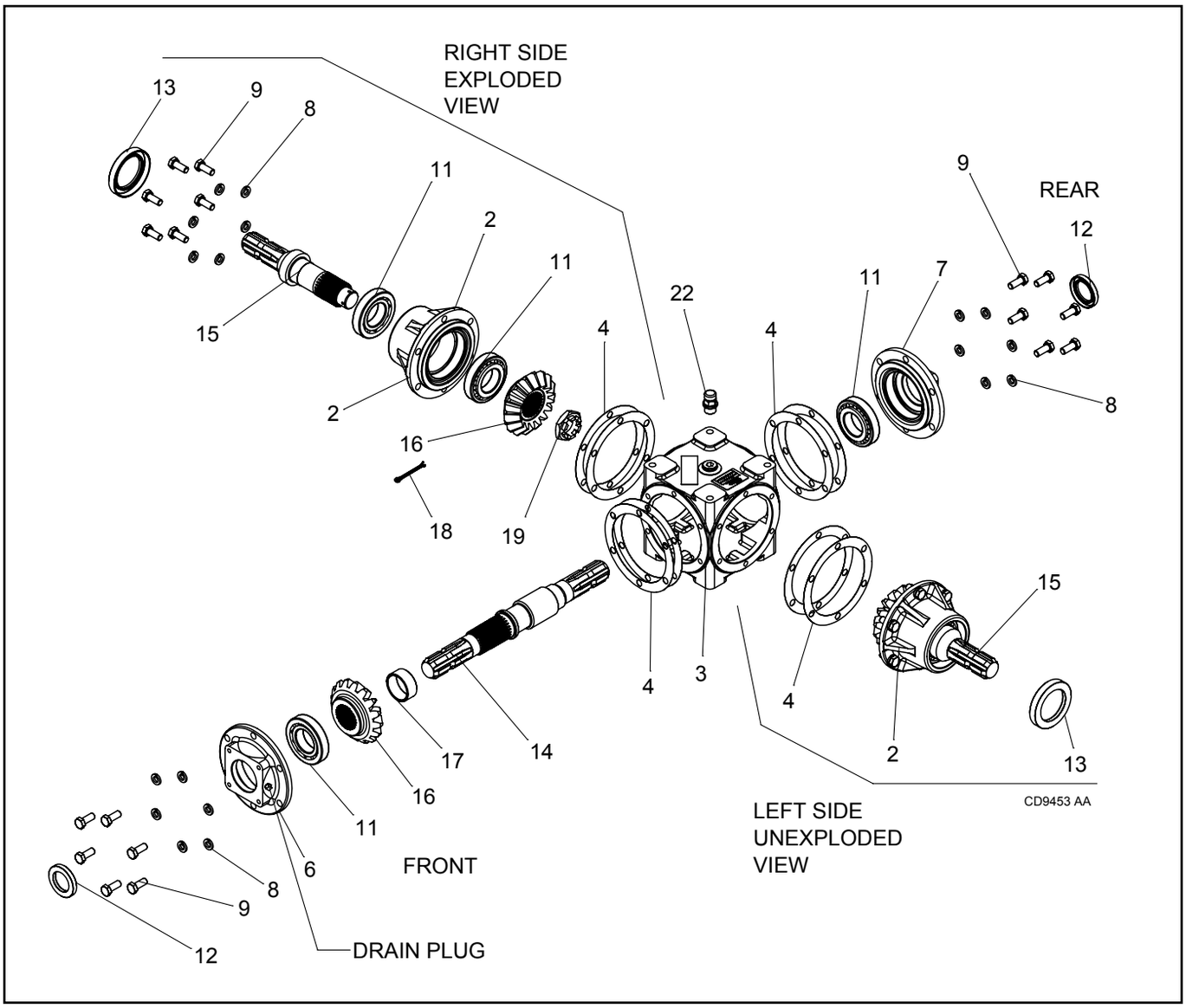


Figure 20. Splitter Gearbox Repair

Seal Replacement

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

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 think 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 tip 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 metal seal cage.

Splitter Gearbox Bearing Replacement

NOTE: Gaskets have been selected for proper gear backlash.

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

Splitter Gearbox Disassembly

1. Disconnect drivelines from gearbox.
2. Remove top and side shields from gearbox. Save hardware. See page 46.
3. Remove gearbox from trailer saving hardware and set on bench.
4. Drain oil from gearbox and recycle.
5. Remove left and right hubs (2) from gearbox saving hub components, hardware (8&9) and gaskets (4).
6. Remove cotter pin (19) and castle nut (19) from side hub assemblies. Push shaft (15) through hub (2) with shaft exiting outer end of hub.
7. Remove front hub(6) and thru shaft (14), saving hub components, hardware (8&9) and gaskets (4).
8. Remove rear hub (7) saving hub components, hardware (8&9) and gaskets (4).
9. Inspect bearings and cones (11) for wear and/or damaged rollers and cage. Replace as necessary.

Splitter Gearbox Assembly

Side Hub Assemblies

1. Press bearing cups (11) into each end of side hubs making sure they are fully seated.
2. Press cone (11) onto side shaft (15) making sure cone is fully seated against shaft shoulder.
3. Assemble the shaft (15) into the side hub (2), then assemble second bearing cone (11) and gear (16) onto the shaft. Apply a thin coat of locktite #271 to shaft threads.
4. Install castle nut (19) on shaft and tightening components. Then loosen the castle nut to adjust the bearings for zero end play to a maximum preload of .83 ft-lbs of rolling torque.
5. Installing cotter pin (18) through nut (19) and shaft (15) and bend cotter pin ends around the radial surface of the nut. Set side hub assemblies aside.

Thru Shaft Assembly

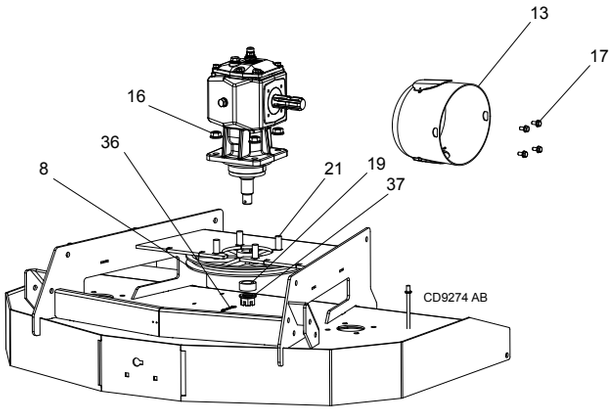
6. Assemble spacer (17) and gear (16) onto thru shaft (14). Press new cone bearing (11) on shaft (14) against gear. Press a second bearing (11) onto the shaft making sure it is fully seated against the shoulder.
7. Install bearing cups(11) in hubs (6 & 7).
8. Install front hub(6) onto Housing (3) using gaskets (4), silicon, and hardware (9).
9. Install thru shaft (14) in Housing (3) with gear(16) against front hub (6). Install rear hub (7), gaskets, and silicon and tighten hardware to Housing (3).
10. The gap will vary from .004” to .040” when adjusting the bearings for zero end play to maximum preload of .83 ft-lbs of rolling torque. Tighten cap screws to 33 ftlbs.
11. Install right and left hub(2) assemblies with gaskets(4) and hardware (8&9).
12. Check the gear backlash. It should not exceed .024”. You should not have to adjust the backlash.
13. Remove side hubs(2) and then reinstall side hubs on housing using gaskets, silicon, and hardware. Tighten capscrews to 33 ftlbs.
14. Install all seals (12 &13).
15. Check the gearbox housing for leaks by plugging all holes except one. Apply 4 psi compressed air and immerse gearbox in water to verify there are no leaks.
16. Remove gearbox from water and dry off with compressed air. Add SAE 80W or 90W EP oil until it runs out the side level hole. Tighten all plugs.

GEARBOX SERVICE

Gearbox Removal from Mower

(Figure 21)

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove vent plug and siphon gear lube from housing through this opening.
3. Remove gearbox from mower deck by removing four flanged lock nuts (16) and four carriage bolts (21).
4. Remove four cap screws (17) and remove shield (13) from gearbox.
5. Remove cotter pin (36) and castle nut (37) from output shaft of gearbox.
6. Remove sheave (8) from gearbox.



8 Sheave, 12.65 PD X 1.25, B
13 Shield, Clutch
16 Nut, HFN 5/8 NC Lock
17 Bolt, HEX Flange M8 X 16 GR 8.8 DRI-LOC
19 Sleeve 1.25 X 1.75 X .75
21 Bolt, CRG 5/8 X 1-3/4 GR 5 ZP
36 Pin, Cotter 1/8 X 2"
37 Nut, Castle M24 X 2

Figure 21. Gearbox Stand Assembly

Gearbox Repair

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

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

Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost effective. It is more economical to purchase a complete gearbox if repair to anything other than replacement of bearings, seals or gaskets is required.

Inspect gearbox for leakage and bad bearings.

Leakage is a very serious problem and must be corrected immediately.

Bearing failure is indicated by excessive noise and side to side or end play in gear shafts.

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 shaft gasket or seal can be repaired without removing the gearbox from the mower.

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.

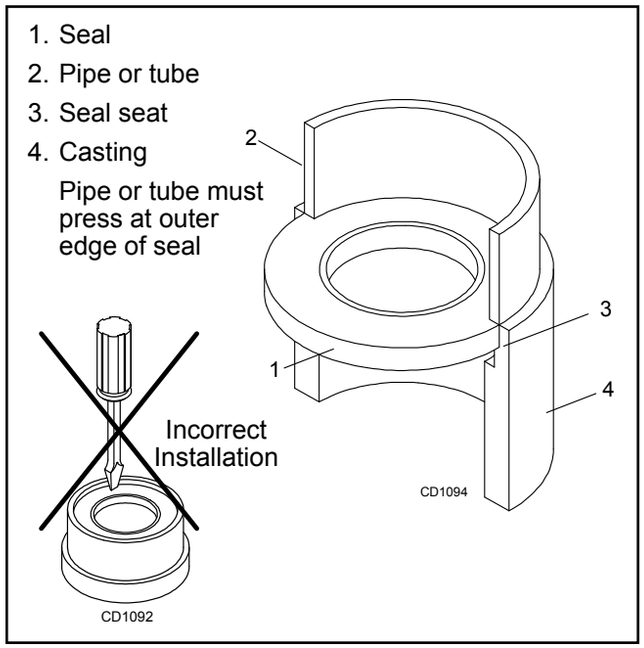


Figure 22. Seal Installation

1. Crown gear
2. Gearbox housing
3. Input shaft
4. Output shaft
5. Gear pinion
6. Bearing
7. Bearing
8. Protective flat washer
9. Cotter pin
10. Snap ring
11. Snap ring
12. Spacer
13. Shim kit
14. Castle nut
15. Castle nut M24 x 2
16. Shim kit
17. Flat washer
18. Oil seal (40 x 80 x 12)
19. Oil seal (35 x 72 x 10)
20. Cap
21. Snap ring
22. Top cover
23. Bolt M8 x 14mm
24. Breather plug
25. Cotter pin
26. Bearing
27. Ball bearing

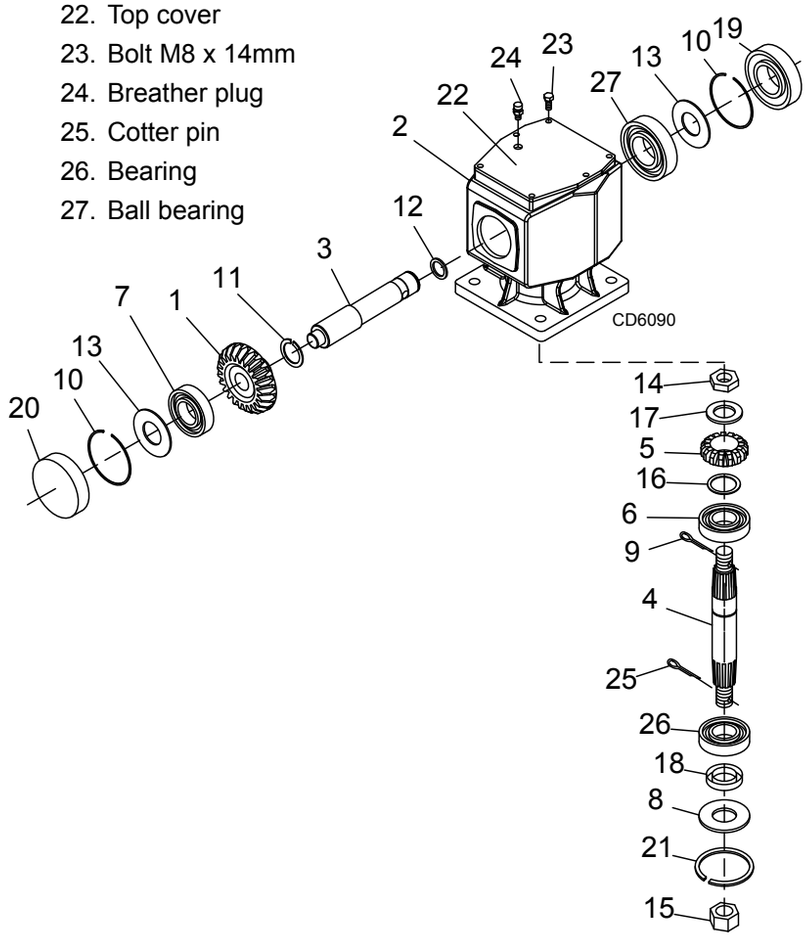


Figure 23. Gearbox Assembly

Vertical Shaft Seal Replacement

(Figure 23)

1. Disconnect and remove the driveline from the gearbox.
2. Remove vent plug (24) and siphon gear lube from housing through this opening.
3. Remove gearbox stand from mower deck.
4. Remove gearbox and pulley from gearbox stand.
5. Remove vertical shaft seal (18). Replace with new seal (see Seal Replacement, page 32).

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

   NOTE: Distortion to seal cage or damage to seal lip will cause seal to leak.
6. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.
7. Assemble gearbox and pulley to gearbox stand. Attach gearbox stand to mower deck.

Horizontal Leak Repair

(Figure 23)

1. Disconnect and remove the 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 Replacement, page 32).
4. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.

Gearbox Disassembly

(Figure 23)

1. Remove top cover (22) from housing. Turn gearbox upside down and pour out remaining gear oil from gearbox.
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) and spacer (11).
5. 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) and cotter pin (25) are already removed with the drive sheave. Remove the snap ring (21), washer (8), and seal (18).
11. Remove cotter pin (9), castle nut (14), and washer (8) from output shaft (4).
12. Remove output shaft (4) by using a punch and hammer and tap on top to drive down.
13. Remove gear (5) and shim (16) from inside housing.
14. Remove bearing (26) by using a punch and hammer from the top, outside the housing.
15. Support housing upside down (top cover surface) and remove bearing (6) by using a punch and hammer from the bottom side of the housing.
16. 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.
17. Inspect vertical and horizontal shafts for grooves, nicks, or bumps in the areas where the seals seat. Resurface any damage with emery cloth.
18. Inspect housing and caps for cracks or other damage.

Gearbox Reassembly

(Figure 23)

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.

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 output bearings (6 & 26) in the housing, using a round tube of the correct diameter and a hand press.
4. Slide output shaft (4) through both bearings (6 & 26) until it rests against 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 over output shaft (4), using a tube of the correct diameter. Be sure not to damage the seal lip. Press in housing so that seal is recessed.
8. Insert protective washer (8) by hand. Install snap ring (21) and position it together with dual lip seal (18) by pressing it into position. Verify that snap ring 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).
13. Slide spacer (12) over input shaft (3) and press bearing onto input shaft (3), using a round tube of the correct diameter and a hand press.
14. Slide shim (13) over input shaft (3) and secure with snap ring (10).
15. 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.
16. Check that the gear backlash is between 0.006" and 0.016". You should not have to adjust the backlash.
17. Press in input oil seal (19), using tube of correct diameter. Be careful not to damage seal lip.
18. Press oil cap (20) on to cover the rear of housing, using a tube of the correct diameter.
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.

Gearbox Installation

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

1. Set gearbox on gearbox stand and fasten with bolts and nuts. Torque bolts to 175 lbs-ft.
2. Attach drive sheave to output shaft. Secure using castle nut and hardware previously removed.
3. Attach gearbox stand to mower using four hex screws.

DRIVE SHEAVE INSTALLATION

(Figure 24)

1. When gear stand is installed on mower, dimension A (from the top of the mower deck to the center line of the drive pulley) must be 2-7/16" (±1/32"). This is a critical dimension and must be carefully adjusted for proper belt life. Add or subtract shim washers under idler pulley to align with drive pulley.
2. Tighten gear stand hardware.
3. Fill gearbox half full with SAE 90W gear lube.
4. Check level after waiting five minutes to permit lube to work through bearings. Add lube, if necessary, until gearbox is half full.
5. Replace driveline shield. Attach driveline to gearbox.

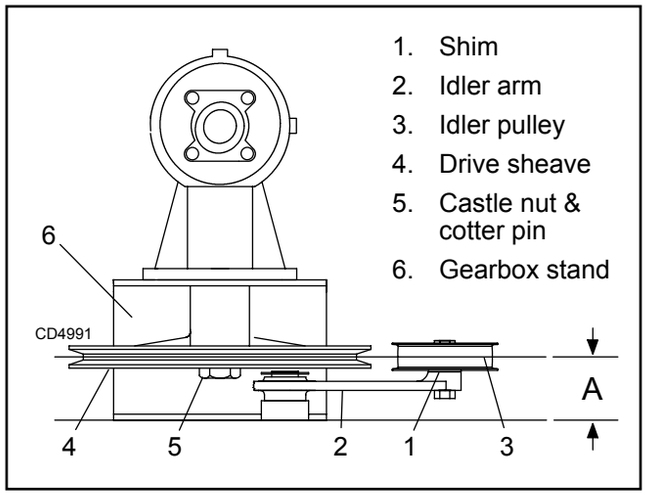


Figure 24. Drive Sheave Installation

UNIVERSAL JOINT REPAIR

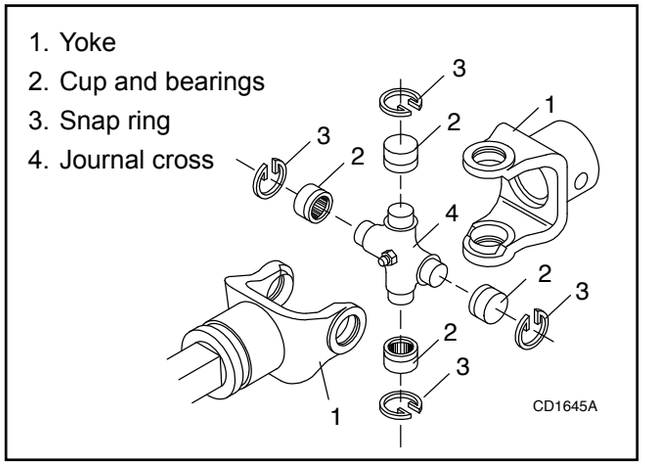


Figure 25. U-Joint Exploded View

U-Joint Disassembly

1. Remove external snap rings from yokes in four locations as shown in Figure 26.

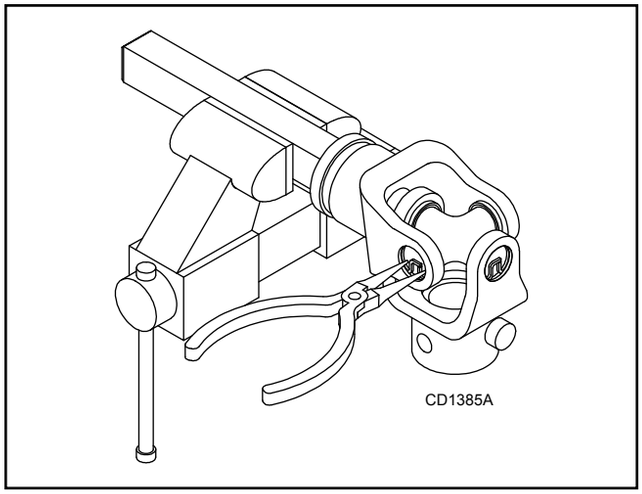


Figure 26.

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 27.

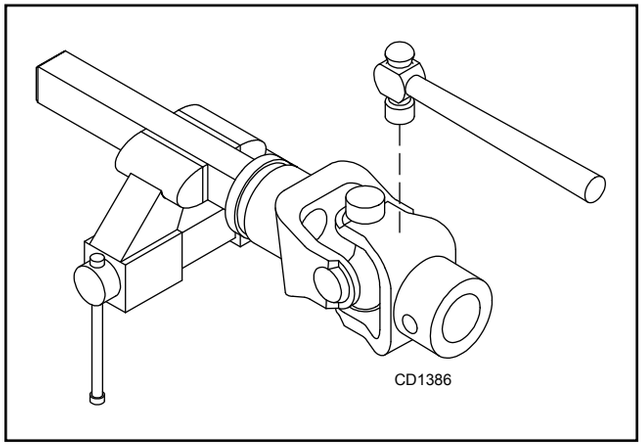


Figure 28.

3. Clamp cup in vise as shown in Figure 28 and tap on yoke to completely remove cup from yoke. Repeat Step 2 and Step 3 for opposite cup.

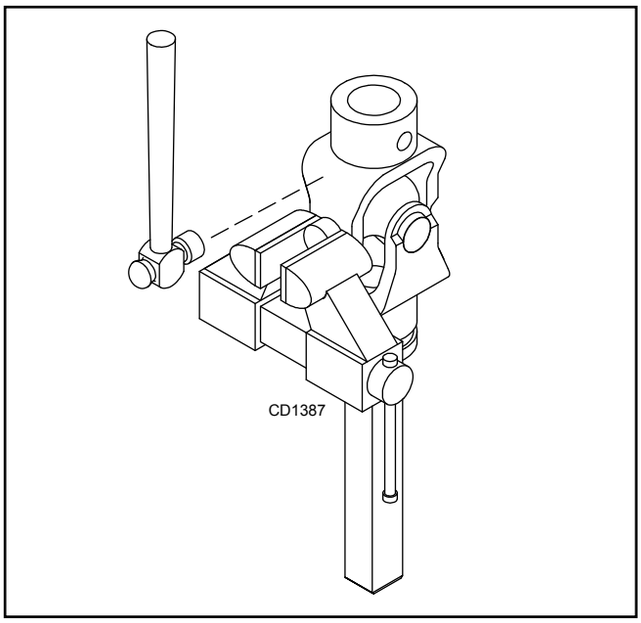


Figure 28.

4. Place universal cross in vise as shown in Figure 29 and tap on yoke to remove cup. Repeat Step 3 for final removal. Drive remaining cup out with a drift and hammer.

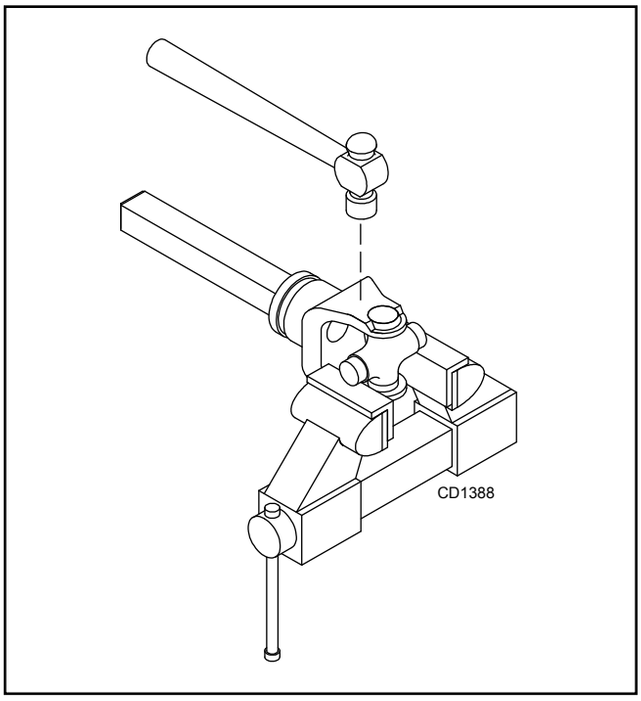


Figure 29.

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 30. 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.

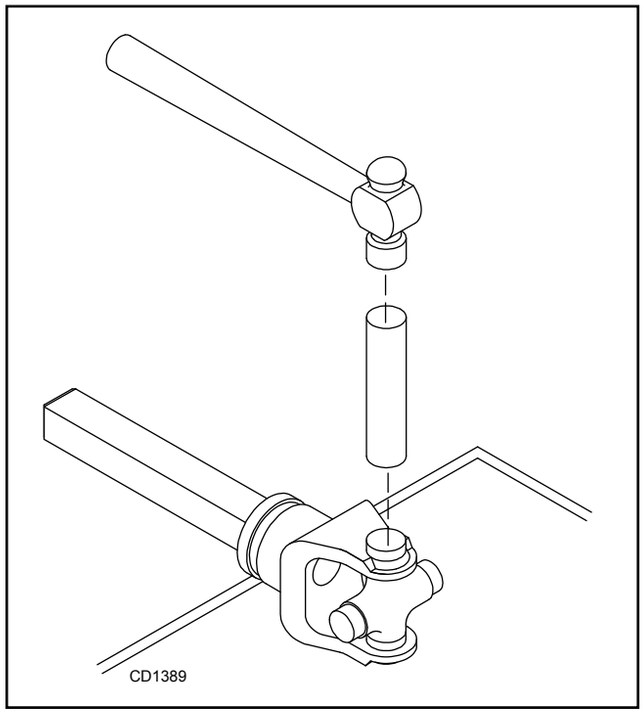


Figure 30.

ASSEMBLY

DEALER SET-UP INSTRUCTIONS

The mower is shipped mostly assembled but requires dealer set-up. The Woods dealer should deliver the mower to the owner completely assembled, lubricated, and adjusted for normal conditions.

Recommended torque values for hardware are located on page 71.

Complete checklists on page 42 when assembly is complete.

⚠ WARNING

- **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.

- **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

⚠ 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.**
- **Do not work underneath mower unless it is properly attached to tractor and blocked securely. When properly attached, the unit will be anchored to minimize front to rear movement.**
- **Do not allow bystanders within 25 feet (7.62 m) of the area when operating, attaching, removing, assembling, or servicing equipment.**

Remove Shipping Straps

1. Park mower on level hard surfaced area.
2. Remove front drive line from rear deck.
3. Attach drive line to stub shaft (see trailer assembly).

   NOTE: Make sure CV drive is located on tractor side.
4. Lift back of rear deck with a hoist/chain rated for 500 lbs to take tension off of rear chains.
5. Remove 3/8" bolts, washers, and nuts from both rear lift chains. See Figure 32. This hardware is for factory shipping purposes only an can be discarded.

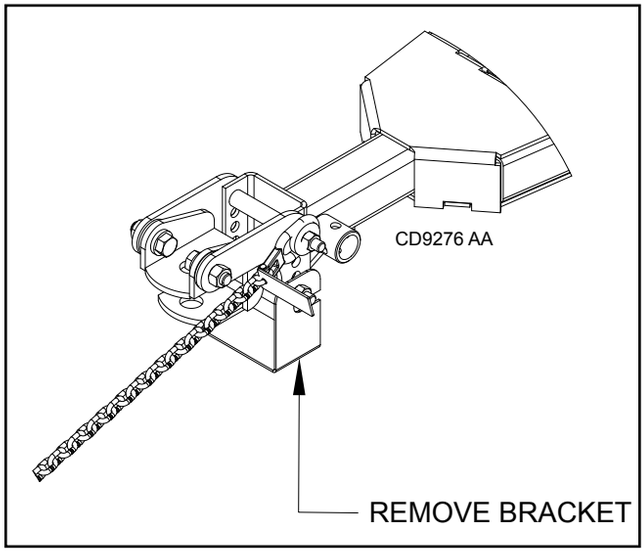


Figure 31. Remove Shipping Hardware

6. Gently lower deck until the deck is supported by the lift chains.
7. For TBW17.40, remove 3/8" bolts, nuts, and washers in wing cylinder slots. Remove wire from the back of the wing connected to the trailer.
8. Remove 1/2" lock nuts and remove shipping strap from between right and left decks. Figure 32. Reinstall 1/2" lock nuts on front bolts and tighten to 85 ft-lbs.
9. Install jack in front tongue connection and adjust it to support front weight of unit and level tongue.
10. Remove front shipping bracket channel shown in Figure 31 and retighten hardware to 170 ft-lbs.

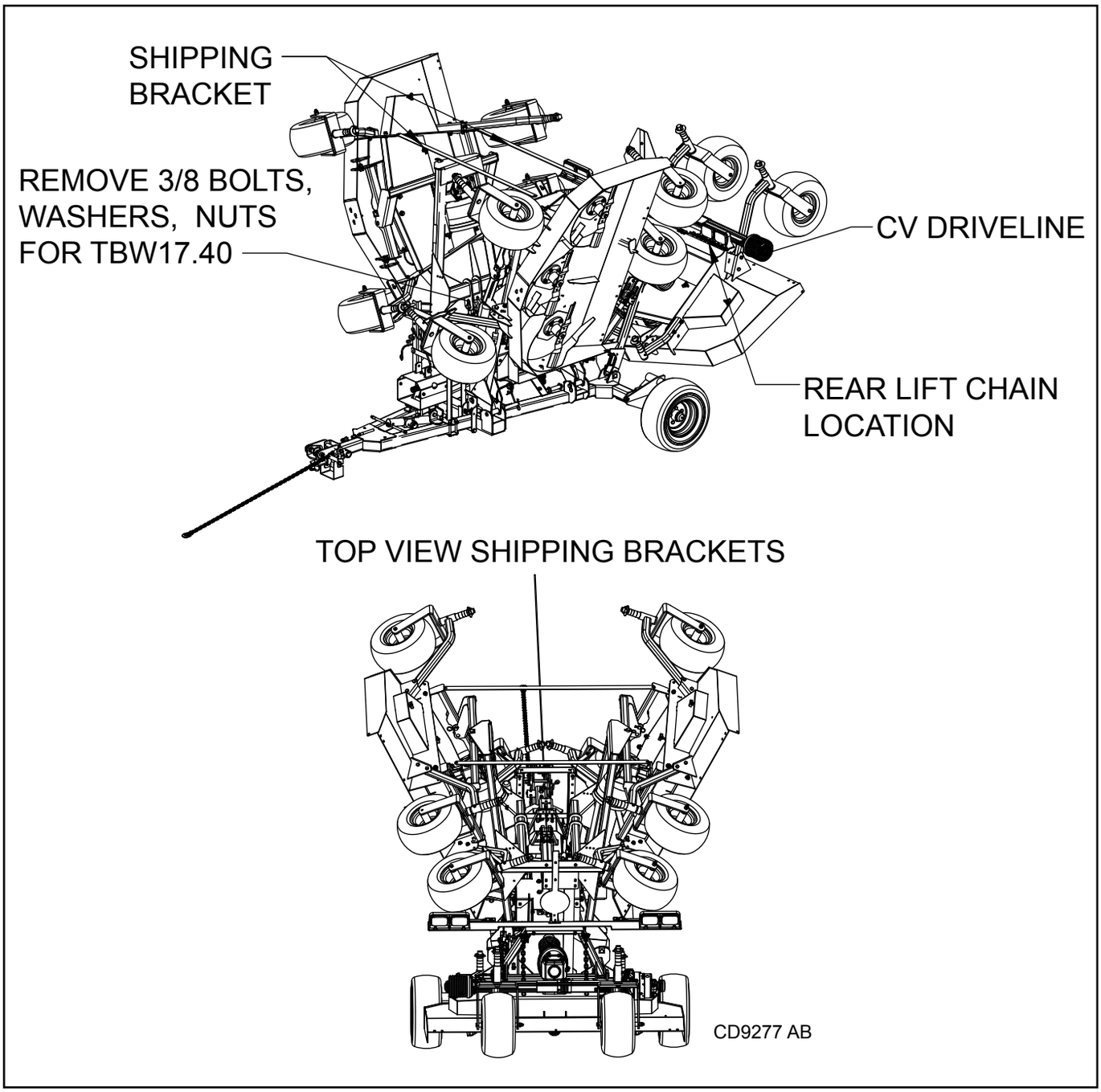


Figure 32. Remove Shipping Strap (Right Wing)

Attach Hydraulic Hoses

⚠ WARNING

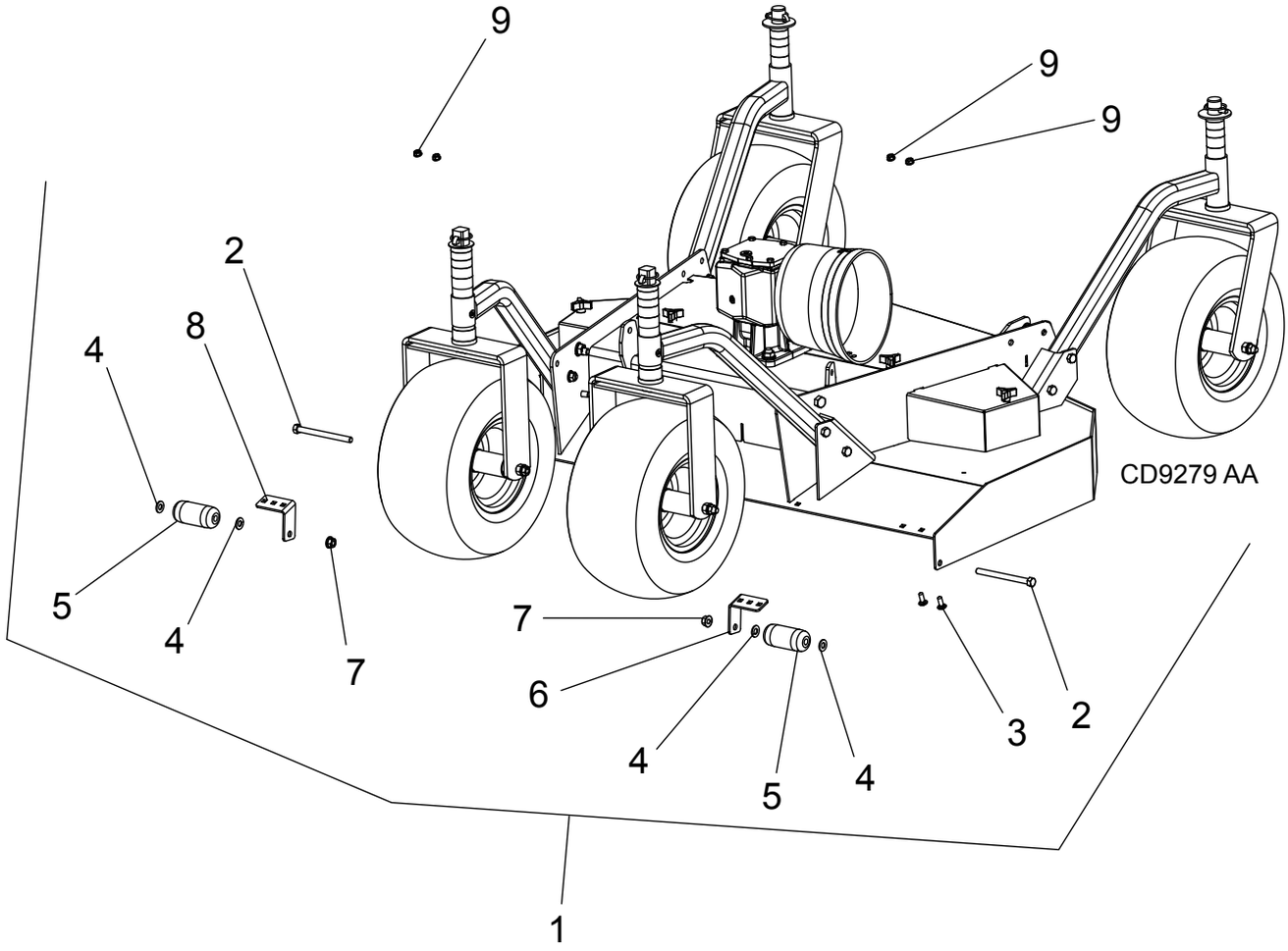
- **Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.**

Attach the mower hydraulic hose to the tractor port. Hydraulic quick coupler is not supplied.

NOTE: The mower hydraulic system should have been filled at the factory. Always assume it is empty. Fully purge air and fill the hydraulic system by raising and lowering wings several times while hooked to a tractor hydraulic supply. Keep all personnel away while raising and lowering.

OPTIONAL EQUIPMENT

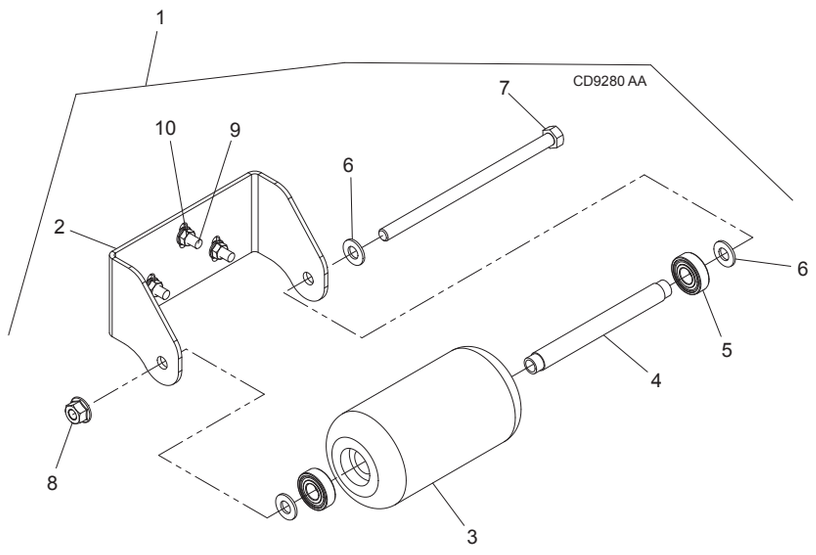
Rear Roller Kit



1	Kit, Rear Roller	6	Lug, Bent Antiscalp Roller RH
2	HHCS, 1/2 NC X 6 GR5	7	Nut, 1/2 Flange Lock Nut
3	Bolt, CRG 3/8 NC X 1 GR5 ZP	8	Lug, Bent Antiscalp Roller LH
4	Washer, Flat 1/2 SAE ZP	9	Nut, 3/8 HEX Flange Lock ZP
5	Roller, 2 X 4.38		

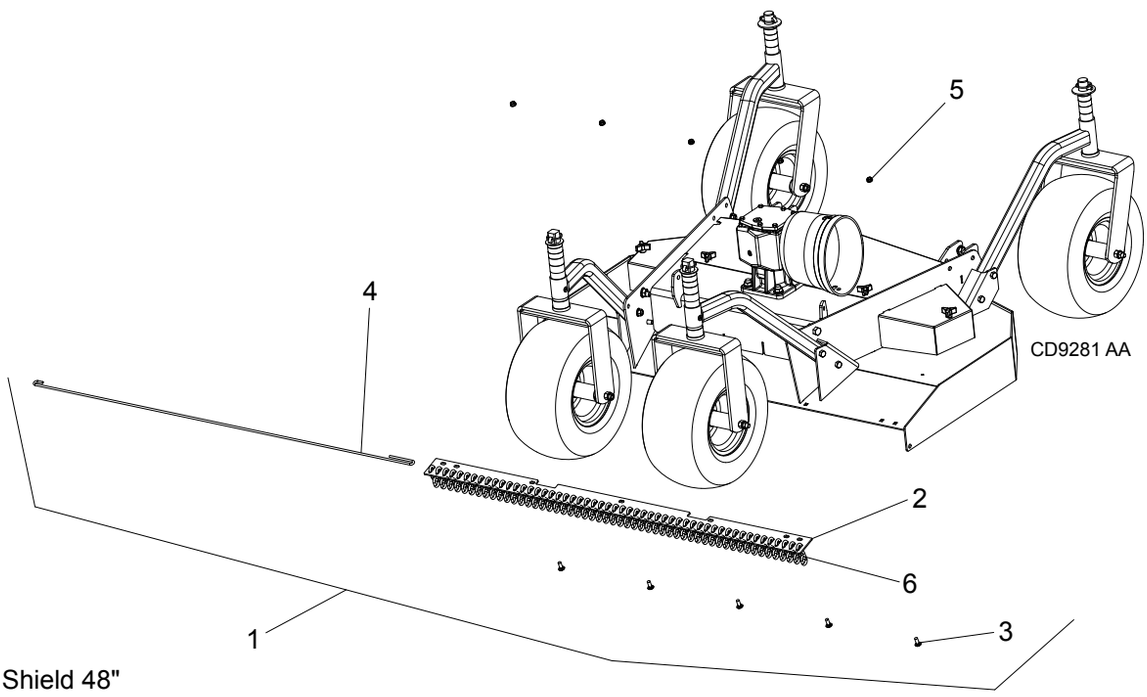
Figure 33. Rear Roller Kit

Front Roller Kit



1 Kit, Front Antiscalp Roller
2 Bracket, Front Roller TKXX.20
3 Roller 4 X 7.38
4 Spacer .75 X 7.27
5 BRG-6203
6 Washer, Flat, 1/2 SAE ZP
7 HHCS 1/2 NC X 9 GR5
8 Nut Lock 1/2 NC Flange
9 BOLT CRG 3/8 NC X 1 GR5 ZP
10 Nut, HEX FLNG Lock 3/8 NC

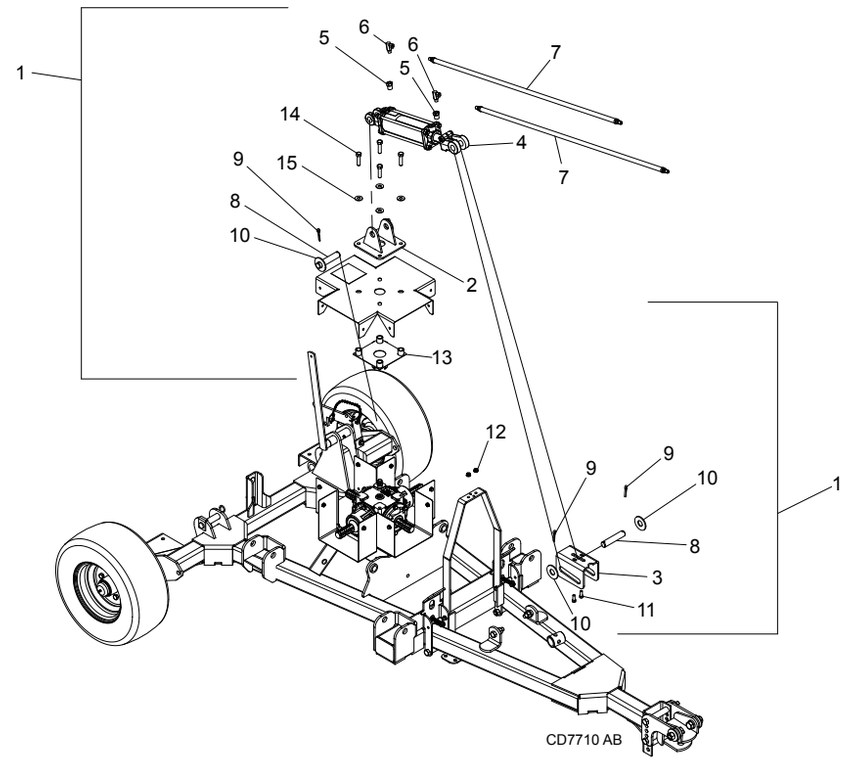
Figure 34. Front Roller Kit



1 Kit, Chain Shield 48"
1 Kit, Chain Shield 60"
1 Kit, Chain Shield 72"
2 Plate, 48" Chain Shield
2 Plate, 60" Chain Shield
2 Plate, 72" Chain Shield
3 3/8 NC X 1 Carriage Bolt
4 Pin, 31 to 33 Chains
4 Pin, 49 to 51 Chains
4 Pin, 56 to 58 Chains
5 3/8 NC Flange Lock Nut
6 3 Link Chain 1/4 Proof

Figure 35. Chain Shield Kit

Hydraulic Latch Release Installation



2. Release Base
3. Slide Channel
4. 3-1/2 x 8 Hydraulic Cylinder
5. Bushing
6. Elbow
7. Hose, 108"
8. Pin 1 x 4.08
9. Cotter Pin
10. Flat Washer 1"
11. 3/8 NC X 1 HHCS GR5
12. 3/8 NC Flange Lock Nut
13. Spacer Alignment Plate
14. 1/2 NC X 1 HHCS GR5
15. Flat Washer 1/2"

Figure 36. Hydraulic Latch Release Installation

1. Remove four 1/3 NC x 2 hex head cap screws and 1/2" flat washers from top of shield on trailer.
2. Attach item 1 on top of shield using hardware previously removed.
3. Attach item 2 to wing release lever using items 10 and 11.
4. Attach base end of cylinder (3) to item 1 using items 7, 8, and 9. Cylinder ports should be pointing upward.
5. Attach rod end of cylinder (3) to item 2 using items 7, 8, and 9.
6. Install reducers (4), elbows (5), and hoses to base of cylinder.

TBW Hitch Option

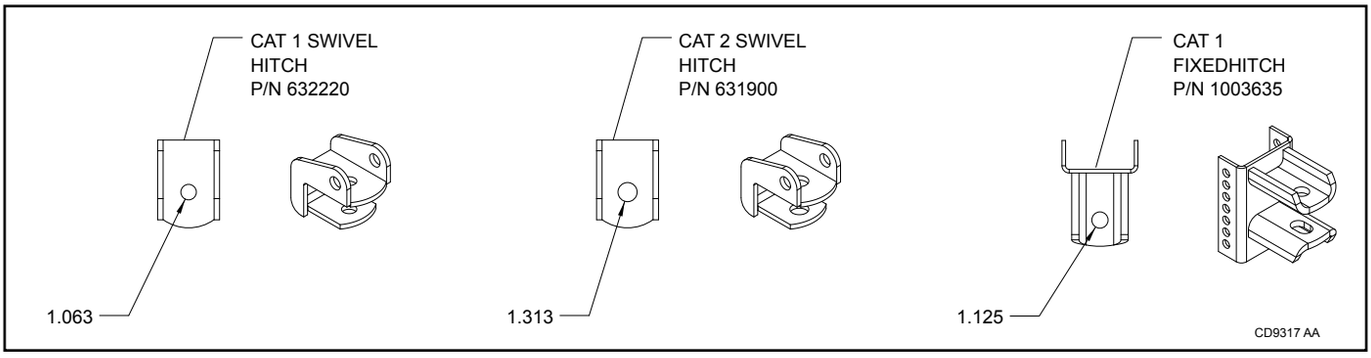


Figure 37. TBW Hitch Option

DEALER CHECKLISTS

DEALER PRE-DELIVERY CHECKLIST

(DEALER'S RESPONSIBILITY)

Inspect the equipment thoroughly after assembly to ensure it is set up properly before delivering it to the customer.

The following checklists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

_____ Check that all safety decals are installed and in good condition. Replace if damaged.

_____ Check that shields and guards are properly installed and in good condition. Replace if damaged.

_____ Check all bolts to be sure they are properly torqued.

_____ Check that all cotter pins and safety pins are properly installed. Replace if damaged.

_____ Check that blades have been properly installed.

_____ Check mower attitude and belt alignment.

_____ Check and grease all lubrication points as identified in "Lubrication Information" on page 21.

_____ Check the level of gearbox fluids before delivery. Service, if required, as specified in "Lubrication Information" on page 21.

DEALER DELIVERY CHECKLIST

(DEALER'S RESPONSIBILITY)

_____ Show customer how to make adjustments and select proper PTO speed.

_____ Show customer how to make sure driveline is properly installed and that spring-activated locking pin or collar slides freely and is seated in groove on tractor PTO shaft.

_____ Show customer how to determine the turning limits of the CV PTO driveline.

_____ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.

_____ Make customer aware of optional equipment available so that customer can make proper choices as required.

_____ Instruct customer how to lubricate and explain importance of lubrication.

_____ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.

_____ 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 the potential crushing hazards of going underneath raised equipment. Instruct that before going underneath to disconnect the driveline, securely block up all corners with jackstands and to follow all instructions in **BLOCKING METHOD, page 20** of the operator's manual. Explain that blocking up prevents equipment dropping from hydraulic leak down, hydraulic system failures or mechanical component failures.

_____ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.

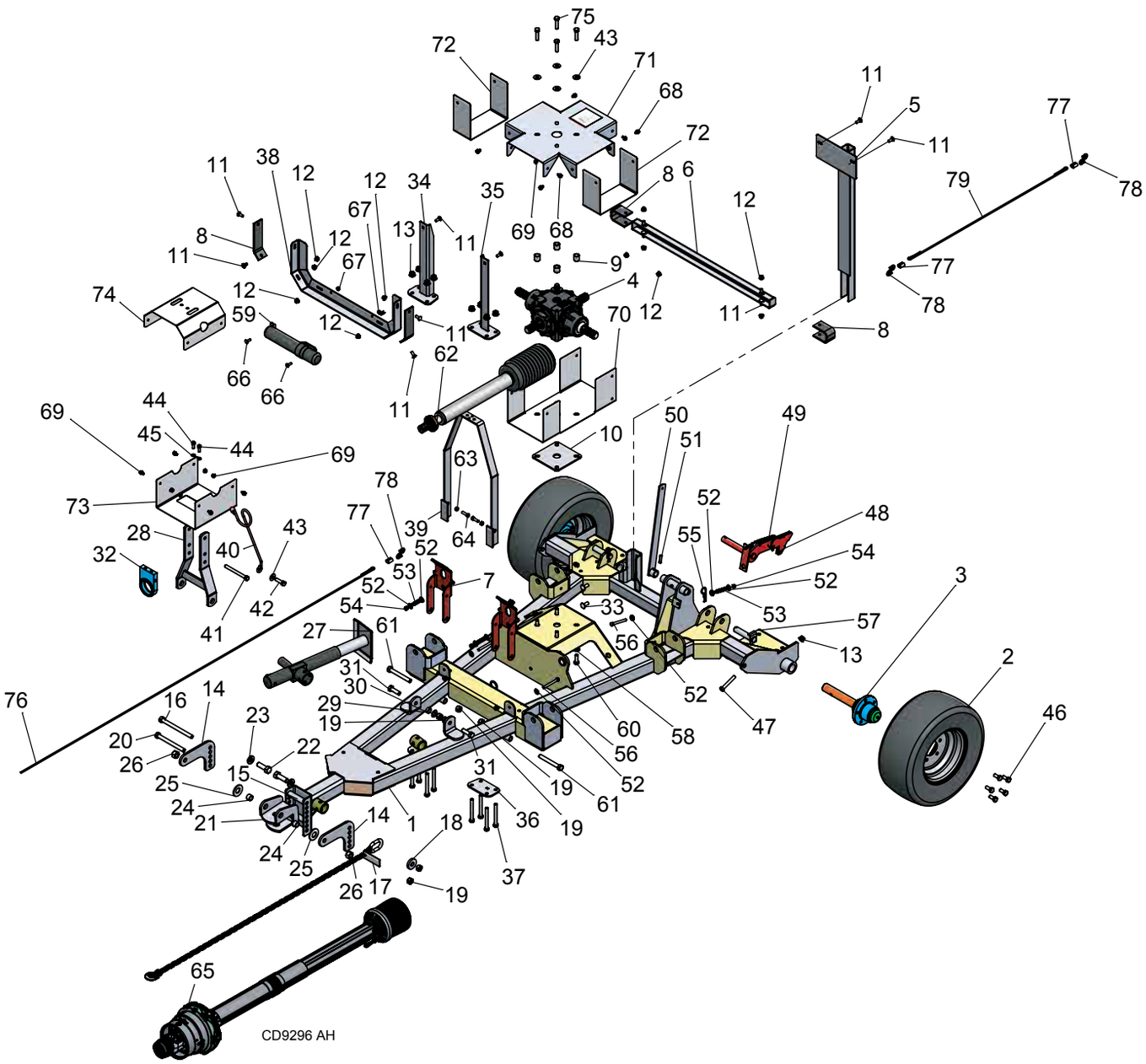
WOODS®

PARTS INDEX

Turf Batwing Mowers: TBW12.40, TBW15.40, TBW17.40

COMMON PARTS

TBW12.40 TRAILER PARTS

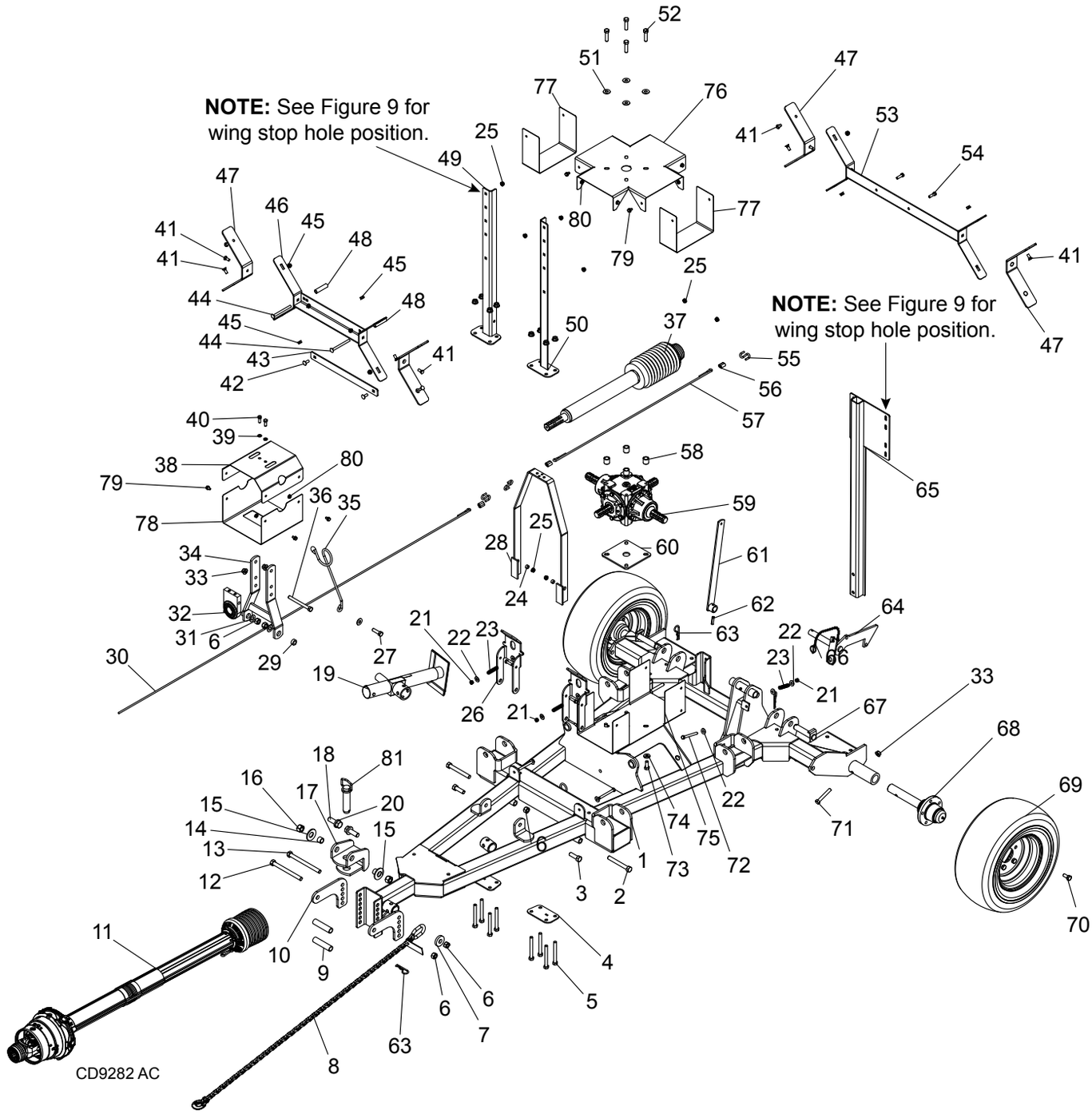


TBW12.40 TRAILER PARTS

REF	PART	QTY	DESCRIPTION
1	1031724	1	WA, TRAILER FRAME 12
2	WP38298G	2	WHEEL - TIRE 20.5X8.00X10 GRAY
3	1001020	2	ASY WHEEL HUB - AXLE
4	625961RP	1	GEARBOX, 4-WAY 100 HP OIL †
5	631401RP	1	WA, BUMPER TUBE TBW12.40 REAR
6	630770RP	1	CHANNEL, WING STOP REAR TBW12.40
7	40879	2	LNK U .25 X 12.44 X 4.30
8	632855	4	BELT, RUBBER .25 X 1.50 X 7.89
9	62626	4	.76 X 1 X 1 TUBE
10	1032846	1	PLATE, TBW GEARBOX
11	6697	12	BOLT CRG 3/8 NC X 1 GR5 ZP
12	14350	14	NUT, HEX FLNG LOCK 3/8 NC
13	11900	14	NUT LOCK 1/2 NC FLANGE
14	631904RP	2	LINK, ODD .38 X 8.65 X 6.29
15	44639	2	TUBE 11GA X 1.0 X 4.12
16	11043	1	HHCS 5/8 NC X 7-1/2 GR5
17	19407	1	ASY, SAFETY CHAIN, 10,000 LB
18	W8424	1	WSHR 3/4ID 2OD 3/8THICK
19	6239	6	NUT LOCK 5/8 NC
20	W300469	1	HHCS 5/8 NC X 6-1/2 GR5
21	632220RP	1	HITCH, TBW CATG 1
22	13759	2	HHCS 3/4 NC X 2-1/4 GR5 ZP
23	28873	2	WSHR 3/4ID 1-1/2OD 1/4THICK
24	44641	2	SLV .78 X 1.00 X .69 HT
25	44640	2	WSHR CUPPED 1.04 X 2.25 X .17
26	2371	2	NUT LOCK 3/4 NC ZP
27	23790	1	SWIVEL PARKING JACK
28	611496RP	1	WA, H-FRAME CV DRIVE
29	3632	2	WSHR 5/8 STD SAE FLT
30	484	2	.625 X 1.00 X .438 HT SLV
31	902	2	HHCS 5/8 NC X 2 GR5
32	1251	1	BRG HOLDER W/BRG
33	2615	2	BOLT CRG 1/2 NC X 1-1/4 GR5
34	632568RP	1	WA, FRONT STOP MNT TBW12.40 RH
35	632565RP	1	WA, FRONT STOP MNT TBW12.40 LH
36	629823RP	2	PLATE, BASE STAND TBW15.40, 17.40
37	3508	8	HHCS 1/2 NC X 4-1/2 GR5 ZP
38	632567RP	1	CHANNEL, WING STOP FRONT TBW12.40
39	40938RP	1	WA, WING RELEASE LEVER
40	3443	1	HYD HOSE HOLDER
41	65575	1	HHCS 1/2 NC X 5-1/4 GR5
42	24576	1	HHCS 1/2 NC X 1-3/4 GR5 ZP
43	854	5	WSHR 1/2 FLAT ZP
44	839	2	HHCS 3/8 NC X 1 GR5 ZP
45	838	2	WASHER, LOCK 3/8
46	1258	10	BOLT, HEX WHEEL, 1/2 -20 NF X 1-1/8
47	14069	2	HHCS 1/2 NC X 3-1/4
48	632210RP	1	WA, REAR DECK LOCK
49	38264	1	ASY-LYNCH PIN, CHAIN & COTTER
50	40880RP	1	WA, REAR LEVER
51	11606	1	3/8 X 1-1/2 SPIROL PIN
52	565	9	WASHER, FLAT 3/8
53	21957	3	SPR/CMP0.58 .08 2.4 40
54	6698	3	NUT LOCK 3/8 NC ZP
55	18270	2	3/16 SAFETY PIN
56	31138	3	HHCS 3/8 NC X 3-1/2 GR5
57	58984	2	WA, REAR WING PIN
58	57811	4	WSHR 1/2 FLAT EXTRA THK HRDN
59	1026530	1	MANUAL TUBE
60	629824RP	4	BOLT, HEX 1/2 NC X 1.50 GR5
61	378	2	HHCS 5/8 NC X 5
62	44626	1	YK & SHFT NTEL 50 X 26.3
63	31464	2	SLV 3/8 X 5/8 X 11/32
64	12169	2	HHCS 3/8 NC X 1-1/4 GR5 ZP
65	1045590	1	DRIVE, CV 2480, 540 RPM
66	24409	2	BOLT CRG 5/16NC X 1 ZP
67	W73163	2	NUT WHIZ 5/16 NC FLNG YD
68	16231	12	HHCS, 5/16NC X 1/2 FLANGE
69	14139	12	NUT, FLANGE 5/16 NC
70	636620	1	SHIELD, SPLITTER BOTTOM
71	636619	1	SHIELD, SPLITTER TOP
72	636617	2	SHIELD, SPLITTER SIDE
73	636616	1	SHIELD, H FRAME BOTTOM
74	636618	1	SHIELD, H FRAME TOP
75	3699	4	HHCS 1/2 NC X 2 GR5
76	38296	1	ROPE, .25 X 95.0
77	38295	1	SLEEVE, OVAL .12WA X .53 X.84
78	38257	3	S HOOK .25 X 2.25
79	38294	1	ROPE, .25 X 46.0
80	S071051C0	1	HITCH PIN Ø1.12 X 4.25 W/ CLIP
		*	STANDARD HARDWARE, OBTAIN LOCALLY

† SEE PAGE 59 FOR SPLITTER GEARBOX COMPONENTS.

TBW15.40 & TBW17.40 TRAILER PARTS

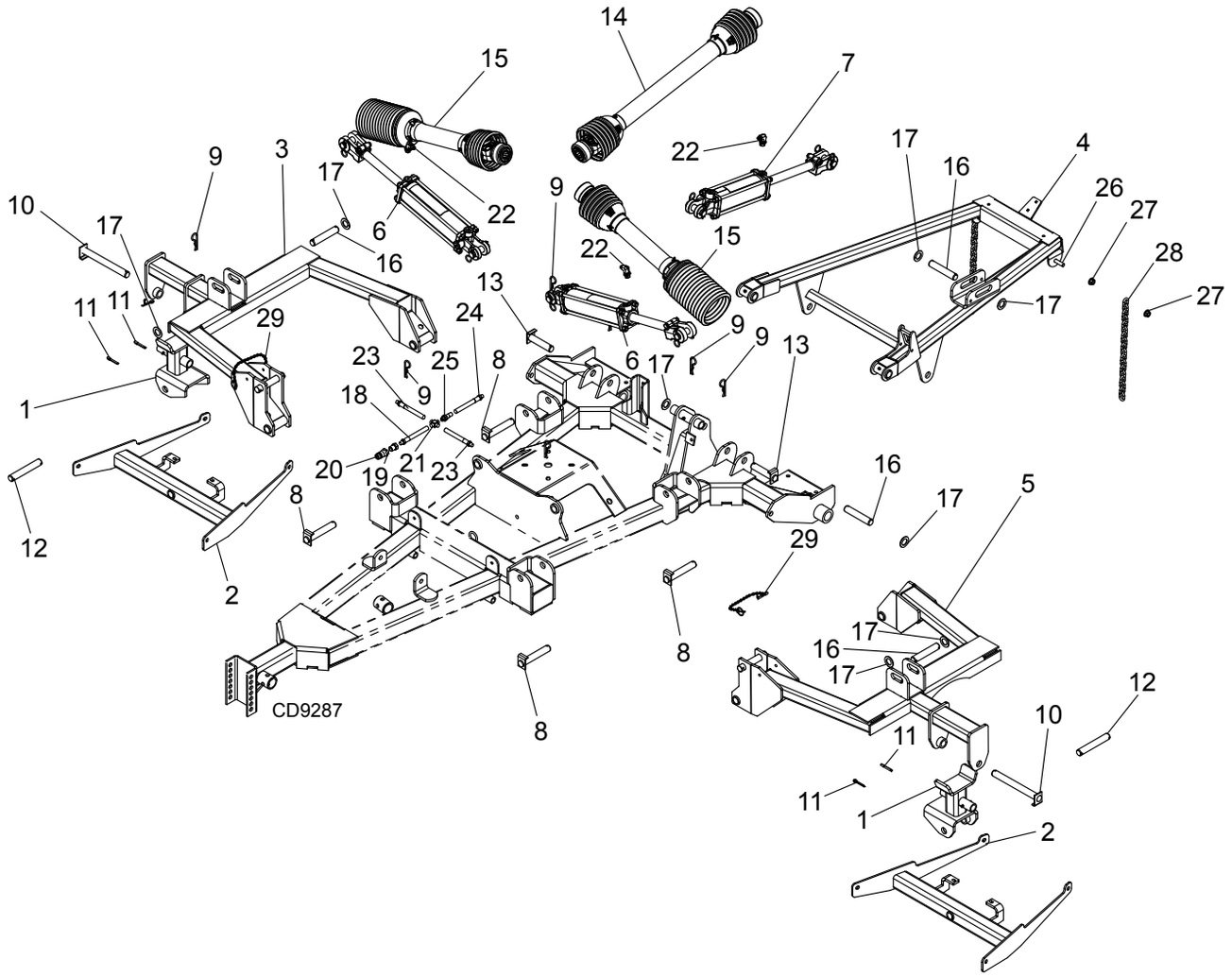


TBW15.40 & TBW17.40 TRAILER PARTS

REF	PART	QTY	DESCRIPTION
1	--------	1	TRAILER, TBW15.40, 17.40
2	378	*2	HHCS 5/8 NC X 5
3	902	*2	HHCS 5/8 NC X 2 GR5
4	629823RP	2	PLATE, BASE STAND TBW15.40, 17.40
5	3508	*8	HHCS 1/2 NC X 4-1/2 GR5 ZP
6	6239	*6	NUT LOCK 5/8 NC
7	W8424	1	WSHR 3/4ID 2OD 3/8THICK
8	19407	1	ASY, SAFETY CHAIN, 10,000 LB
9	44639	2	TUBE 11GA X 1.0 X 4.12
10	631904RP	2	LINK, ODD .38 X 8.65 X 6.29
11	1045590	1	DRIVE, CV 2480, 540 RPM
12	23638	*1	HHCS 5/8 NC X 7 GR5
13	11043	*1	HHCS 5/8 NC X 7-1/2 GR5
14	44641	2	SLV .78 X 1.00 X .69 HT
15	44640	2	WSHR CUPPED 1.04 X 2.25 X .17
16	2371	*2	NUT LOCK 3/4 NC ZP
17	631900RP	1	HITCH, TBW CAT 2 (STANDARD)
17	632220RP	1	HITCH, TBW CAT 1
18	13759	*2	HHCS 3/4 NC X 2-1/4 GR5 ZP
19	23790C	1	JACK, PARKING SWIVEL 1200LBS CERTIFIED
20	28873	2	WSHR 3/4ID 1-1/2OD 1/4THICK
21	6698	*3	NUT LOCK 3/8 NC ZP
22	565	*9	WASHER, FLAT 3/8
23	21957	3	SPR/CMP0.58 .08 2.4 40
24	31464	2	SLV 3/8 X 5/8 X 11/32
25	14350	*8	NUT, HEX FLNG LOCK 3/8 NC
26	40879RP	2	LNK U .25 X 12.44 X 4.30
27	24576	*1	HHCS 1/2 NC X 1-3/4 GR5 ZP
28	40938RP	1	WA, WING RELEASE LEVER
29	484	2	.625 X 1.00 X .438 HT SLV
30	38296	1	ROPE .25 X 95.0
31	3632	*2	WSHR 5/8 STD SAE FLT
32	1251	1	BRG HOLDER W/BRG
33	11900	*14	NUT LOCK 1/2 NC FLANGE
34	611496RP	1	WA, H-FRAME CV DRIVE
35	3443	1	HYD HOSE HOLDER
36	65575	*1	HHCS 1/2 NC X 5-1/4 GR5
37	44626	1	YK & SHFT NTEL 50 X 26.3
38	636618RP	1	SHIELD, FRONT DRIVE
39	838	*2	WASHER, LOCK 3/8
40	839	*2	HHCS 3/8 NC X 1 GR5 ZP
41	W7701	12	BOLT PLOW 3/8 NC X 1
42	6697	*2	BOLT CRG 3/8 NC X 1 GR5 ZP
43	630693RP	1	FLAT, .18X1.5X17 WING STP TBW15.40,17.40
44	90001708	*2	BOLT CRG 3/8 NC X 4-1/2 GR5 ZP
45	W70069	*12	NUT WHIZ 3/8 NC FLNG /MR
46	629820RP	1	WA, FRONT STOP TBW15.40, 17.40
47	1038402	4	GUIDE LINER
48	630692	2	SLV, .42 X .67 X 2.75 (TBW17.40 ONLY)
49	636550RP	1	WA, FRONT STOP MNT TBW15.40, 17.40 RH
50	636551RP	1	WA, FRONT STOP MNT TBW15.40, 17.40 LH
51	854	*5	WSHR 1/2 FLAT ZP
52	3699	*4	HHCS 1/2 NC X 2 GR5
53	631896RP	1	WA, REAR STOP TBW17.40
	629832RP	1	WA, REAR STOP TBW15.40
54	12169	*4	HHCS 3/8 NC X 1-1/4 GR5 ZP
55	38257	3	S HOOK .25 X 2.25
56	38295	3	SLV OVAL .12WA X .53 X .84
57	38294	1	ROPE .25 X 46.0
58	62626	4	.76 X 1 X 1 TUBE
59	625961	1	GEARBOX, 4-WAY 100 HP OIL †
60	1032846RP	1	PLATE, TBW GEARBOX
61	40880	1	WA, REAR LEVER
62	11606	*1	3/8 X 1-1/2 SPIROL PIN
63	18270	*2	3/16 SAFETY PIN
64	632210RP	1	WA, REAR DECK LOCK
65	629819RP	1	WA, BUMPER CHANNEL TBW17.40 TBW15.40
66	38264	1	ASY-LYNCH PIN, CHAIN & COTTER
67	58984	2	WA, REAR WING PIN
68	1001020	2	ASY WHEEL HUB - AXLE
69	WP38298G	2	WHEEL - TIRE 20.5X8.00X10 GRAY
70	1258	10	BOLT, HEX WHEEL, 1/2 -20 NF X 1-1/8
71	14069	*4	HHCS 1/2 NC X 3-1/4
72	31138	*3	HHCS 3/8 NC X 3-1/2 GR5
73	6100	*4	HHCS 1/2 NC X 1-1/4 GR5 ZP
74	57811	*4	WSHR 1/2 FLAT EXTRA THK HRDN
75	636620RP	1	SHIELD, TBW.40 SPLITTER BOX BOT CENTER
76	636619RP	1	SHIELD, TBW SPLITTER BOX
77	636617RP	2	SHIELD, TBW SPLITTER BOX BOTTOM SIDE
78	636616RP	1	SHIELD, YOKE SHAFT
79	16231	*12	BOLT, HEX FLNG 5/16 NC X .50 GR5
80	14139	*12	NUT, HEX FLNG LOCK 5/16 NC
81	1012609	1	PIN, HITCH Ø1.25 X 4.25
		*	STANDARD HARDWARE, OBTAIN LOCALLY

† SEE PAGE 59 FOR SPLITTER GEARBOX COMPONENTS.

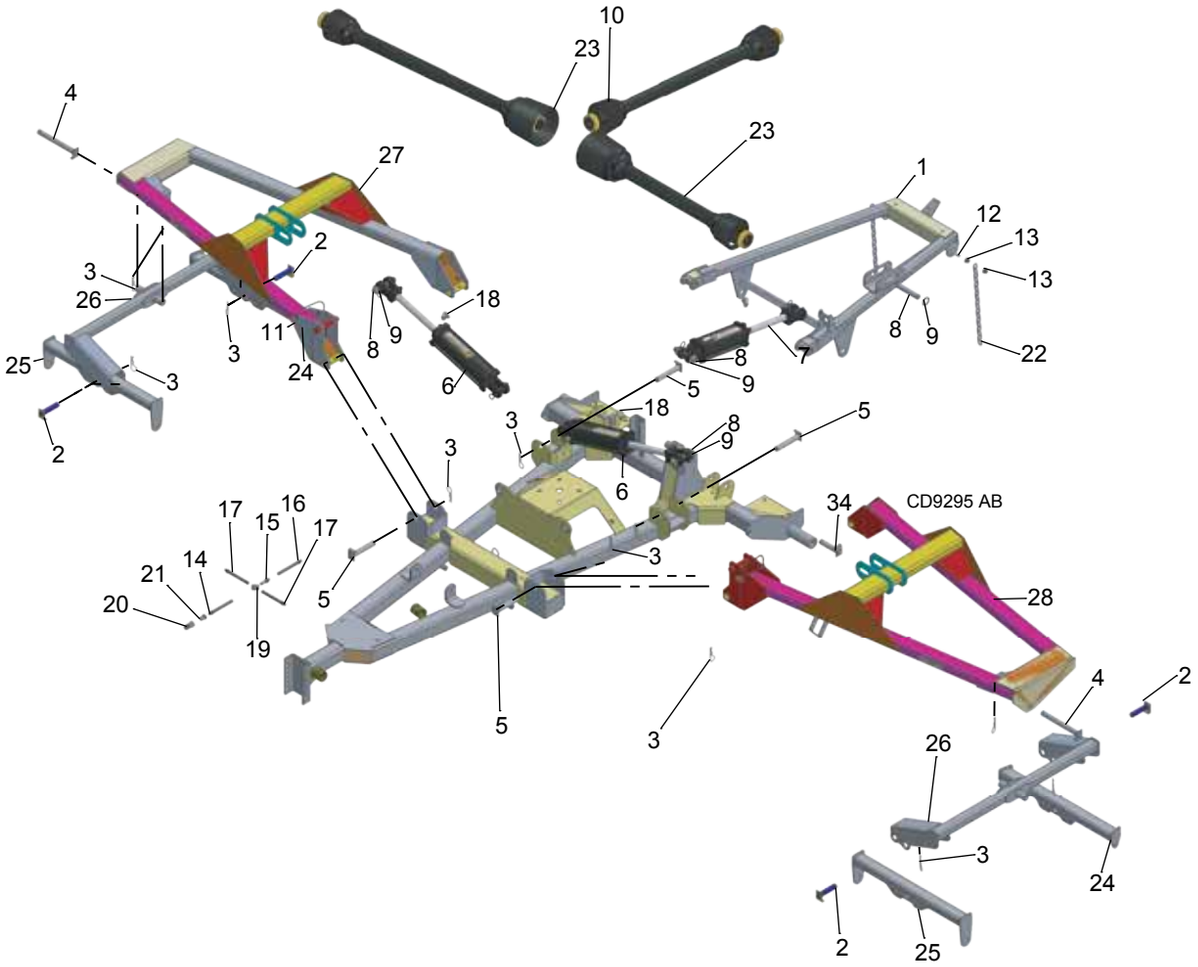
TBW12.40 WING FRAME



REF	PART	QTY	DESCRIPTION
1	1029495RP	2	WA, 48", 54" DECK LINK, WING
2	611532	2	WA, TBW12.40 DECK LIFT WING
3	611510	1	WA, WING FRAME TBW12.40 RIGHT
4	611490	1	WA, REAR WING FRAME
5	631410	1	WA, WING FRAME TBW12.40 LEFT
6	597269	2	CYLINDER, 3.0 X 1.25 X 10.0 NPT8
7	597267	1	CYLINDER, 3.0 X 1.25 X 8.0 NPT 8 AG
8	38001	4	WA WING HINGE PIN
9	18270	*8	3/16 SAFETY PIN
10	1029549	2	WA, PIN 1.00 X 9.09
11	1285	*4	1/4 X 1-1/2 COTTER PIN
12	W8348	2	PIN, HDLS 1.00 X 5.58
13	58984	2	WA, REAR WING PIN
14	613748	1	DRIVELINE, CMPL 35.3 X 52.0
15	631404	2	DRIVELINE, CMPL T4 19.6 X 30.6
16	8346	4	PIN HDLS 1.00 X 4.58

REF	PART	QTY	DESCRIPTION
17	1863	*8	WASHER, FLAT, 1 SAE ZP
18	1006404	1	HOSE .25 108 9/16 JICF 1/4 NPTM
19	W11893	1	ADAPTER 1/4 NPTF 1/2 NPTM
20	66511	1	CPLR MALE ISO 1/2 NPT
21	1006401	1	CROSS, 9/16 JICM X 1/4 NPTF
22	1006405	3	9/16JICF X 1/2 90 EL 3/32 RSTR
23	1006402	2	HOSE .25 33 9/16 JICF 9/16 JICM
24	1006403	1	HOSE .25 48 9/16 JICF 9/16 JICM
25	1006400	1	FTNG, BLKHD 9/16JICM X 1/4 NPTM
26	62789	*2	HHCS 1/2 NC X 2 GR5 FT
27	11900	*4	NUT LOCK 1/2 NC FLANGE
28	15849	2	CHAIN-1/4 PRF COIL 18 LINK
29	38264	2	ASY-LYNCH PIN, CHAIN & COTTER
		*	STANDARD HARDWARE, OBTAIN LOCALLY

TBW15.40, 17.40 WING FRAME

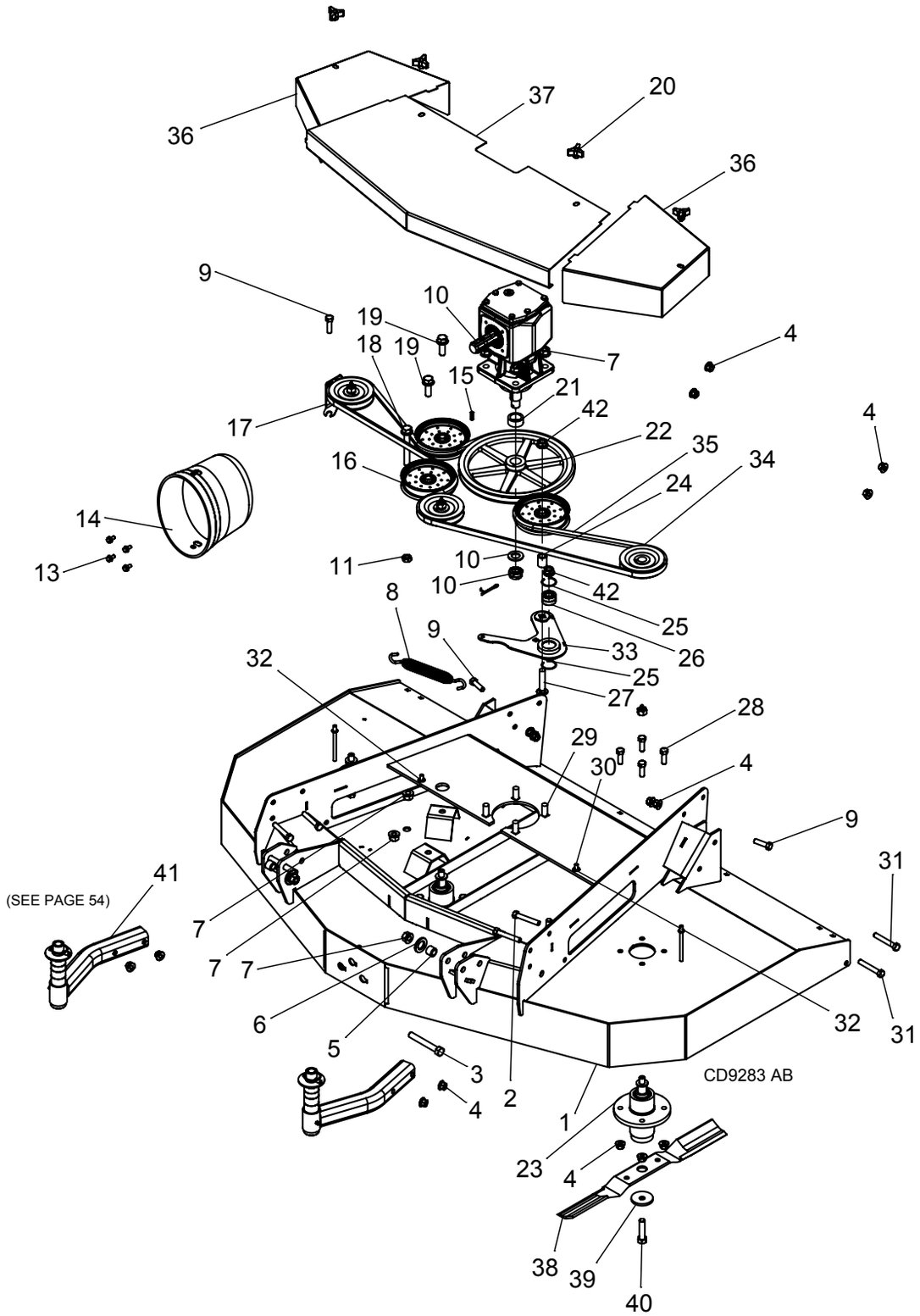


REF	PART	QTY	DESCRIPTION
1	611490RP	1	WA, REAR WING FRAME
2	58982	4	WA, DECK LINK/TRUNNION PIN
3	18270	*12	3/16 SAFETY PIN
4	58980	2	WA, WING/DECK LINK PIN
5	38001	4	WA WING HINGE PIN
6	597269	2	CYLINDER, 3.0 X 1.25 X 10.0 NPT8
7	597267	1	CYLINDER, 3.0 X 1.25 X 8.0 NPT 8 AG
8	8346	4	PIN HDLS 1.00 X 4.58
9	1863	*8	WASHER, FLAT, 1 SAE ZP
10	613748	1	DRIVELINE, CMPL 35.3 X 52.0
11	38264	2	ASY-LYNCH PIN, CHAIN & COTTER
12	62789	*2	HHCS 1/2 NC X 2 GR5 FT
13	11900	*4	NUT LOCK 1/2 NC FLANGE
14	1006404	1	HOSE .25 108 9/16 JICF 1/4 NPTM
15	1006400	1	FTNG, BLKHD 9/16JICM X 1/4 NPTM
16	1006403	1	HOSE .25 48 9/16 JICF 9/16 JICM
17	1006402	2	HOSE .25 33 9/16 JICF 9/16 JICM

REF	PART	QTY	DESCRIPTION
18	1006405	3	9/16JICF X 1/2 90 EL 3/32 RSTR
19	1006401	1	CROSS, 9/16 JICM X 1/4 NPTF
20	66511	1	CPLR MALE ISO 1/2 NPT
21	W11893	1	ADAPTER 1/4 NPTF 1/2 NPTM
22	15849	2	CHAIN-1/4 PRF COIL 18 LINK
23	SEE PAGE 61 & 62	2	DRV ASY CMPL 40, 28.3 X 46.4
23		2	DRV ASY CMPL 40, 25.6 X 40.9
24	628816RP	2	WA, REAR TRUNNION 28.4 IN TBW17.40
24	629794RP	2	WA, REAR TRUNNION TBW15.40
25	611535RP	2	WA, FRONT TRUNNION 27.7 TBW15.40, 17.40
26	628833RP	2	WA, DECK LINK TBW17.40
26	629796RP	2	WA, DECK LINK TBW15.40
27	632214RP	1	WA, TBW17.40 WING FRAME RH
27	632216RP	1	WA, TBW15.40 WING FRAME RH
28	632215RP	1	WA, TBW17.40 WING FRAME LH
28	632217RP	1	WA, TBW15.40 WING FRAME LH
34	58984	2	WA, REAR WING PIN

* STANDARD HARDWARE, OBTAIN LOCALLY

REAR DECK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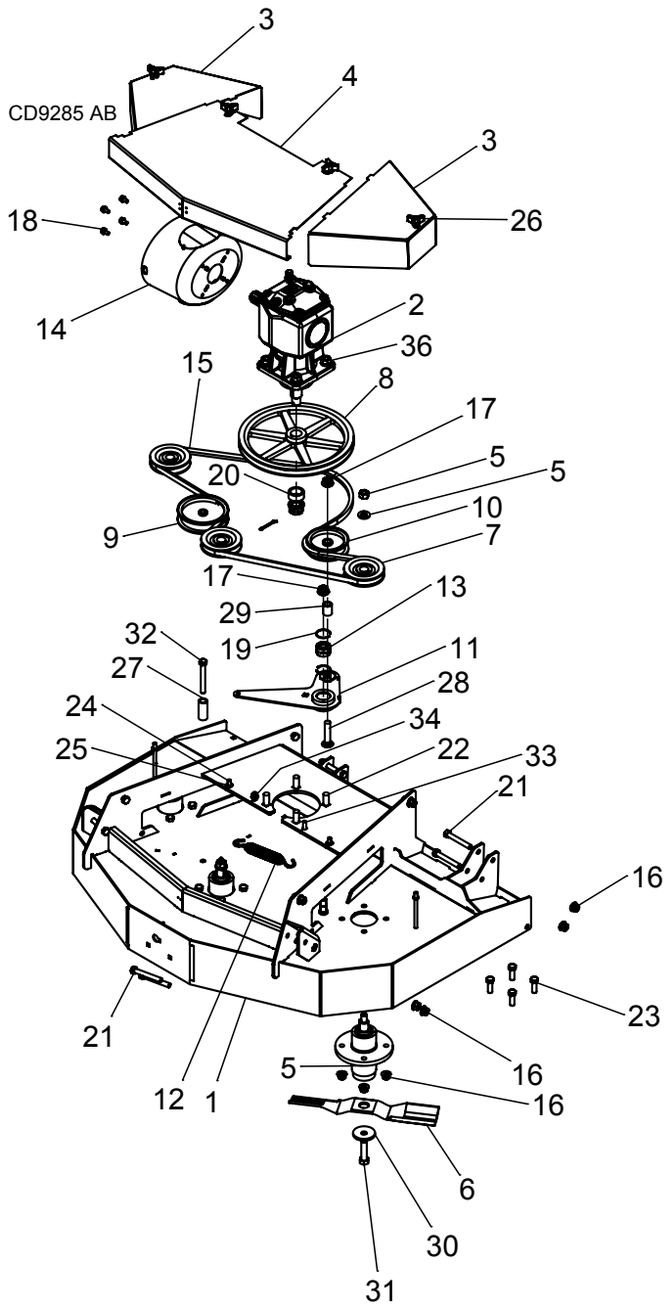
REAR DECK

REF	PART	QTY	DESCRIPTION
1	616150TRRP	1	WA, REAR DECK TBW15.40, TBW17.40
1	616170TRRP	1	WA, REAR DECK TBW12.40
2	3489	*4	HHCS 1/2 NC X 3 GR5 ZP
3	3097	*2	HHCS 5/8 NC X 4-1/2 GR5 ZP
4	11900	*24	NUT LOCK 1/2 NC FLANGE
5	12313	2	.625 X 1.00 X .789 HT SLV
6	1863	*4	WASHER, FLAT, 1 SAE ZP
7	609225	*8	NUT, HFN 5/8 NC, LOCK GR G .69" HT
8	1042375	1	SPRING, .177X1.22X9.88 CAP HOOK
9	24576	*3	HHCS 1/2 NC X 1-3/4 GR5 ZP
10	631405RP	1	GEARBOX, CW 1:1.92 OIL
11	1598	*1	NUT JAM 5/8 NC ZP
13	1041071	*4	BOLT, HEX FLNG M8 X16 CL8.8, DRI-LOC
14	1002048	1	CLUTCH SHIELD 100&143 MM BC
15	6593	*1	1/4 X 1/4 X 1 KEY
16	64555	3	IDLER FLAT
17	613775RP	1	BELT GUIDE
18	578454	*1	SCREW, HFS 5/8 NC X 4.50 GR5
19	19024	*2	BOLT, HEX FLNG 5/8 NC X 1.75 GR5
20	66840	4	KNOB 3 PRONG 3/8NC
21	1008113	1	SLV 1.25 X 1.75 X .75
22	616065	2	SHEAVE, 12.65 PD X 1.25, B
23	616100	1	SPINDLE, BALL BEARING ASY
24	66661	1	SLV .626 X 1.00 X 1.26
25	35141	2	RETAINING RING - INT.
26	35193	2	BRG-6203
27	20419	*1	BOLT CRG 5/8 NC X 3 GR5 ZP
28	3379	*11	BOLT, HEX 1/2 NC X 1.50 GR5
29	33034	*4	BOLT CRG 5/8 NC X 1-3/4 GR5 ZP
30	6697	*2	BOLT CRG 3/8 NC X 1 GR5 ZP
31	14069	*4	HHCS 1/2 NC X 3-1/4
32	1028375	*2	NUT, 3/8 PUSH-ON BOLT RETAINR
33	652658	1	KIT, IDLER ARM TBW15.40 TBW17.40 6' DECK W BRG SNP RNG
33	652657	1	KIT, IDLER ARM TBW12.40 5' DECK W BRG SNP RNG
34	616064	3	SHEAVE, 4.75 PD X 1.00, B, TBW15.40, 17.40 6' DECK
34	616067	3	SHEAVE, 4.00 PD X 1.00, B, TBW12.40 5' DECK
35	616092	1	V-BELT, W116 ARAMID, TBW15.40, 17.40 6' DECK
35	616093	1	V-BELT, W95 ARAMID, TBW12.40 5' DECK
36	616169RP	2	SHIELD SIDE BELT TBW15.40, 17.40 6' DECK
36	613766RP	1	SHIELD SIDE BELT TBW12.40 5' DECK
37	616168RP	1	SHIELD CENTER BELT TBW15.40, 17.40 6' DECK
37	613763RP	1	SHIELD CENTER BELT TBW12.40 5' DECK
38	616082	3	BLADE, CW 25.00 HIGH SUCTION TBW15.40, 17.40
38	616080	3	BLADE, CW 21.00 HIGH SUCTION TBW12.40
39	53584	3	WSHR .64 X 2.47 X .25 BELL
40	78142	3	HHCS 5/8NF X 2-1/2 GR5 ZP
41	629829RP	*2	WA, TUBE FRONT REAR DECK
42	19025	*2	NUT, 5/8" HFN NC, LOCK GR F .56" HT

* STANDARD HARDWARE, OBTAIN LOCALLY

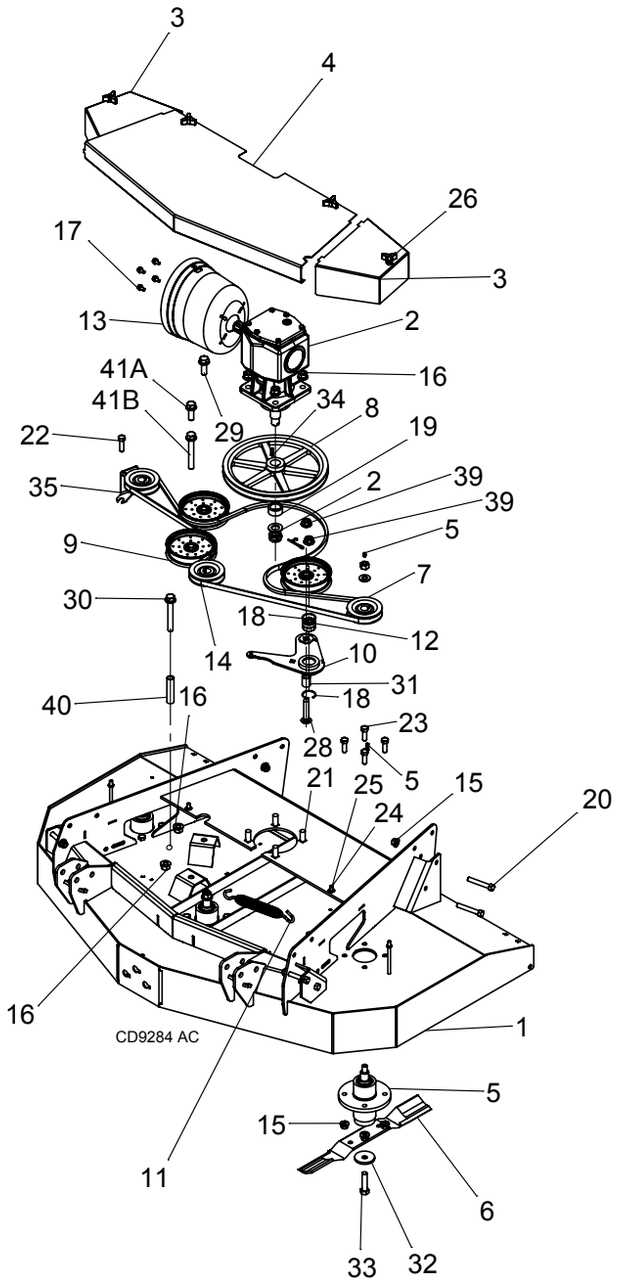
TBW12.40 WING DECK



REF	PART	QTY	DESCRIPTION
1	611491TRP	1	WA, DECK TBW12.40 WING LEFT
	610440TRP	1	WA, DECK TBW12.40 WING RIGHT
2	610446RP	1	GEARBOX, CW 1:2.5, OIL 30 HP
3	629804RP	2	SHIELD, SIDE BELT TBW12.40 4' DECK
4	629812RP	1	SHIELD, CENTER BELT TBW12.40 4' DECK
5	616100	3	SPINDLE, BALL BEARING ASY
6	610250	3	BLADE, CW 17.00 HIGH SUCTION
7	616068	3	SHEAVE, 4.20 PD X 1.00, B
8	616065	1	SHEAVE, 12.65 PD X 1.25, B
9	53595	1	SHV FLAT W/BRG 5.00 X .51
10	610447	1	IDLER, FLAT W/ BRG 4.00 X .635
11	652656	1	KIT, IDLER ARM TBW12.40 4' DECK W BRG SNP RNG
12	626189	1	SPRING, .166X1.125X7.876 CAP HOOK
13	35193	2	BRG-6203
14	1029547	1	CLUTCH SHIELD, 6.4 LENGTH
15	626206	1	V-BELT, W76 ARAMID
16	11900	*24	NUT LOCK 1/2 NC FLANGE
17	19025	*2	NUT, HFN 5/8 NC LOCK GR F .56" HT
18	1041071	*4	BOLT, HEX FLNG M8 X16 CL8.8, DRI-LOC
19	35141	2	RETAINING RING - INT.
20	610197	1	SLV 1.25 X 1.75 X .60
21	1637	*8	BOLT, HEX 1/2 NC X 3.50 GR5
22	33034	*4	BOLT CRG 5/8 NC X 1-3/4 GR5 ZP
23	3379	*12	BOLT, HEX 1/2 NC X 1.50 GR5
24	6697	*2	BOLT CRG 3/8 NC X 1 GR5 ZP
25	1028375	2	NUT, 3/8 PUSH-ON BOLT RETAINR
26	66840	4	KNOB 3 PRONG 3/8NC
27	616097	1	SLEEVE, .65 X 1.00 X 2.34
28	20419	*1	BOLT CRG 5/8 NC X 3 GR5 ZP
29	66661	1	SLV .626 X 1.00 X 1.26
30	53584	3	WSHR .64 X 2.47 X .25 BELL
31	78142	3	HHCS 5/8NF X 2-1/2 GR5 ZP
32	10380	*1	HHCS 1/2 NC X 4 GR5 ZP
33	20973	*2	BOLT CRG 3/8 NC X 1-1/4 GR5
34	14350	*2	NUT, HEX FLNG LOCK 3/8 NC
36	609225	*4	NUT, HFN 5/8 NC LOCK GR G .69" HT
		*	STANDARD HARDWARE, OBTAIN LOCALLY

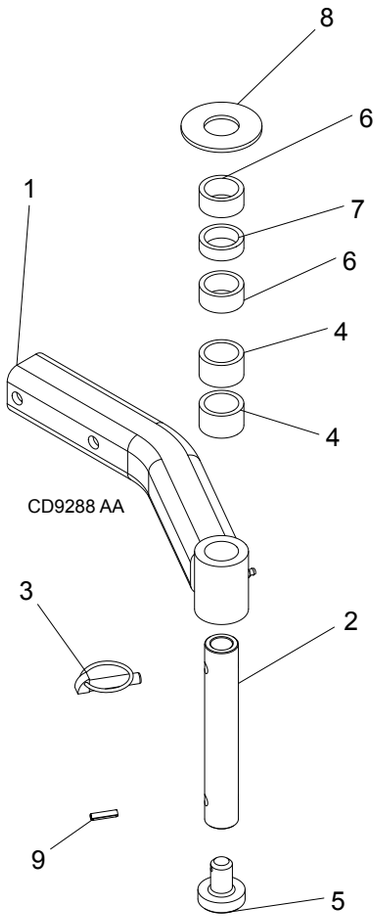
TBW15.40, TBW17.40 WING DECKS

REF	PART	QTY	DESCRIPTION
1	616170TRP	1	WA, 5' WING DECK TBW15.40
1	616150TRP	1	WA, 6' WING DECK TBW17.40
2	631405RP	1	GEARBOX, CW 1:1.92 OIL
3	613766RP	2	SHIELD, SIDE BELT TBW15.40 5' DECK
3	616169RP	2	SHIELD, SIDE BELT TBW17.40 6' DECK
4	613763RP	1	SHIELD, CENTER BELT TBW15.40 5' DECK
4	616168RP	1	SHIELD, CENTER BELT TBW17.40 6' DECK
5	616100	3	SPINDLE, BALL BEARING ASY
6	616080	3	BLADE, CW 21.00 HIGH SUCTION 5' DECK
6	616082	3	BLADE, CW 25.00 HIGH SUCTION 6' DECK
7	616067	3	SHEAVE, 4.00 PD X 1.00, B TBW15.40
7	616064	3	SHEAVE, 4.75 PD X 1.00 B, TBW17.40
8	616065	1	SHEAVE, 12.65 PD X 1.25, B
9	64555	3	IDLER FLAT
10	652657	1	KIT, IDLER ARM TBW15.40 5' DECK W BRG SNP RNG
10	652658	1	KIT, IDLER ARM TBW15.40 6' DECK W BRG SNP RNG
11	1042375	1	SPRING, .177X1.22X9.88 CAP HOOK
12	35193	2	BRG-6203
13	1002048	1	CLUTCH SHIELD 100&143 MM BC
14	616093	1	V-BELT, W95 ARAMID 5' DECK
14	616092	1	V-BELT, W116 ARAMID 6' DECK
15	11900	*17	NUT LOCK 1/2 NC FLANGE
16	609225	*6	NUT, HFN 5/8 NC, LOCK GR G .69" HT
17	1041071	*4	BOLT, HEX FLNG M8 X16 CL8.8, DRI-LOC
18	35141	2	RETAINING RING - INT.
19	1008113	1	SLV 1.25 X 1.75 X .75
20	14069	*8	HHCS 1/2 NC X 3-1/4
21	33034	*4	BOLT CRG 5/8 NC X 1-3/4 GR5 ZP
22	24576	*1	HHCS 1/2 NC X 1-3/4 GR5 ZP
23	3379	*11	BOLT, HEX 1/2 NC X 1.50 GR5
24	6697	*2	BOLT CRG 3/8 NC X 1 GR5 ZP
25	1028375	2	NUT, 3/8 PUSH-ON BOLT RETAINR
26	66840	4	KNOB 3 PRONG 3/8NC
28	20419	*1	BOLT CRG 5/8 NC X 3 GR5 ZP
29	19024	*1	BOLT, HEX FLNG 5/8 NC X 1.75 GR5
30	578454	*1	SCREW, HFS 58/ NC X 4.50 GR8 (TBW17.40 ONLY)
31	66661	1	SLV .626 X 1.00 X 1.26
32	53584	3	WSHR .64 X 2.47 X .25 BELL
33	78142	3	HHCS 5/8NF X 2-1/2 GR5 ZP
34	6593	*1	1/4 X 1/4 X 1 KEY



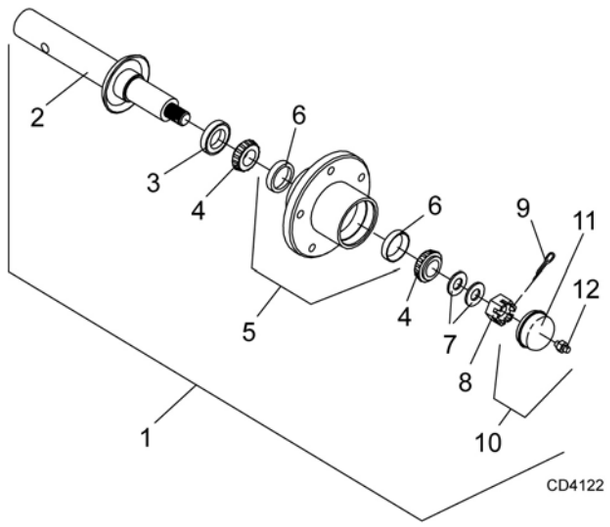
REF	PART	QTY	DESCRIPTION
35	613775RP	1	BELT GUIDE
39	19025	*2	NUT, HFN 5/8 NC, LOCK GR F .56" HT
40	654186	1	SLV .64 X .875 X 3.62 (TBW17.40 ONLY)
41A	19025	*1	BOLT, HEX FLNG 5/8 NC X 1.75 GR5 SN10009931103001 AND UP
41B	578454	*1	SCREW HFS 5/8 NC X 4.50 GR5 SN10009931103000 AND BELOW
		*	STANDARD HARDWARE, OBTAIN LOCALLY

HEIGHT ADJUSTMENT POST



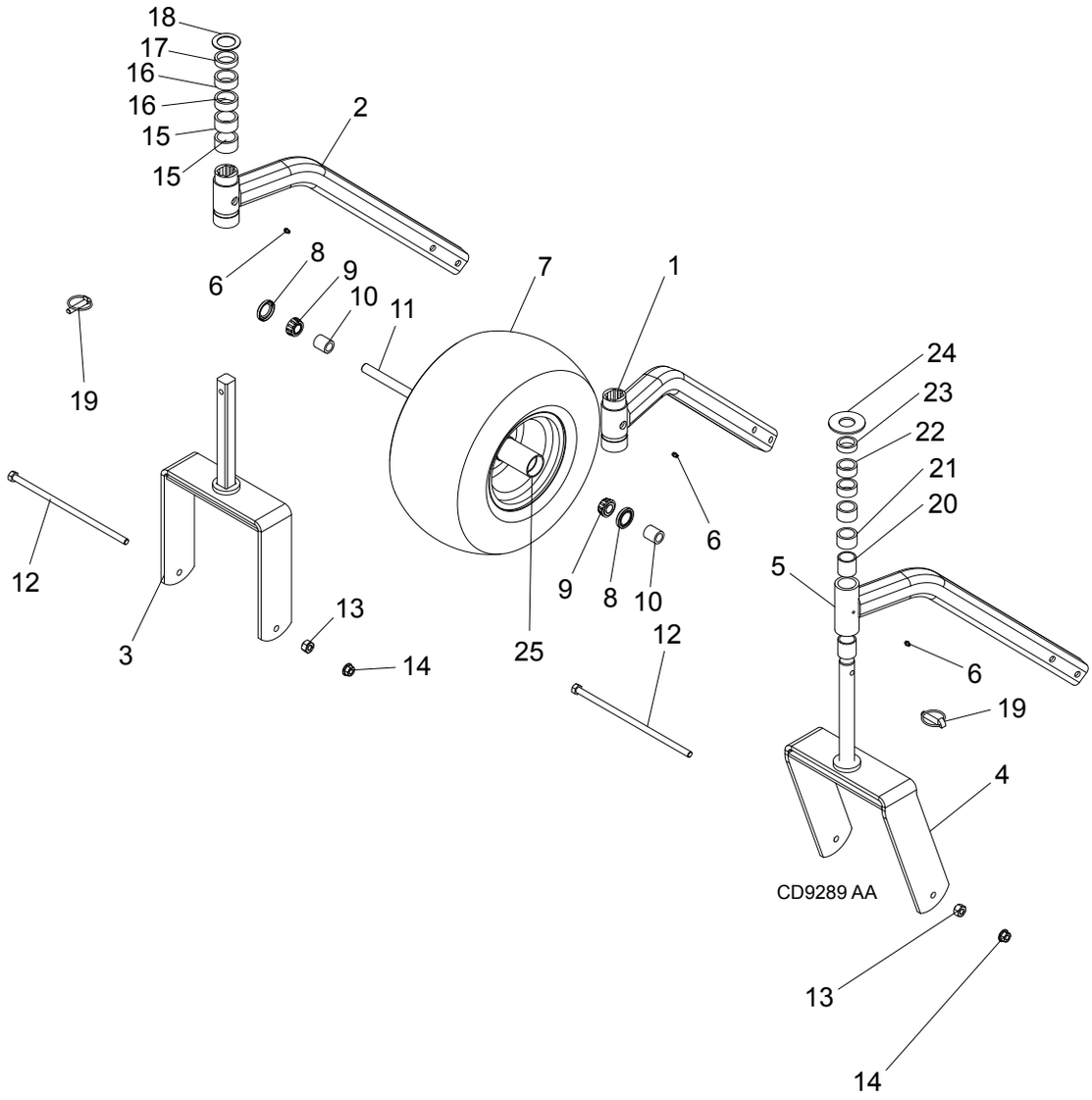
REF	PART	QTY	DESCRIPTION
1	629829RP	1	WA, TUBE FRONT REAR DECK
2	58998	1	SLV, DR .81 X 1.25 X 8.00
3	27542	1	7/16 X 11/32 KLIK PIN HT
4	52855	2	PIPE, 1-1/4 SCDL 80 X 1.00
5	58999	1	WEAR PAD
6	52854	2	PIPE, 1-1/4 SCDL 80 X .75
7	52853	1	PIPE, 1-1/4 SCDL 80 X .50
8	7163	*1	WSHR 1-1/4 STD FLAT
9	15134	1	PIN SPIROL .25 X 1.00
		*	STANDARD HARDWARE, OBTAIN LOCALLY

HUB & AXLE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	1001020RP	1	WHEEL HUB & AXLE ASSEMBLY
2	1001021RP	1	AXLE SHAFT
3	314	1	SEAL, 1.50 X 2.44 X .31
4	2303	2	BEARING, CONE
5	38437	1	WHEEL HUB, HOUSING W/CUPS
6	1017036	2	BEARING, CUP
7	1257	*2	WASHER, FLAT 3/4 STANDARD
8	5849	1	NUT, SLOTTED HEX 3/4 NF
9	1256	*1	PIN, COTTER 3/16 X 1
10	14133	1	HUB CAP, ASSEMBLY W/FITTING
11	531	1	HUB CAP
12	6270	*1	GREASE FITTING, 1/4 TAPERED THREAD
		*	STANDARD HARDWARE, OBTAIN LOCALLY

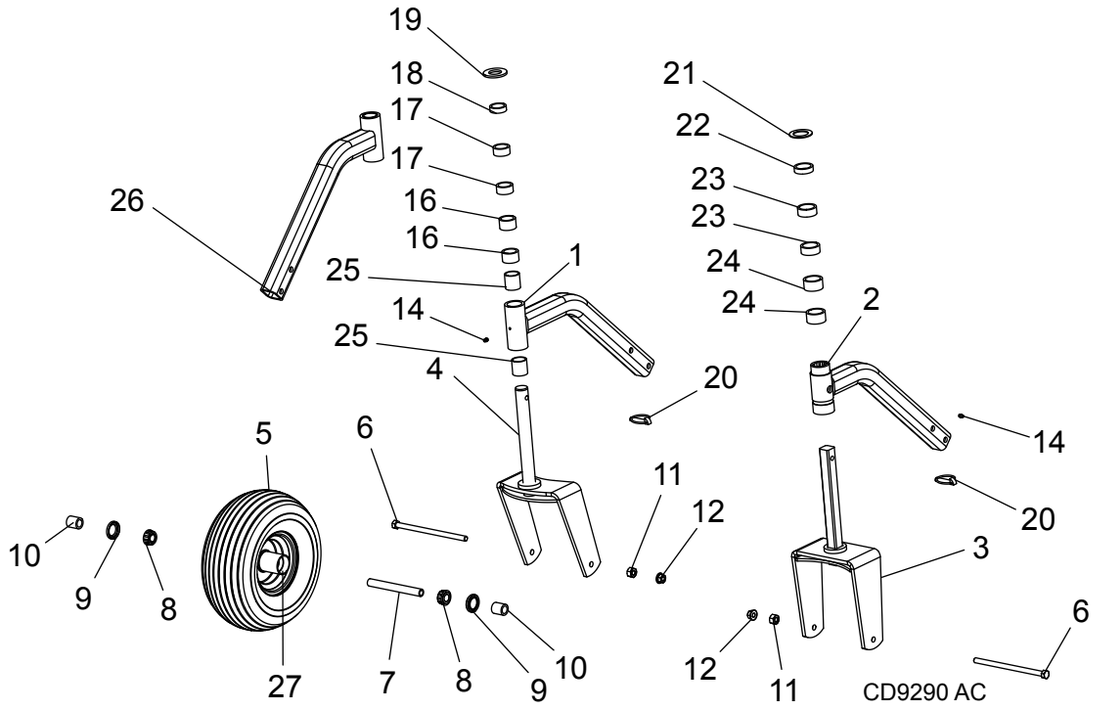
18" CASTER ARM & WHEEL ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	628823RP	2	WA, CASTER ARM NON ROT LH 18" TIRE
2	628824RP	2	WA, CASTER ARM NON ROT RH 18" TIRE
3	628821RP	4	WA, CASTER YOKE 9.8X18 NON ROT
4	611494RP	6	CLEVIS, 11 X 18
5	628819RP	6	WA, CASTER ARM18" TIRE
6	12296	*5	1/4 28 STRT G FTG 15/32L
7	WP1031703G	3	TIRE 18 X 9.50 X 8 GRAY
8	5624	6	SEAL 1.125 X 1.78 X .47
9	2304	6	BRG-CONE LM11949
10	14318	6	SLV 3/4 X 1-1/8 X 1-1/4 HT
11	1031773	3	SLV, HT .525 X .750 X 10.65
12	1031793	*3	HHCS 1/2NC X 13 GR5 YD
13	1093	*3	NUT HEX 1/2 NC PLTD
14	11900	*3	NUT LOCK 1/2 NC FLANGE
15	58987	4	PIPE, 1-1/2 SCDL 80 X .1.00 ZP
16	58986	4	PIPE, 1-1/2 SCDL 80 X .75 ZP
17	58985	2	PIPE, 1-1/2 SCDL 80 X .50 ZP
18	6237	2	WSHR 1-1/2 X 2-1/4X 13GA FLAT
19	27542	3	7/16 X 11/32 KLIK PIN HT
20	31780	2	BUSHING 1-1/4 X 1-1/2 X1-1/2BR
21	52855	2	PIPE, 1-1/4 SCDL 80 X 1.00
22	52854	2	PIPE, 1-1/4 SCDL 80 X .75
23	52853	1	PIPE, 1-1/4 SCDL 80 X .50
24	7163	*1	WSHR 1-1/4 STD FLAT
25	2306	20	BRG - CUP LM11910
		*	STANDARD HARDWARE, OBTAIN LOCALLY

15" CASTER ARM & WHEEL ASSEMBLIES

ROTATING CASTER NON-ROTATING CASTER



REF	PART	QTY	DESCRIPTION
1	629810RP	2	WA, CASTER ARM 15" REAR DECK
2	632561RP	4	WA, CASTER ARM 15" NONROTATE
3	611507RP	4	WA, CASTER YOKE 15" NONROTATE
4	58958RP	6	WA, CASTER YOKE 15" ROTATE
5	WP38267G	10	WHEEL, 15.00 X 6.00 X 6 GRAY
6	38107	*10	HHCS 1/2 NC X 9 GR5
7	38111	10	SLV, HT .525 X .750 X 6.75
8	6839	20	BRG-CONE LM11949
9	5624	20	SEAL 1.125 X 1.78 X .47
10	14318	20	SLV 3/4 X 1-1/8 X 1-1/4 HT
11	1093	*10	NUT, HEAVY HEX 1/2 NC PLTD
12	11900	*10	NUT LOCK 1/2 NC FLANGE
14	12296	*10	1/4 28 STRT G FTG 15/32L

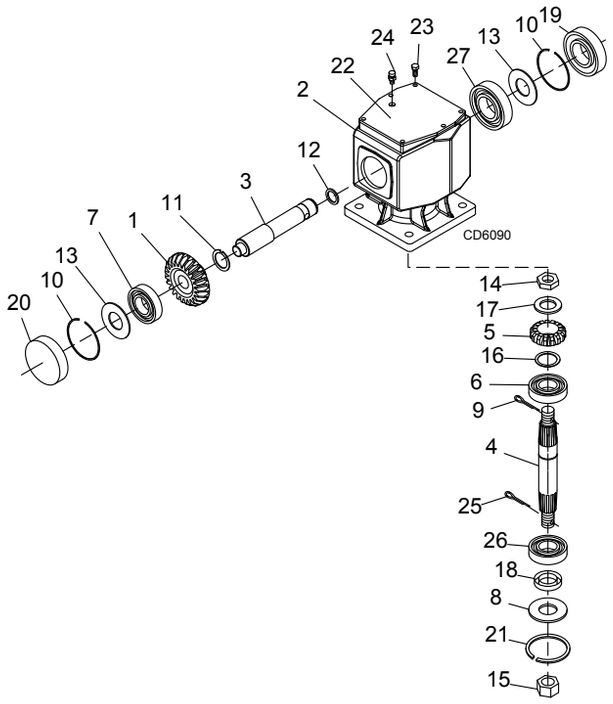
REF	PART	QTY	DESCRIPTION
16	52855	12	PIPE, 1-1/4 SCDL 80 X 1.00
17	52854	12	PIPE, 1-1/4 SCDL 80 X .75
18	52853	6	PIPE, 1-1/4 SCDL 80 X .50
19	23609	6	WSHR, 1-1/4 X 2-3/8 X 3/16 FLAT
20	27542	10	7/16 X 11/32 KLIK PIN HT
21	6237	4	WSHR 1-1/2 X 2-1/4X 13GA FLAT
22	58985	4	PIPE, 1-1/2 SCDL 80 X .50 ZP
23	58986	8	PIPE, 1-1/2 SCDL 80 X .75 ZP
24	58987	8	PIPE, 1-1/2 SCDL 80 X .1.00 ZP
25	31780	12	BUSHING 1-1/4 X 1-1/2 X1-1/2BR
26	629807RP	4	WA, CASTER ARM 15" TIRE FRONT
27	2306	20	BRG - CUP LM11910

* STANDARD HARDWARE, OBTAIN LOCALLY

TBW15.40, 17.40 WING GEARBOX / REAR DECK GEARBOX

FOR S/N 10009298686000 AND BELOW

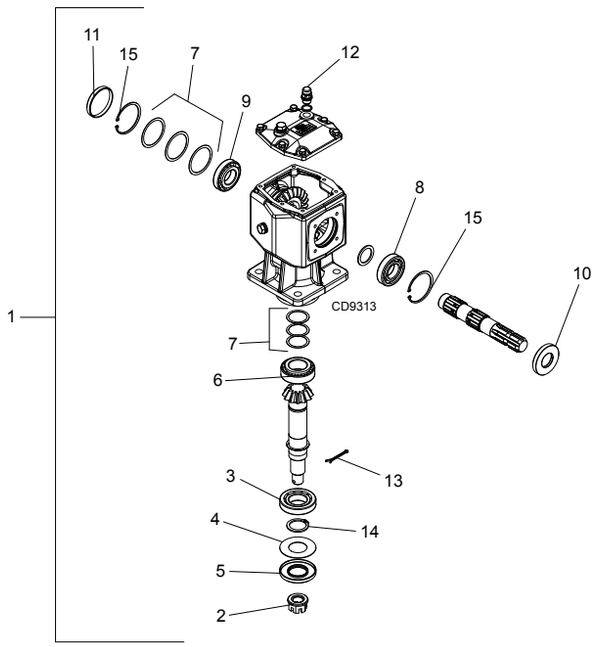
REF	PART	QTY	DESCRIPTION
A	614201RP	1	GEARBOX, REPAIR ASSEMBLY
1	NS	1	GEAR CROWN Z25 M5.3
2	NS	1	GEARBOX HOUSING
3	1005320	1	SHAFT, INPUT 1-3/8 -6
4	1005321	1	SHAFT, OUTPUT 1-1/4
5	57491	1	PINION GEAR Z13 M5.3
6	57476	1	BEARING
7	57462	1	BEARING
8	20888	1	WASHER, PROTECTIVE FLAT
9	*	1	PIN, COTTER B4 X 50
10	57466	2	SNAP RING 72 X 75 X 2.5MM
11	W20895	1	SNAP RING 1.75 X 40 EXTERNAL
12	57373	1	SPACER 35.5 X 48 X 2.5
13	57328	2	KIT, SHIM 60.3 X 71.6
14	57468	1	NUT, CASTLE
15	51946	1	NUT, CASTLE M24 X 2
16	57328	1	KIT, SHIM 30.3 X 44
17	57473	1	WASHER, FLAT
18	20900	1	SEAL, OIL 40 X 80 X 12
19	57463	1	SEAL, OIL 35 X 72 X 10
20	57374	1	CAP
21	20897	1	SNAP RING
22	57375	1	COVER, TOP
23	*	6	BOLT 8MM X 14MM
24	57076	1	PLUG, BREATHER 1/2
25	*	1	PIN, COTTER 5 X 50
26	57478	1	BEARING
27	20890	1	BALL BEARING



REF	PART	QTY	DESCRIPTION
		NS	NOT SERVICED
		*	STANDARD HARDWARE - OBTAIN LOCALLY

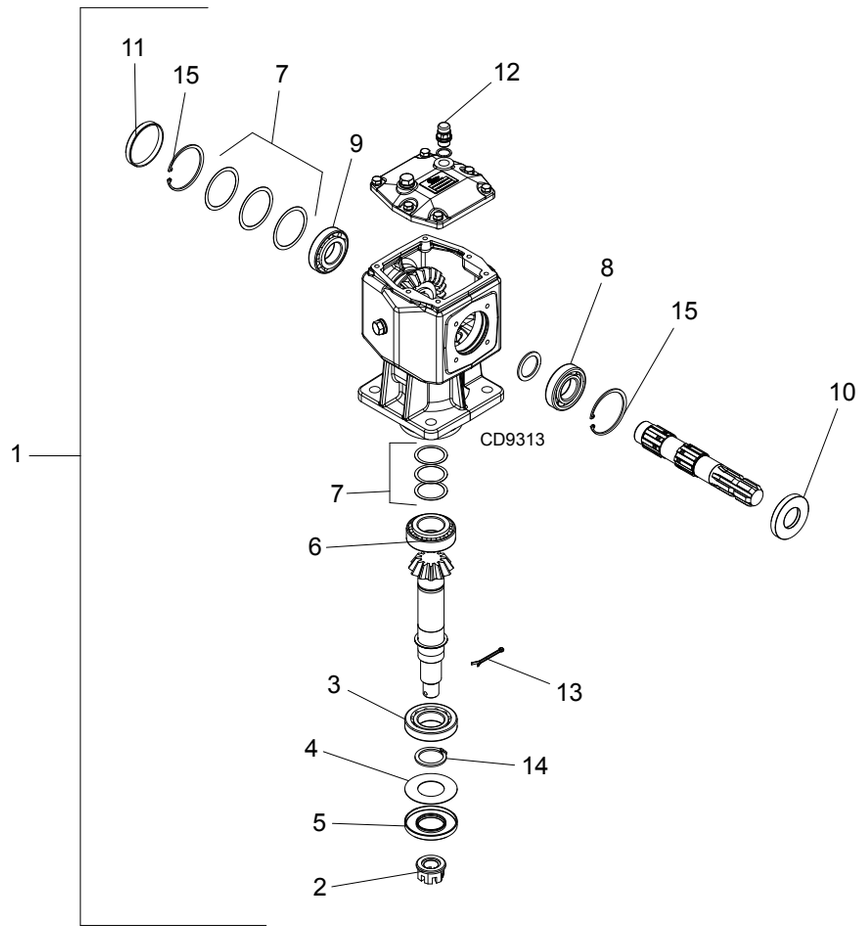
TBW12.40 WING GEARBOX

REF	PART	QTY	DESCRIPTION
1	610446RP	1	GEARBOX, COMPLETE
2	618208	1	NUT, M24 X 2 HEX
3	58817	1	BEARING ASY ISO 30208
4	637506	1	SEAL PROTECTOR
5	637507	1	Ø40 X Ø80 X 10 OIL SEAL
6	637508	1	33108 TAPERED ROLLER BEARING
7	637512	1	KIT, SHIMS
8	1018325	1	BALL BEARING 207
9	637518	1	302207 TAPERED BEARING
10	57463	1	Ø35 X Ø72 X 10 OIL SEAL
11	57374	1	Ø72 X 10 SEALING PLUG
12	637521	1	VENT PLUG M18X 1.5
13	*	1	COTTER PIN .15 X 2
14	*	1	RING, RETAINING 40 X 2.5
15	*	1	RING, RETAINING Ø72
	*		STANDARD HARDWARE - OBTAIN LOCALLY



TBW15.40, 17.40 WING GEARBOX/REAR DECK GEARBOX

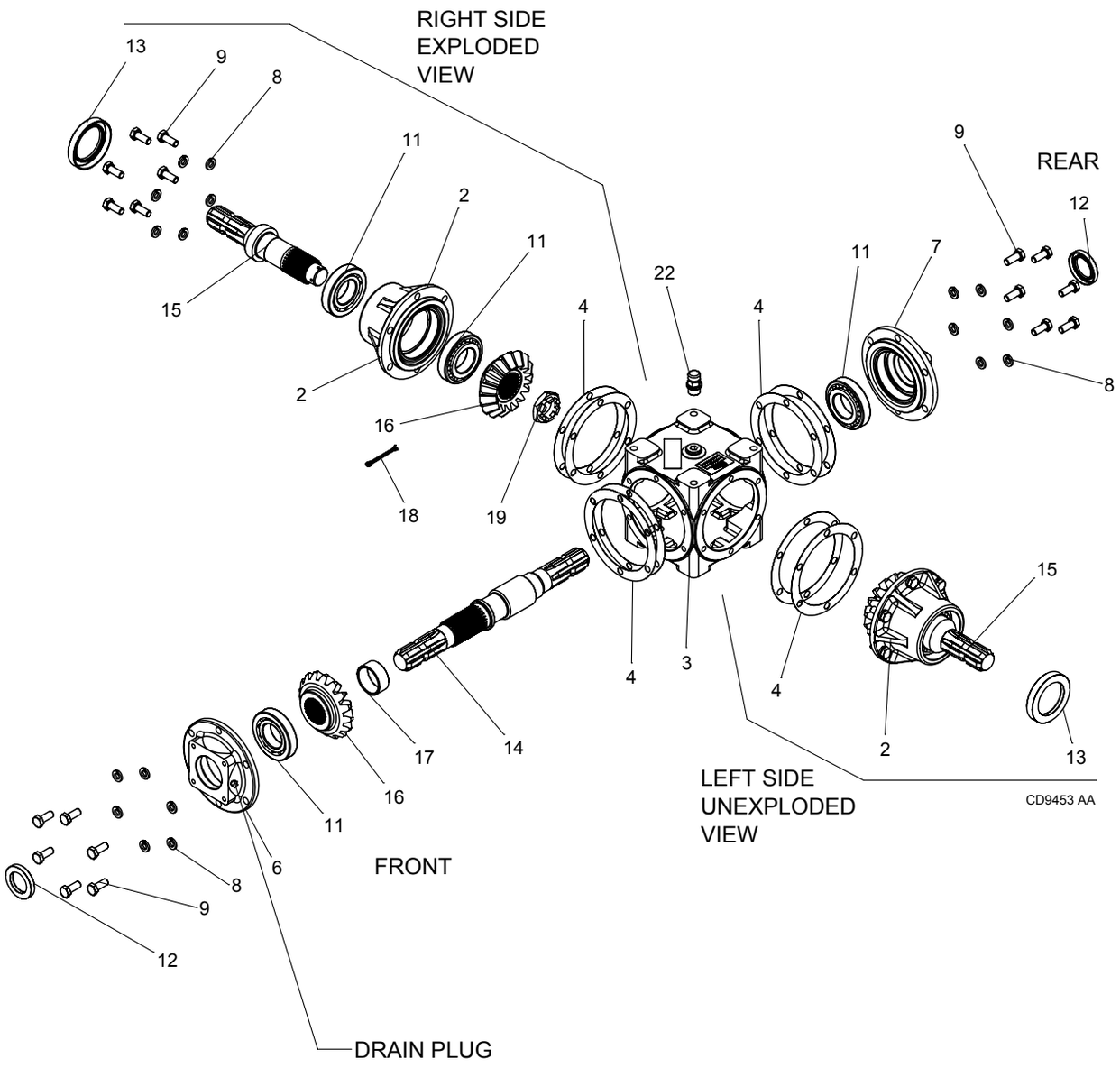
S/N 10009298686001 AND UP



REF	PART	QTY	DESCRIPTION
1	631405	1	GEARBOX COMPLETE
2	618208	1	NUT, M24 X 2 HEX
3	58817	1	BEARING ASY ISO 30208
4	637506	1	SEAL PROTECTOR
5	637507	1	Ø40X Ø80 X 10 OIL SEAL
6	57476	1	30306 TAPERED BEARING
7	637512	1	SHIM KIT
8	1018325	1	BALL BEARING 207
9	637518	1	302207 TAPERED BEARING
10	57463	1	Ø35 X Ø75 X 10 SEAL
11	57374	1	Ø72 X 10 SEALING PLUG
12	614309	1	VENT PLUG M18 X 1.5
13	*	1	COTTER PIN .15 X
14	*	1	RING RETAINGING 40 X 2.5
15	*	1	RING RETAINING Ø72

* STANDARD HARDWARE - OBTAIN LOCALLY

SPLITTER GEARBOX

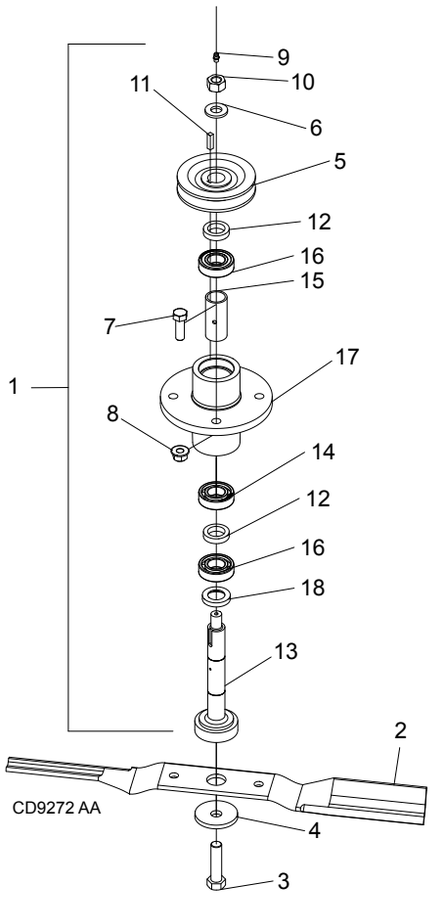


REF	PART	QTY	DESCRIPTION
1	625961RP	1	COMPLETE GEARBOX
2	-----	2	HUB, END
3	-----	1	HOUSING
4	645191	1	KIT, GASKET
6	-----	1	HUB, FRONT
7	-----	1	HUB, REAR
8	-----	24	WASHER, LOCK M10
9	-----	24	HHCS, M10 X 1.5 X 25
11	58817	6	BEARING, CUP & CONE
12	58815	2	SEAL, THRU SHAFT
13	58816	2	SEAL, WING SHAFT

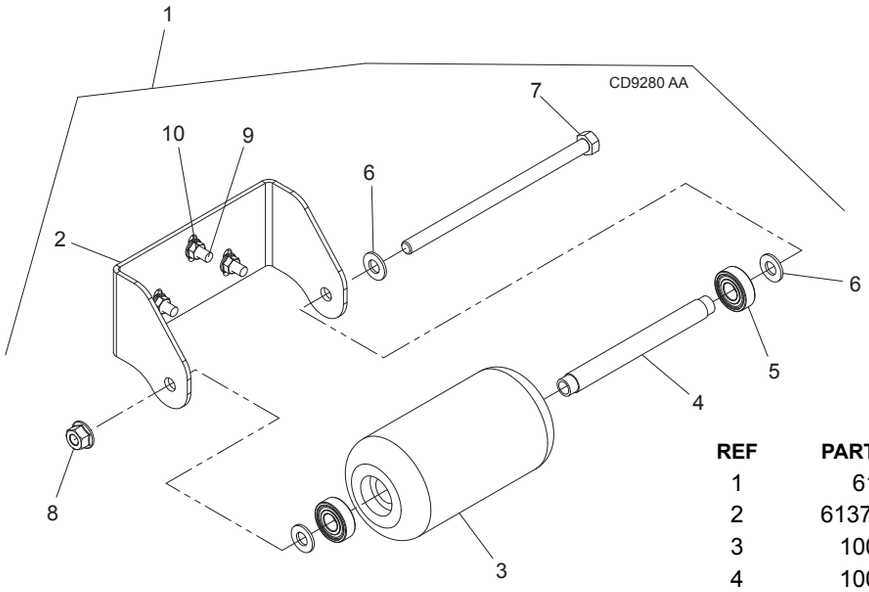
REF	PART	QTY	DESCRIPTION
14	-----	1	SHAFT, THRU
15	-----	2	SHAFT, END
16	-----	3	GEAR
17	-----	1	SPACER
18	-----	2	PIN, COTTER 4 X 50
19	-----	2	NUT, CASTLE
22	1011780	1	PLUG, VENT
		*	STANDARD HARDWARE - OBTAIN LOCALLY

BLADE & SPINDLE ASSEMBLY

REF	PART	TBW12.40	TBW15.40	TBW17.40	DESCRIPTION
1	616100	9	9	9	SPINDLE, BALL BEARING ASY (ITEMS #5, 7, 8 NOT INCLUDED)
2	610250	6	-	-	BLADE, CW 17.00 HIGH SUCTION
2	616080	3	6	-	BLADE, CW 21.00 HIGH SUCTION
2	616082	-	3	9	BLADE, CW 25.00 HIGH SUCTION
2	613782	3	6	-	BLADE, CW 21.00 LOW SUCTION
2	613783	-	3	9	BLADE, CW 25.00 LOW SUCTION
3	78142	9	9	9	HHCS 5/8NF X 2-1/2 GR5 ZP
4	53584	9	9	9	WSHR .64 X 2.47 X .25 BELL
5	616068	6	-	-	SHEAVE, 4.20 PD X 1.00, B
5	616067	3	6	-	SHEAVE, 4.00 PD X 1.00, B
5	616064	-	3	9	SHEAVE, 4.75 PD X 1.00, B
6	57817	9	9	9	WSHR 5/8 SAE FLAT HRDN
7	3379	*36	*36	*36	BOLT, HEX 1/2 NC X 1.50 GR5
8	11900	*36	*36	*36	NUT LOCK 1/2 NC FLANGE
9	1972	*9	*9	*9	GREASE ZERK, 1/4-28 TAPERED THD
10	302179	*9	*9	*9	NUT, HEX 5/8NC, TOP LOCK NUT
11	6593	*9	*9	*9	KEY, 1/4 X 1/4 X 1
12	613768RP	18	18	18	SLEEVE, 1.01 X 1.50 X .34
13	616101RP	9	9	9	SHAFT, SPINDLE 1.00 X 8.50
14	616103RP	9	9	9	BEARING, BALL 1 IN NO SEAL
15	616104RP	9	9	9	SLEEVE, 1.03 X 1.25 X 2.720
16	616105RP	18	18	18	BEARING, BALL 1 IN SEALED
17	616109RP	9	9	9	HOUSING, SPINDLE CAST
18	620885RP	9	9	9	SPACER, SPINDLE
				*	STANDARD HARDWARE, OBTAIN LOCALLY



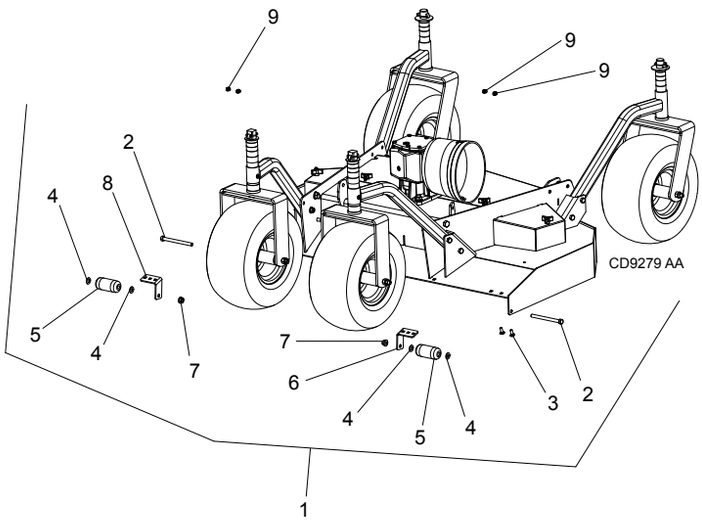
FRONT ROLLER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
1	616079	1	KIT, FRONT ANTISCALP ROLLER
2	613774RP	1	BRACKET, FRONT ROLLER
3	1006418	1	ROLLER 4 X 7.38
4	1006420	1	SPACER .75 X 7.27
5	35193	2	BRG-6203
6	3598	*3	WASHER, FLAT, 1/2 SAE ZP
7	38107	*1	HHCS 1/2 NC X 9 GR5
8	11900	*1	NUT LOCK 1/2 NC FLANGE
9	6697	*3	BOLT CRG 3/8 NC X 1 GR5 ZP
10	14350	*3	NUT, HEX FLNG LOCK 3/8 NC

* STANDARD HARDWARE, OBTAIN LOCALLY

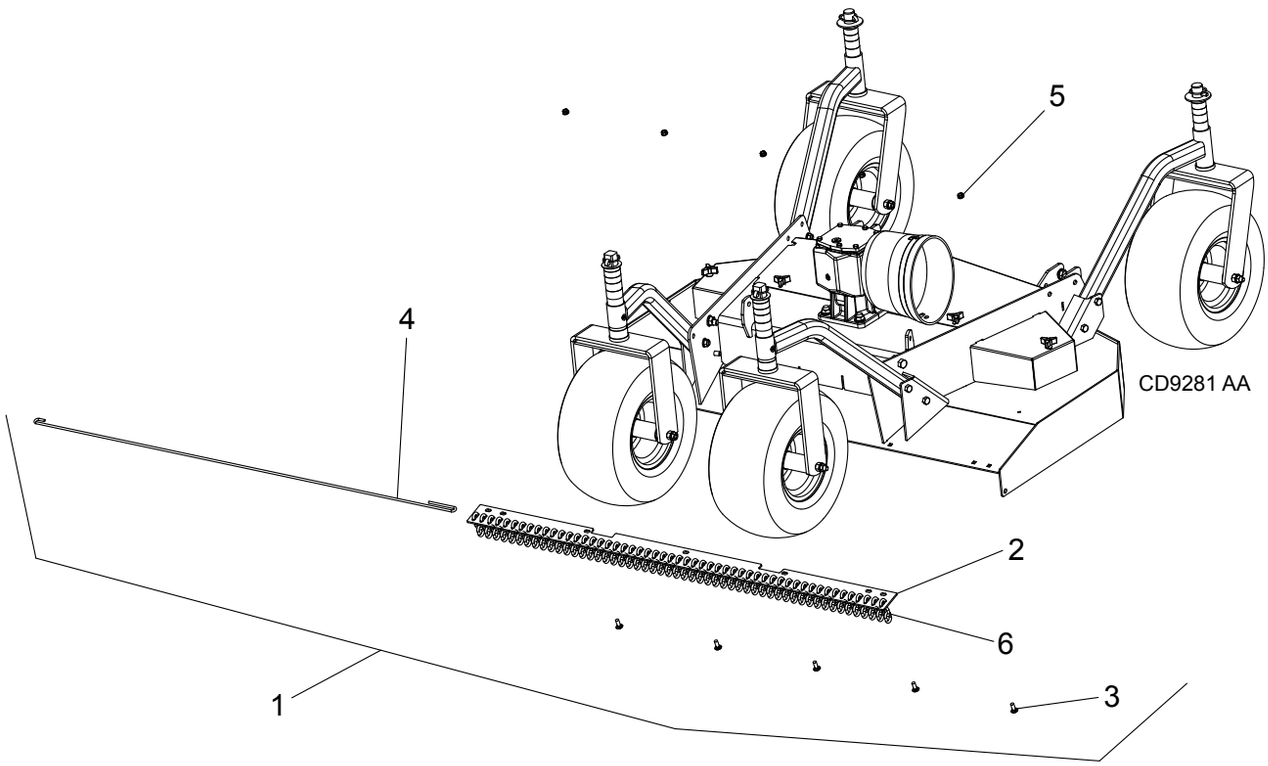
REAR ROLLER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
1	618210	1	KIT, REAR ROLLER
2	13563	*2	HHCS, 1/2 NC X 6 GR5
3	6697	*4	BOLT, CRG 3/8 NC X 1 GR5 ZP
4	3598	*4	WASHER, FLAT 1/2 SAE ZP
5	1029865	2	ROLLER, 2 X 4.38
6	603642RP	1	LUG, BENT ANTISCALP ROLLER RH
7	11900	*2	NUT, 1/2 FLANGE LOCK NUT
8	603643RP	1	LUG, BENT ANTISCALP ROLLER LH
9	14350	*4	NUT, 3/8 HEX FLANGE LOCK ZP

* STANDARD HARDWARE, OBTAIN LOCALLY

REAR CHAIN SHIELDING ASSEMBLY (OPTIONAL)

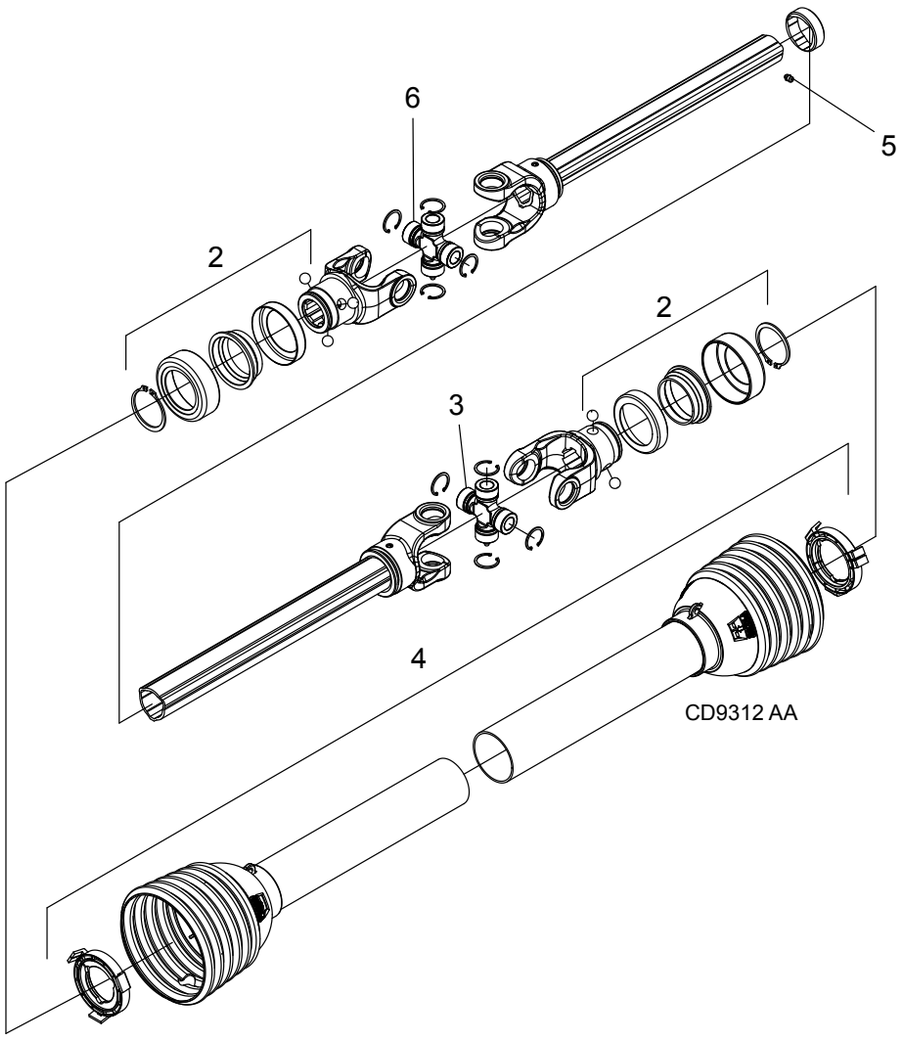


REF	PART	DESCRIPTION	TBW12.40 QTY	TBW15.40 QTY	TBW17.40 QTY
1	626442	KIT, CHAIN SHIELD 48"	2	-	-
1	616077	KIT, CHAIN SHIELD 60"	1	2	-
1	616076	KIT, CHAIN SHIELD 72"	-	1	3
2	6266443RP	PLATE, 48" CHAIN SHIELD	2	-	-
2	613771RP	PLATE, 60" CHAIN SHIELD	1	2	-
2	613772RP	PLATE, 72" CHAIN SHIELD	-	1	3
3	6697	3/8 NC X 1 CARRIAGE BOLT	*X	*X	*X
4	1007853	PIN, 31 TO 33 CHAINS	2	-	-
4	1007855	PIN, 49 TO 51 CHAINS	1	2	-
4	616096	PIN, 56 TO 58 CHAINS	-	1	3
5	14350	3/8 NC FLANGE LOCK NUT	*X	*X	*X
6	4763	3 LINK CHAIN 1/4 PROOF	X	X	X

X - USE AS NEEDED

* STANDARD HARDWARE, OBTAIN LOCALLY

TBW12.40 WING DECK DRIVE / REAR DECK DRIVE



TBW12.40 WING DECK DRIVE

REF	PART	QTY	DESCRIPTION
1	631404	1	COMPLETE DRIVELINE ASY
2	637544	1	LOCK COLLAR REPAIR KIT
3	1044052	1	CROSS & BEARING KIT
4	645173	1	COMPLETE SHIELD WITH BEARING
5	*	1	FITTING, GREASE ZERK NIPPLE M6 -1
6	636628	1	CROSS & BEARING KIT

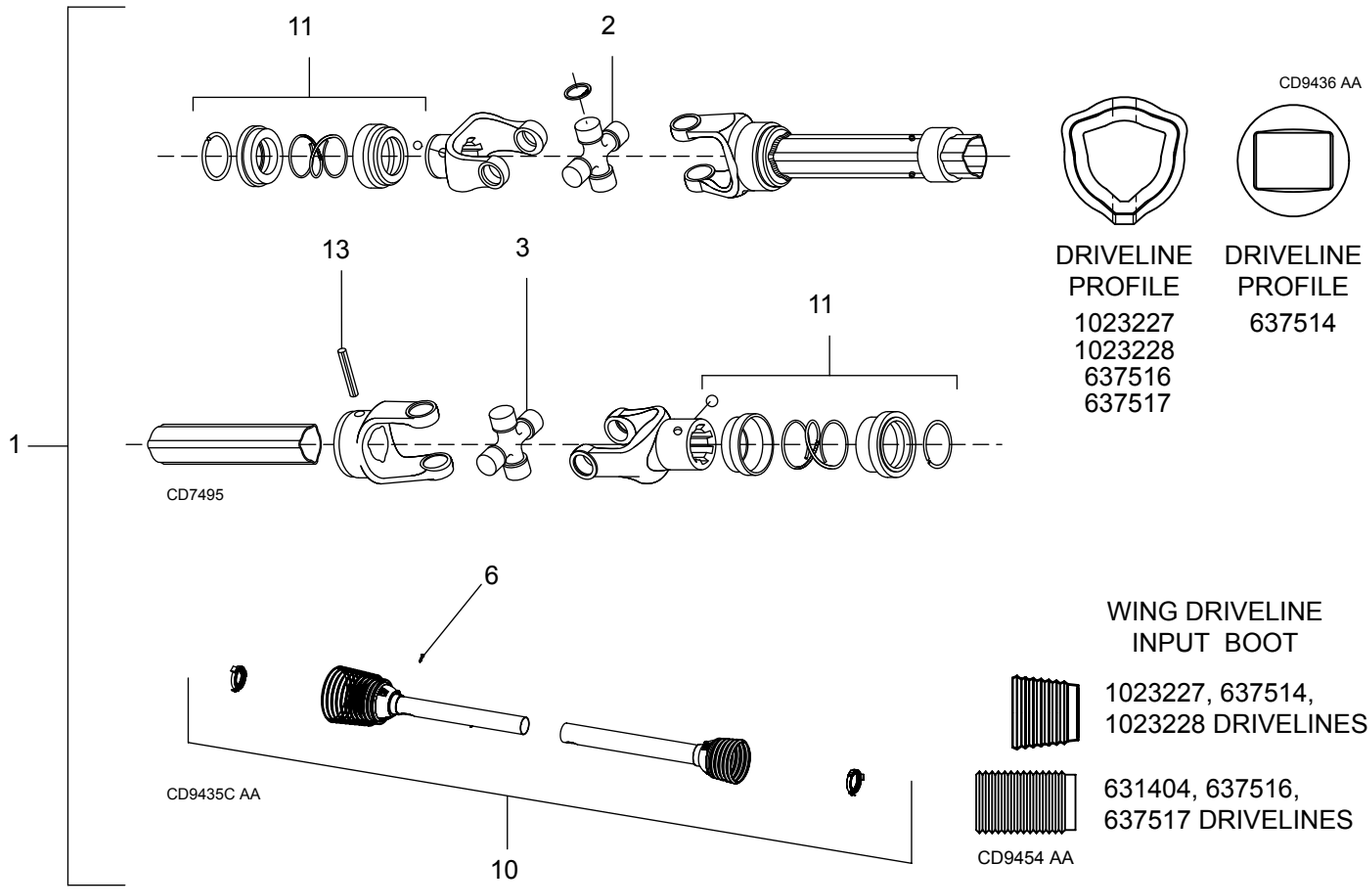
REAR DECK DRIVE

REF	PART	QTY	DESCRIPTION
1	613748	1	COMPLETE DRIVELINE ASY
2	1044050	1	LOCK COLLAR REPAIR KIT
3	1044052	1	CROSS & BEARING KIT
4	645172	1	COMPLETE SHIELD WITH BEARING
5	*	1	FITTING, GREASE ZERK NIPPLE M6 - 1
6	104052	1	CROSS & BEARING KIT

* STANDARD HARDWARE, OBTAIN LOCALLY

TBW15.40 & TBW17.40 WING DECK DRIVES

TBW15.40 SN 1000986765000 AND BELOW
TBW17.40 SN 10009835712000 AND BELOW



TBW15.40 WING DRIVE

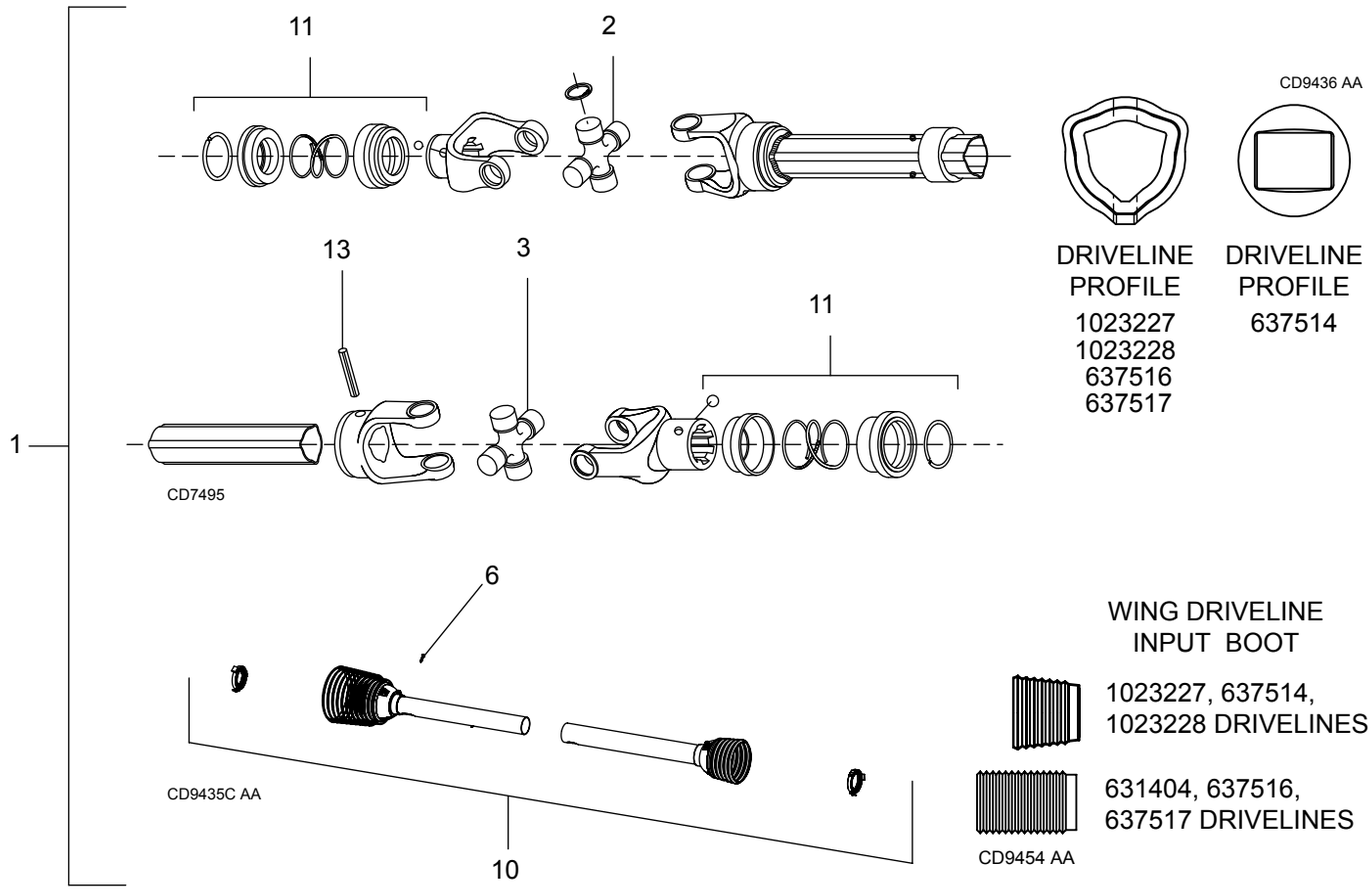
REF	PART	QTY	DESCRIPTION
1	1023227		Drive, Cmpl 40, 25.6 x 40.9
2	36990	1	U-Joint Repair Kit 50
3	38478	1	U-Joint Repair Kit 2300
6	30922	6	Protection fixing screw
10	1026998	1	Complete shield
11	1001340	2	Lock collar repair kit
13	1001305	1	Flexible pin

TBW17.40 WING DRIVE

REF	PART	QTY	DESCRIPTION
1	1023228		Drive, Cmpl 40, 28.3 x 46.4
2	36990	1	U-Joint Repair Kit 50
3	38478	1	U-Joint Repair Kit 2300
6	30922	6	Protection fixing screw
10	1026998	1	Complete shield
11	1001340	2	Lock collar repair kit
13	1001305	1	Flexible pin

TBW15.40 & TBW17.40 WING DECK DRIVES

TBW15.40 SN 1000986765001 AND UP
TBW17.40 SN 10009835712001 AND UP
TBW15.40 SN 10009867650001 - 1000986765026 (637514)



TBW15.40 WING DRIVE

REF	PART	QTY	DESCRIPTION
1	637516		Drive, Cmpl T4, 25.7 X 41.05
2	636628	1	U-Joint Repair Kit
3	1044052	1	U-Joint Repair Kit
6	40778	1	Screw, 3.5 X 9, 10 Pack
10	645173	1	Complete Shield
11	637544	2	Lock Collar Repair Kit
13	1001305	1	Flexible pin

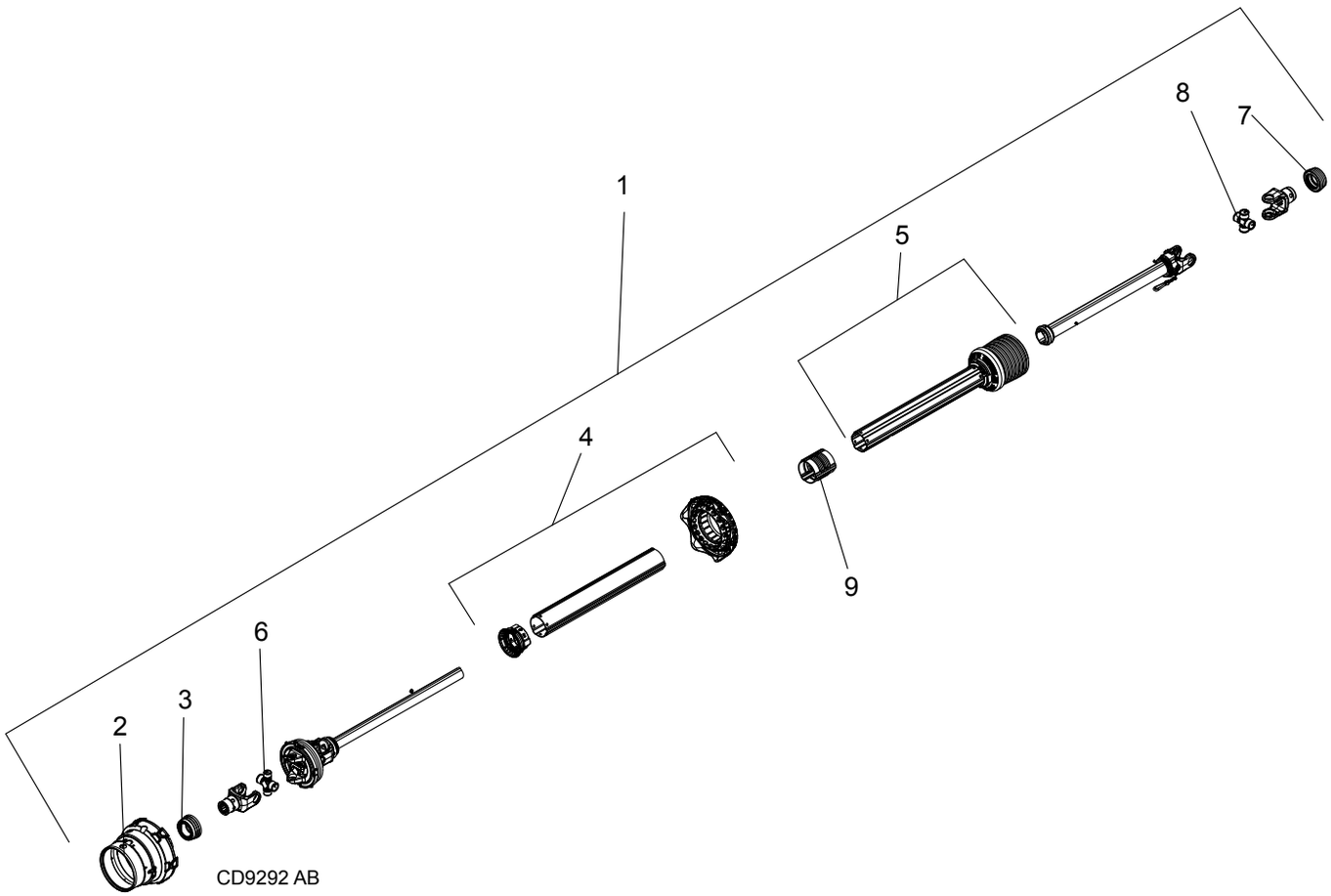
TBW17.40 WING DRIVE

REF	PART	QTY	DESCRIPTION
1	637517		Drv Asy Cmpl T4, 28.45 X 46.52
2	636628	1	U-Joint Repair Kit
3	1044052	1	U-Joint Repair Kit
6	40778	1	Screw, 3.5 X 9, 10 Pack
10	645173	1	Complete Shield
11	637544	2	Lock Collar Repair Kit
13	1001305	1	Flexible pin

TBW15.40 WING DRIVE

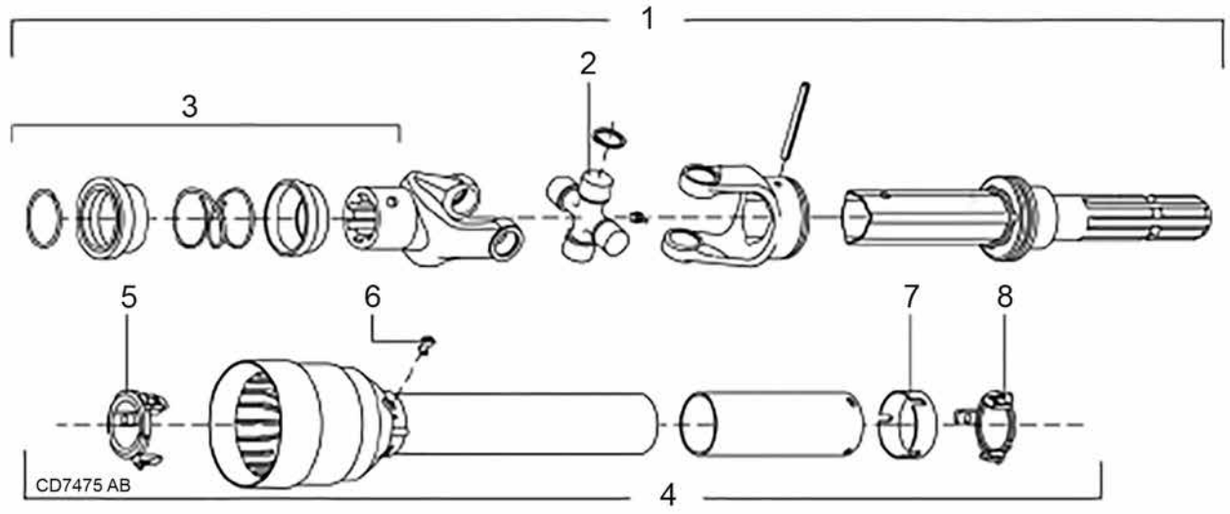
REF	PART	QTY	DESCRIPTION
1	637514		Drive, Complete 40, 25.6 x 41.05
2	W38352	1	U-Joint Repair Kit, Input
3	W38478	1	U-Joint Repair Kit
6	40778	1	Screw, 3.5 x 9, 10 Pack
10	652627	1	Kit, Guard Complete
11	40589	1	Kit, Lock Collar

CV DRIVELINE ASSEMBLY



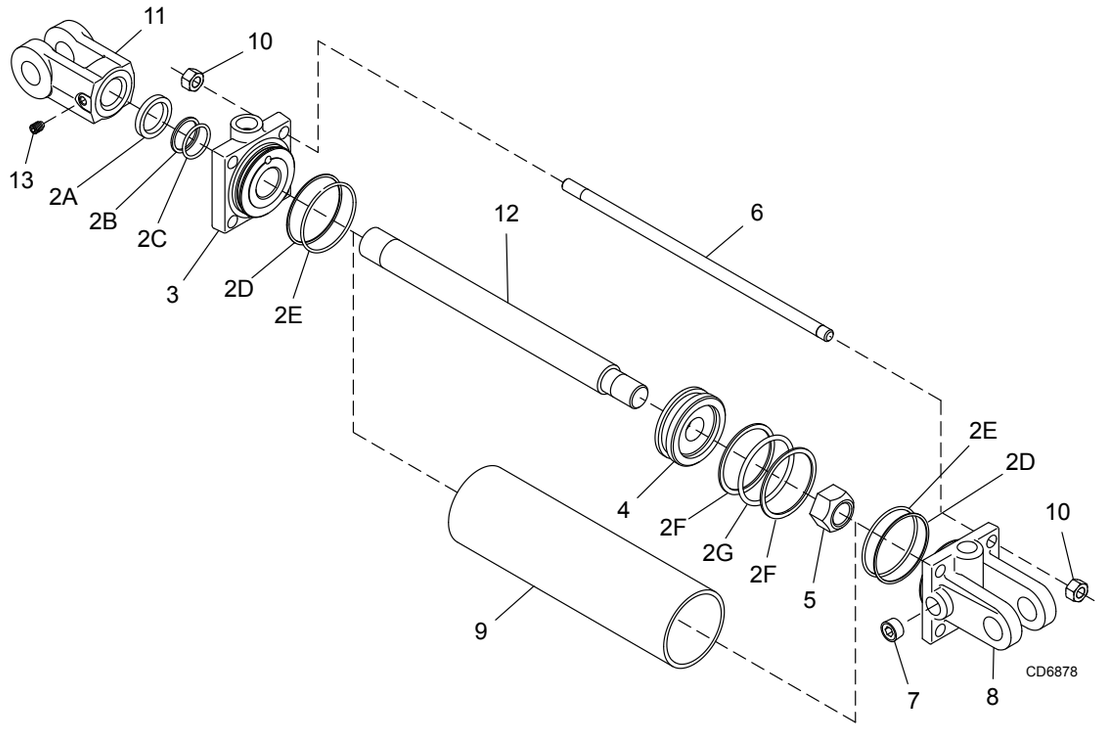
REF	PART	QTY	DESCRIPTION
1	1045590	1	COMPLETE CV DRIVELINE
2	1041689	1	CONE ASY, (INCLUDES SCREW 7 RING)
3	632554	1	LOCK, COUPLER FRONT
4	632891	1	GUARD, OUTER
5	632893	1	GUARD, INNER
6	1041684	1	U-JOINT & BEARING, FRONT
7	40589	1	LOCK, COUPLER REAR
8	1045581	1	U-JOINT & BEARING, REAR
9	632889	1	LUBE, SLOT

JACKSHAFT DRIVE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	44626		COMPLETE JACKSHAFT DRIVE ASSEMBLY WALTERSCHEID
2	1045581	1	U-JOINT REPAIR KIT
3	40589	1	LOCK COLLAR REPAIR KIT
4	44690	1	GUARD INCLUDES ITEMS 5, 6, 7, 8
5	NSS	1	OUTER BEARING RING
6	NSS	6	RETAINER, SHIELD
7	NSS	1	CENTERING RING
8	NSS	1	INNER BEARING RING
	NSS		NOT SERVICED SEPARATELY

HYDRAULIC CYLINDERS

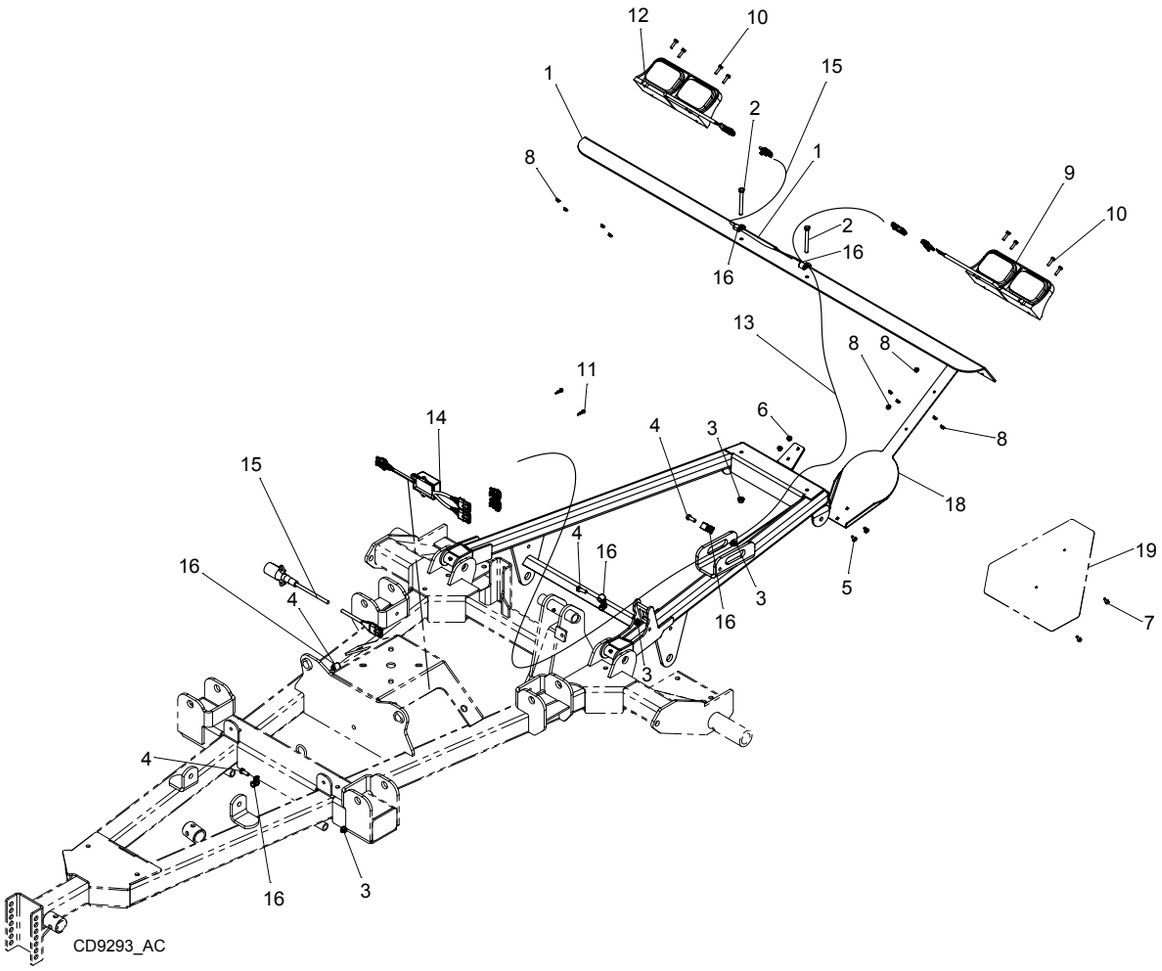


Note: The center deck uses a 3 x 8 cylinder.
Wing decks use a 3 x 10 cylinder. Verify cylinder size before ordering replacement parts.

REF	3 x 8 PART	3 x 10 PART	QTY	DESCRIPTION
1	597267	597269		COMPLETE CYLINDER
2	600251	600251	1	SEAL REPAIR KIT (INCLUDES ITEMS 2A - 2G
2A	†	†	1	WIPER SEAL
2B	†	†	1	ROD SEAL
2C	†	†	1	ROD O-RING
2D	†	†	2	CAP SEAL
2E	†	†	2	CAP O-RING
2F	†	†	2	PISTON SEAL
2G	†	†	1	PISTON O-RING
3	N/S	N/S	1	CYLINDER HOUSING - ROD END
4	N/S	N/S	1	PISTON
5	N/S	N/S	1	JAM NUT
6	N/S	N/S	4	CYLINDER TIE ROD
7	*	*	3	1/2 PIPE PLUG
8	N/S	N/S	1	CYLINDER HOUSING - BUTT END
9	N/S	N/S	2	CYLINDER BARREL
10	N/S	N/S	8	TIE ROD NUT
11	N/S	N/S	1	CYLINDER CLEVIS
12	N/S	N/S	1	CYLINDER ROD
13	*	*	1	SET SCREW 3/8 X 3/4 DOG POINT

† INCLUDED IN SEAL KIT
* STANDARD HARDWARE, OBTAIN LOCALLY
N/S NOT SERVICED

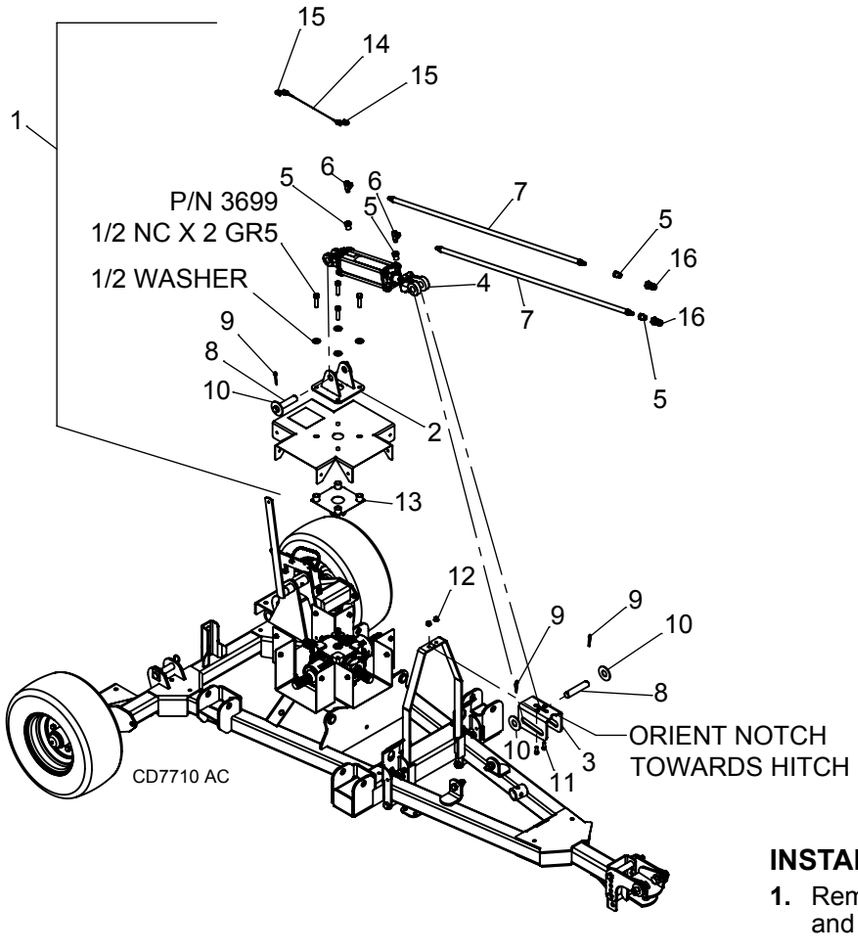
LIGHT KIT



REF	PART	QTY	DESCRIPTION
1	629806RP	1	LINK, BENT .179 X 6.61 X 71.57
2	24660	*2	HHCS 3/8 NC X 3-1/2 GR5 FT
3	14350	*4	NUT, HEX FLNG LOCK 3/8 NC
4	839	*4	HHCS 3/8 NC X 1 GR5 ZP
5	21937	*2	BOLT CRG 1/4 NC X 3/4
6	62521	*2	NUT LOCK 1/4 NC FLANGE
7	2457	*2	HHCS 1/4 NC X 3/4 GR5
8	W70065	*10	NUT, HEX FLNG 1/4 NC SRTD
9	1040275	1	LED AG COMBO LAMP LH
10	10378	*8	HHCS 1/4 NC X 1 GR5
11	630695	2	SCREW, SELF TAP #10 X 1"
12	1040276	1	LED AG COMBO LAMP RH
13	629808	2	HARNESS, WIRE 5 FT
14	1040277	1	MODULE, LIGHT
15	1036887	1	HARNESS, WIRE 7 PIN CONNECTOR
16	78059	8	CLAMP .50 DIA STEEL CUSHION
18	636640RP	1	BRACKET, TBW SMV AND SIS
19	24611	1	SMV SIGN

* STANDARD HARDWARE, OBTAIN LOCALLY

HYDRAULIC LATCH RELEASE KIT (OPTIONAL)



REF	PART	QTY	DESCRIPTION
1	1032454	1	TBW HYDRAULIC LATCH RELEASE KIT
2	1032479RP	1	RELEASE BASE
3	1032489RP	1	SLIDE CHANNEL
4	597267	1	CYLINDER, HYDRAULIC 3 X 8
5	11893	4	BUSHING, PIPE REDUCING 1/2NPTM X 1/4NPTF
6	10290	2	ELBOW, 90° 3/32 RSTR 1/4 X 1/4
7	17628	2	HOSE, HP 1/4 NPT X 108
8	8345	2	PIN, 1 X 4.08 HEADLESS
9	1285	*4	COTTER PIN, 1/4 X 1-1/2
10	832	*4	1" STANDARD FLAT WASHER
11	839	*2	HHCS 3/8 NC X 1 GR5
12	14350	*2	NUT, 3/8 NC FLANGE LOCK
13	636643	1	WA, SPACER ALIGNMENT
14	637526	1	CABLE ASY, 1/8 DIA SS 39.25 IN
15	38257	2	S HOOK .25 X 2.25
16	66511	2	COUPLER MAKE ISO 1/2 NPT
	HHCS		HEX HEAD CAP SCREW
		*	STANDARD HARDWARE OBTAIN LOCALLY,

INSTALLATION INSTRUCTION

1. Remove four 1/2 NC X 2 hex head cap screws and 1/2" flat washers from top of shield on trailer.
2. Remove top shield, side shields, hardware and sleeves.
3. Install spacer alignment (13) bending tabs to fit on gearbox.
4. Reinstall side and top shields with existing hardware.
5. Attach item 1 on top of shield using hardware previously removed.
6. Remove rope from wing release and rear lever.
7. Attach 14 & 15 to wing release and rear lever. Crimp S hooks.
8. Attach item 3 to wing release lever using items 11 & 12.
9. Attach base end of cylinder (4) to item 2 using items 8, 9 & 10, cylinder ports should be pointing upward.
10. Attach rod end of cylinder (4) to item 3 using items 8, 9 , & 10.
11. Install adapters (5), elbows (6), & hoses (7) to base of cylinder using thread sealant.
12. Attach adapters (5) and couplers (16) to end of hoses (7) using thread sealant.

BOLT TORQUE CHART

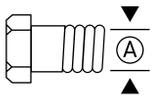
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

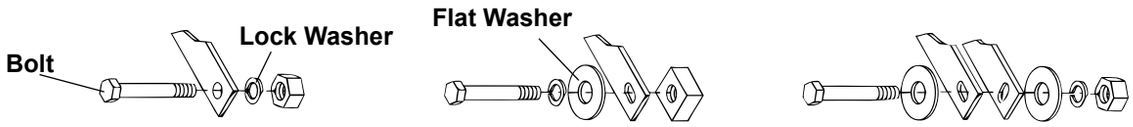
SAE Grade 2
(No Dashes)

SAE Grade 5
(3 Radial Dashes)

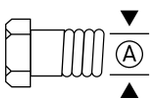
SAE Grade 8
(6 Radial Dashes)

Ⓐ 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

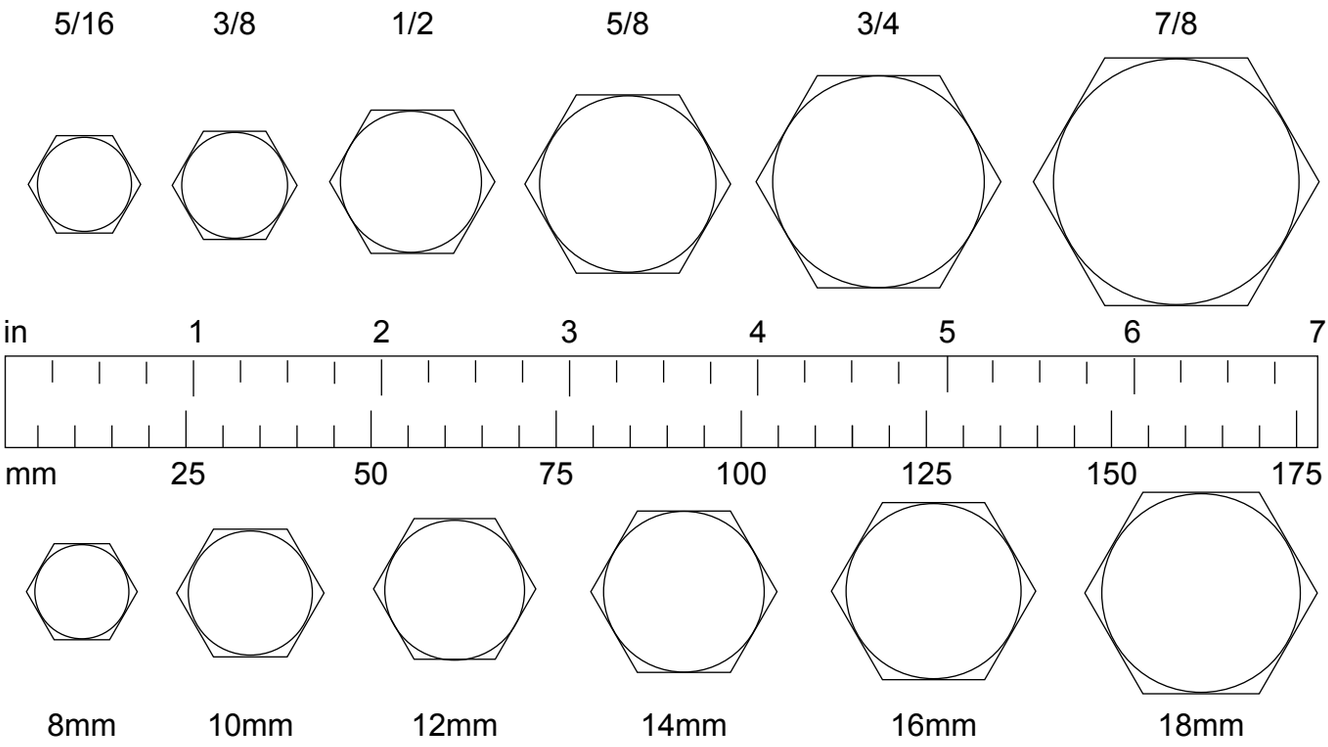
Metric
Grade 10.9

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

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WOODS®

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

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