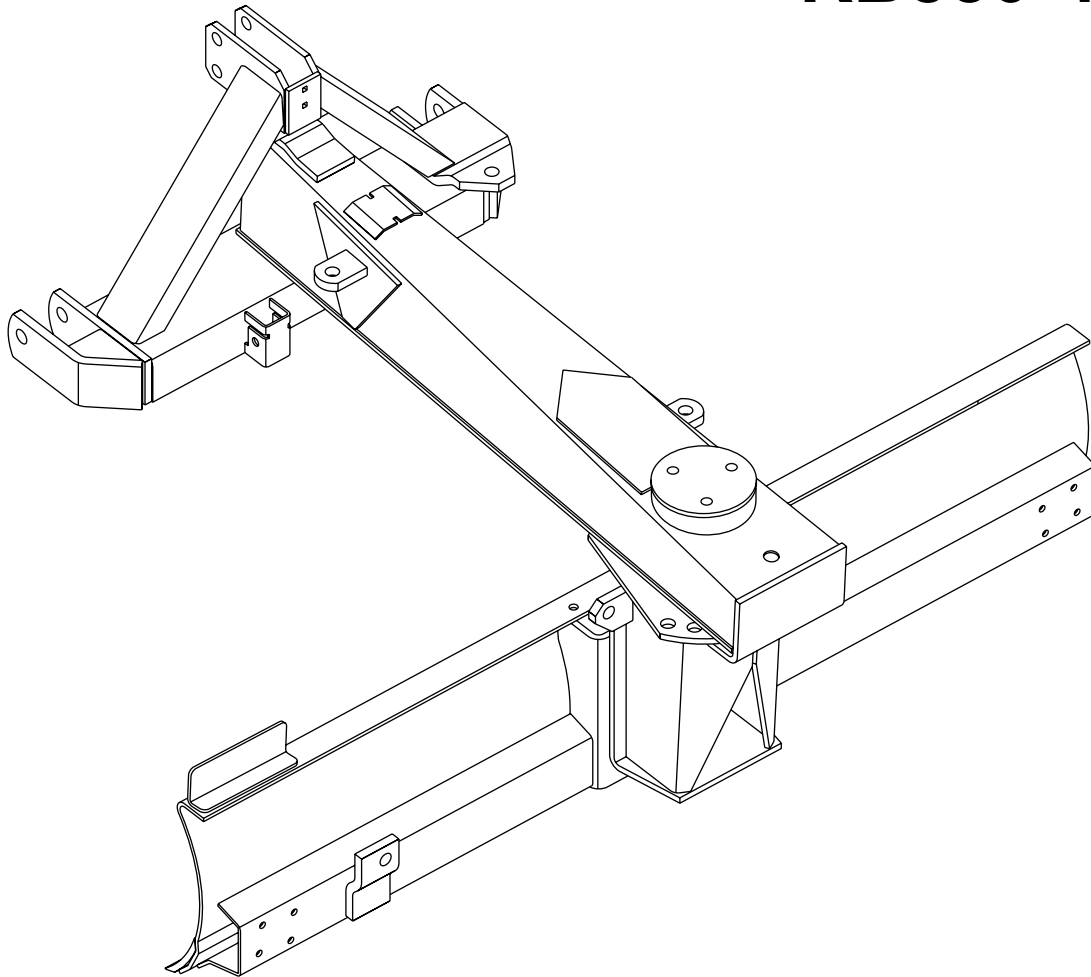




# REAR BLADES

RB750-4

RB850-4



MAN0160  
(Rev 05/16/2023)

OPERATOR'S MANUAL

## TO THE DEALER:

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

**The dealer must complete the online Product Registration form at the Woods Dealer Website** which certifies that all Dealer Checklist items have been completed. Dealers can register all Woods product at [dealer.WoodsEquipment.com](http://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](http://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](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.

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

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

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

**Model:** \_\_\_\_\_ **Date of Purchase:** \_\_\_\_\_  
**Serial Number:** (see Safety Decal section for location) \_\_\_\_\_

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

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



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



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



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



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

**IMPORTANT  
or NOTICE**

Is used to address practices not related to physical injury.

**NOTE**

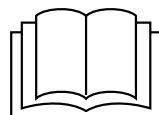
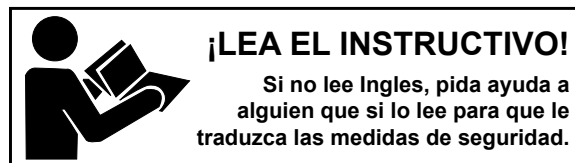
Indicates helpful information.

## 2 Introduction

MAN0160  
(05/16/2023)

# TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>INTRODUCTION</b> . . . . .                      | <b>2</b>  |
| SPECIFICATIONS . . . . .                           | 4         |
| GENERAL INFORMATION . . . . .                      | 4         |
| <b>SAFETY RULES</b> . . . . .                      | <b>5</b>  |
| TRAINING . . . . .                                 | 5         |
| PREPARATION . . . . .                              | 5         |
| OPERATION . . . . .                                | 5         |
| TRANSPORTATION . . . . .                           | 6         |
| MAINTENANCE . . . . .                              | 6         |
| STORAGE . . . . .                                  | 6         |
| <b>SAFETY &amp; INSTRUCTIONAL DECALS</b> . . . . . | <b>7</b>  |
| <b>OPERATION</b> . . . . .                         | <b>9</b>  |
| MOUNT BLADE TO TRACTOR . . . . .                   | 9         |
| BLADE ANGLE ADJUSTMENT . . . . .                   | 10        |
| REVERSE BLADE . . . . .                            | 10        |
| TILT ADJUSTMENT . . . . .                          | 11        |
| OFFSET (SWING) . . . . .                           | 11        |
| OPERATING TIPS . . . . .                           | 12        |
| BACKFILLING . . . . .                              | 12        |
| LEVELING AND GRADING . . . . .                     | 12        |
| PRE-OPERATION CHECKLIST . . . . .                  | 12        |
| <b>OWNER SERVICE</b> . . . . .                     | <b>13</b> |
| BLADE CUTTING EDGE . . . . .                       | 13        |
| LUBRICATION . . . . .                              | 13        |
| BOLTS . . . . .                                    | 13        |
| CLEANING . . . . .                                 | 13        |
| <b>ASSEMBLY</b> . . . . .                          | <b>14</b> |
| DEALER SET-UP INSTRUCTIONS . . . . .               | 14        |
| MAIN ASSEMBLY - ALL MODELS . . . . .               | 15        |
| MANUAL CONFIGURATION . . . . .                     | 18        |
| HYDRAULIC CONFIGURATION . . . . .                  | 23        |
| OPTIONAL EQUIPMENT - ALL MODELS . . . . .          | 27        |
| <b>DEALER CHECKLISTS</b> . . . . .                 | <b>30</b> |
| <b>PARTS INDEX</b> . . . . .                       | <b>31</b> |
| <b>INDEX</b> . . . . .                             | <b>47</b> |
| <b>APPENDIX</b> . . . . .                          | <b>48</b> |
| BOLT TORQUE CHART . . . . .                        | 48        |
| BOLT SIZE CHART . . . . .                          | 49        |
| ABBREVIATIONS . . . . .                            | 49        |



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

| <u>MODEL</u>  | <u>RB750-4</u>            | <u>RB850-4</u>            |
|---|---------------------------|---------------------------|
| <b>Blade Width</b>  | 7 ft. (2133 mm)           | 8 ft. (2438 mm)           |
| <b>Tractor HP Requirement</b>   | 100 HP Maximum<br>(75 kW) | 100 HP Maximum<br>(75 kW) |
| <b>Weight:</b>  |                           |                           |
| M = Manual  | 811 lbs. (368 kg)         | 856 lbs. (388 kg)         |
| H = Hydraulic   | 1010 lbs. (458 kg)        | 1050 lbs. (478 kg)        |
| <b>Model Codes:</b>   |                           |                           |
| M = All Manual: Angle, Tilt & Swing   |                           |                           |
| MA = Manual Swing & Tilt; Hydraulic Angle for tractors with at least one hydraulic port   |                           |                           |
| MT = Manual Swing & Angle; Hydraulic Tilt for tractors with at least one hydraulic port   |                           |                           |
| SA = Manual Tilt; Hydraulic Swing & Angle for tractors with at least two hydraulic ports  |                           |                           |
| TA = Manual Swing; Hydraulic Tilt & Angle for tractors with at least two ports  |                           |                           |
| H = All Hydraulic; Angle, Tilt & Swing for tractors with three hydraulic ports  |                           |                           |
| <b>Blade Position - Mechanical</b> . . . . . Straight, forward or reverse;<br>Angle 15, 30, 45 & 60 degrees, right or left in forward;<br>15 & 30 degrees in reverse;<br>Tilt 15 or 30 degrees up or down;<br>Offset 12" or 24" (305 mm or 610 mm) left or right of tractor center line;<br>Pitch adjustment in top link of tractor 3-point hitch |                           |                           |
| <b>Blade Positions - Hydraulic</b> . . . . . Straight, forward or reverse;<br>Angle 45 degrees right or left forward and reverse;<br>Tilt 22 degrees up or down;<br>Offset 24" (610 mm) right or left of tractor center line;<br>Pitch adjustment in top link of tractor 3-point hitch  |                           |                           |
| <b>Cutting Edge</b> . . . . . 1/2 x 6" (12.7 mm x 152 mm) High carbon steel, reversible   |                           |                           |
| <b>3-Point Hitch Category</b> . . . . . Category 2<br>Category 2 Quick attaching coupler, with bushing kit #18295<br>Category 3, with bushing kit #18295  |                           |                           |
| <b>Structural Strength:</b>   |                           |                           |
| A-Frame . . . . . 8 x 4 (203 mm x 102 mm) Formed channel  |                           |                           |
| Boom . . . . . All-welded box section   |                           |                           |
| King Pin . . . . . 6-5/8" (168 mm) Tubing   |                           |                           |
| Moldboard . . . . . Formed moldboard and all welded box section   |                           |                           |
| Pivot Assembly . . . . . All-welded steel box section   |                           |                           |

# GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your Rear Blade. 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 directions. These are determined by standing behind the tractor facing the direction of forward travel.

## 4 Introduction

MAN0160  
(05/16/2023)

# SAFETY RULES



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



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

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

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

## TRAINING

- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://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.
- Do not connect a low-pressure hydraulic hose into a high-pressure system—it will burst the hose. Do not use a high-pressure hose in place of a low-pressure hose—it is possible to rupture the valve.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.
- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure circuit selector lever does not hit tractor cab, etc. throughout operating range of 3-point hitch of tractor. Bend lever, if necessary, to clear cab, but it should still be convenient to operate from the tractor seat.

## OPERATION

- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Do not operate 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.

# SAFETY RULES



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems 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.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
- Before changing positions of manual swing, tilt, or angle positions:
  - Park tractor on level ground, apply parking brake, level implement boom, shut off tractor, and remove key.
  - Make manual changes slowly and carefully to prevent hazardous movement of mechanisms.
  - Never stand in positions where you could become entrapped during adjustment changes or if the 3-point hitch suddenly lowers.
- Always secure lock pins with safety pins to prevent lock pins from bumping out of the positioning holes. Failure to do so may result in accidents and/ or damage to blade.

## TRANSPORTATION

- Before transporting, pivot the unit so red reflectors face the rear.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.

- Do not operate or transport on steep slopes.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

## 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 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.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.
- Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Never perform service or maintenance with engine running.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Tighten all bolts, nuts and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Do not disconnect hydraulic lines until machine is securely blocked or placed in lowest position and system pressure is released by operating valve levers.

## STORAGE

- Secure equipment parking stand(s) in park position before detaching.
- Keep children, bystanders, and animals away from the equipment and the storage area.

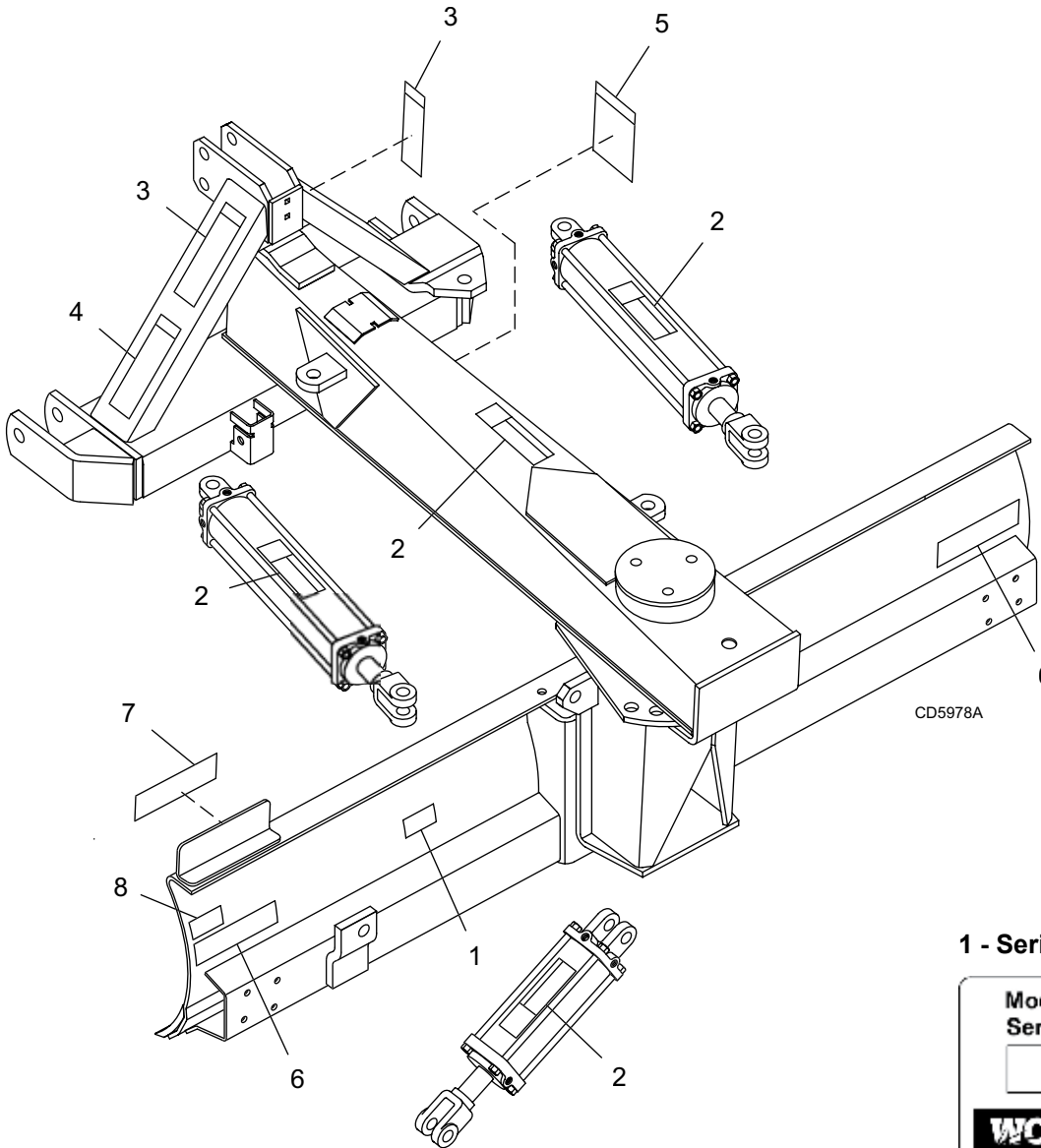
# SAFETY & INSTRUCTIONAL DECALS



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



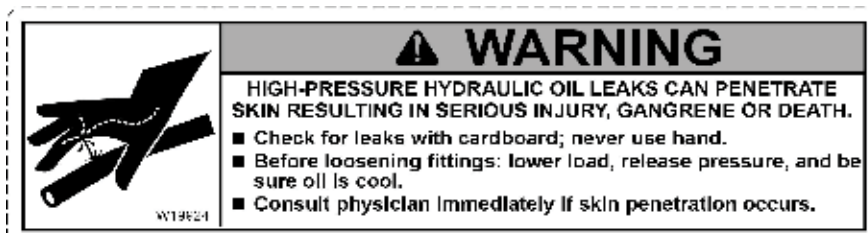
**Replace Immediately If Damaged!**



**1 - Serial Number Plate**



**2 - PN W19924**



**6 - PN 57123  
RED REFLECTOR 9"**

**7 - PN 1002940  
YELLOW REFLECTOR 9"**

MAN0160  
(05/16/2023)

**Safety 7**

# SAFETY & INSTRUCTIONAL DECALS



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



**Replace Immediately If Damaged!**

3 - PN 1002941

**WARNING**

**CRUSHING AND PINCHING HAZARD**

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

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

1002941-A

4 - PN 1004250

**WARNING**

**TO AVOID SERIOUS INJURY OR DEATH:**

- Read Operator's Manual before operating, servicing, or repairing equipment. Follow all safety rules and instructions. (Manuals are available from dealer or call 1-800-319-6637.)
- Operate from tractor seat only.
- Lower equipment to ground, stop engine, remove key, and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Keep all shields in place and in good condition.

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

1004250

**BE CAREFUL!**

Keep safety decals clean and visible.

Use a clean, damp cloth to clean safety decals.

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

Replace safety decals if they are missing or illegible.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.

5 - PN 55121

**WARNING**

**FALLING OFF CAN RESULT IN BEING RUN OVER.**

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.

**RAISED IMPLEMENT CAN DROP AND CRUSH.**

- Never go underneath raised implement which can drop from equipment or tractor 3-point hitch hydraulic leak down, hydraulic system failures, movement of control levers or mechanical linkage failures.
- Service work does not require going underneath implement. Read manual instructions.

FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

55121-C

8 - PN 1003193

**WARNING**

Unit must not extend more than 4 feet left of center of the tractor when driving on public roads.

1003193-A



# OPERATION

## ⚠ WARNING

- Never allow children or untrained persons to operate equipment.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- 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.
- Never allow riders on power unit or attachment.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- 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.**

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

## ⚠ CAUTION

- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

## MOUNT BLADE TO TRACTOR

### IMPORTANT

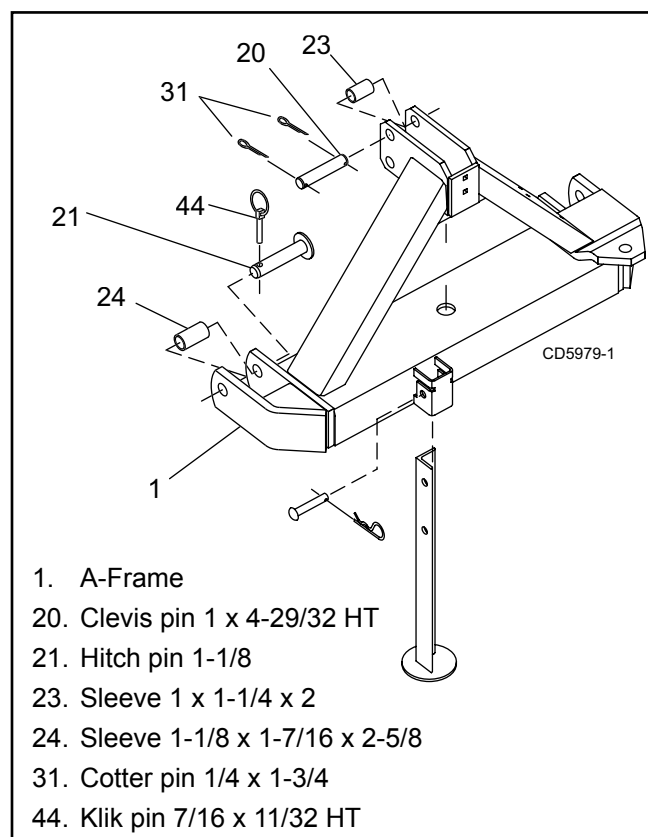
- The RB750-4 & RB850-4 should be mounted on tractors with a maximum horsepower rating of 100 hp (75 kW).

The Rear Blade is a 3-point Category 2 implement. It will attach to ASAE standard Category 2 quick-attaching coupler or on 3-point Category 3 tractor, using a bushing kit.

**NOTE:** Only use on Category 3, 3-point hitch tractor whose lower lift arms adjust to 32" (813 mm) apart.

1. Set the tractor drawbar in short-high position.
2. Attach tractor draft links to the A-frame with 1-1/8" pin (21) and secure with Klik pins (44).
3. Connect the tractor top link to top hole in A-frame, using 1 x 4-29/32" heat-treated pin (20) and cotter pin (31). Use 1 x 1-1/4" bushing (23) and 1-1/8 x 1-7/16" heat-treated bushing (24) with Category 2 quick-attaching coupler and category 3, 3-point hitch tractor.
4. Level the boom by adjusting lift and top link.
5. Position sway blocks to eliminate side sway or install sway braces if required.

**NOTE:** The drawbar may have to be removed on some tractors. Make sure blade is at least 6" (152 mm) from tractor tires throughout operating range of 3-point hitch.



**Figure 1. A-Frame Components**

## BLADE ANGLE ADJUSTMENT

- **Before changing positions of manual swing, tilt, or angle positions:**
  - Park tractor on level ground, apply parking brake, level implement boom, shut off tractor, and remove key.
  - Make manual changes slowly and carefully to prevent hazardous movement of mechanisms.
  - Never stand in positions where you could become entrapped during adjustment changes or if the 3-point hitch suddenly lowers.
- **Always secure lock pins with safety pins to prevent lock pins from bumping out of the positioning holes. Failure to do so may result in accidents and/or damage to blade.**

### Mechanical

The blade may be angled 15, 30, 45 and 60 degrees for forward grading, and 15 and 30 degrees for backfilling to right or left from center position without unhooking the blade from the tractor.

1. Raise the blade a few inches off the ground by operating the lift control lever of the tractor 3-point hitch.
2. Remove the safety pin (10) and lock pin (2).
3. Set blade at desired position and replace pins.

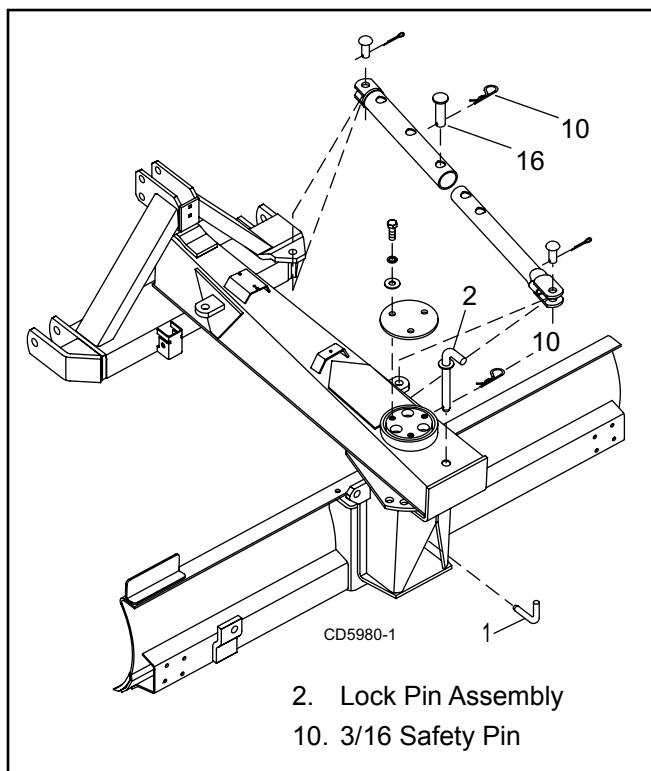


Figure 2. Mechanical Configuration Assembly

### Hydraulic

The blade may be angled 45 degrees or to any position in between, to the right or left by hydraulic remote control from the tractor seat.

1. Raise the blade a few inches off the ground by operating the lift control lever of the tractor.
2. Actuate the control valve the angling cylinder is connected to.
3. On tractors with two circuit selector valves, select angling circuit and actuate the tractor control valve connected to selector valve.

**NOTE:** Do not operate the selector valve under load.

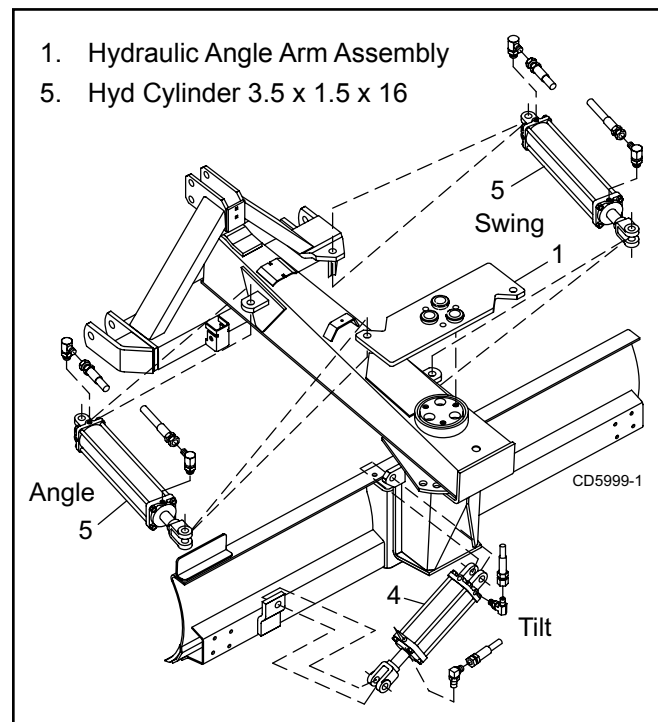


Figure 3. Hydraulic Configuration Assembly

### REVERSE BLADE

The blade is reversible without removing it from the tractor.

1. Raise blade off the ground.
2. Mechanical – Remove the lock pin (2), Figure 2, and rotate it counter-clockwise to the desired position and replace pins.
3. Hydraulic – Detach the angling cylinder (7) from the hydraulic angle arm (1), Figure 3, and rotate it counter-clockwise to the desired position. Attach angling cylinder (7) to hydraulic angle arm (1).

**NOTE:** In some cases it may be necessary to offset to the right and tip up the right end of the blade to rotate it.

## TILT ADJUSTMENT

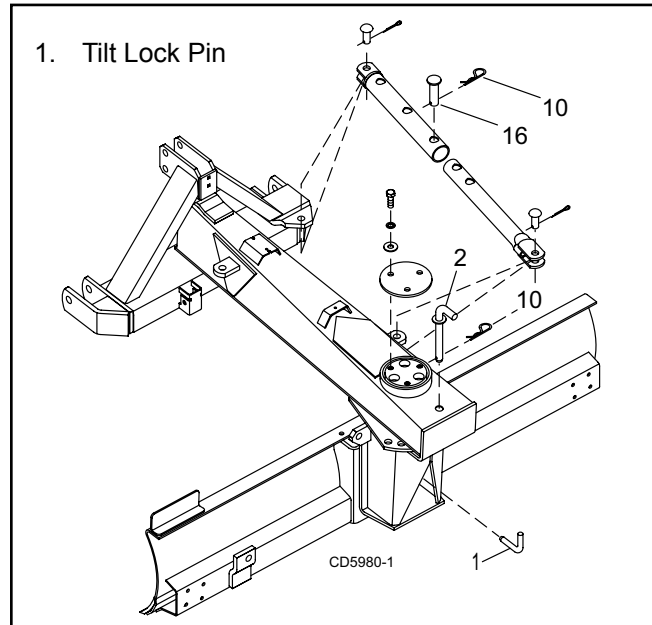


Figure 4. Mechanical Configuration - Tilt

### Mechanical

The blade may be tilted 15 and 30 degrees up and down.

To tilt blade:

1. Remove tilt lock pin (1),
2. Rotate the blade to the desired position, and
3. Replace the pin.

**NOTE:** Additional tilting may be obtained by adjusting the draft links of the 3-point hitch.

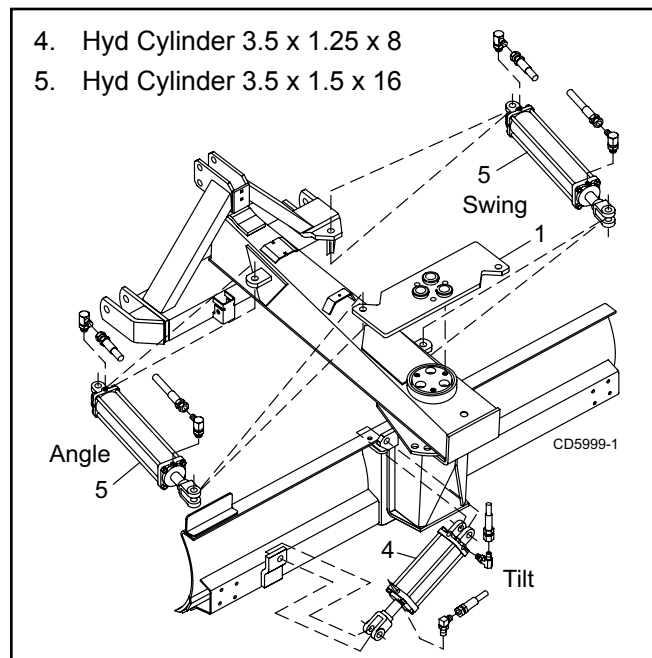


Figure 5. Hydraulic Configuration - Tilt

## Hydraulic

The blade may be tilted 22 degrees up or down and to any position in between.

To prevent damage to the blade and hydraulic cylinder, do not use lock pin (1, Figure 4).

**NOTE:** In some cases it may not be possible to fully tilt and angle and still be able to raise the blade high enough to clear the ground. In this case, use less tilt.

**NOTE:** It is possible for the blade to contact other components if the blade is tilted when angled. Operate blade slowly when angling blade.

## OFFSET (SWING)

### Mechanical Adjustment

The blade may be offset 12" (305 mm) and 24" (610 mm), either side from the center position.

To offset the blade:

1. Park the tractor on level ground.
2. Apply parking brake and raise blade 2" (51 mm) above the ground.
3. Shut off the engine and level the boom.
4. Remove safety pin (10) and lock pin (16), swing the boom to the desired position and replace the pins.

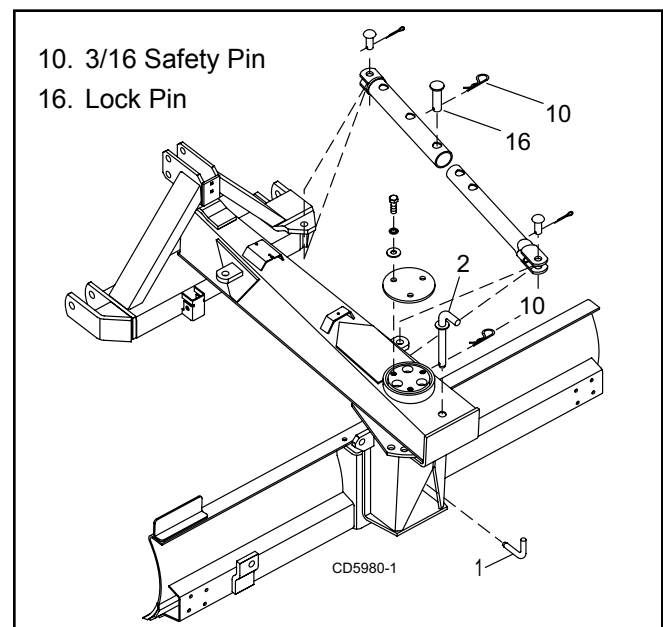


Figure 6. Mechanical Configuration - Offset

## Adjustment with Hydraulic Swing Cylinder

The swing cylinder rotates the boom 30 degrees right or left or to any position in between, resulting in a maximum of 24" (610 mm) offset to right or left.

To angle the blade:

1. Raise blade a few inches above the ground by operating the lift control lever of the tractor.
2. Actuate the control valve to which the swing cylinder is connected.
3. On tractors having two circuit selector valves, select swing circuit and actuate tractor control valve connected to selector valve.

**NOTE:** Do not operate the selector valve under load.

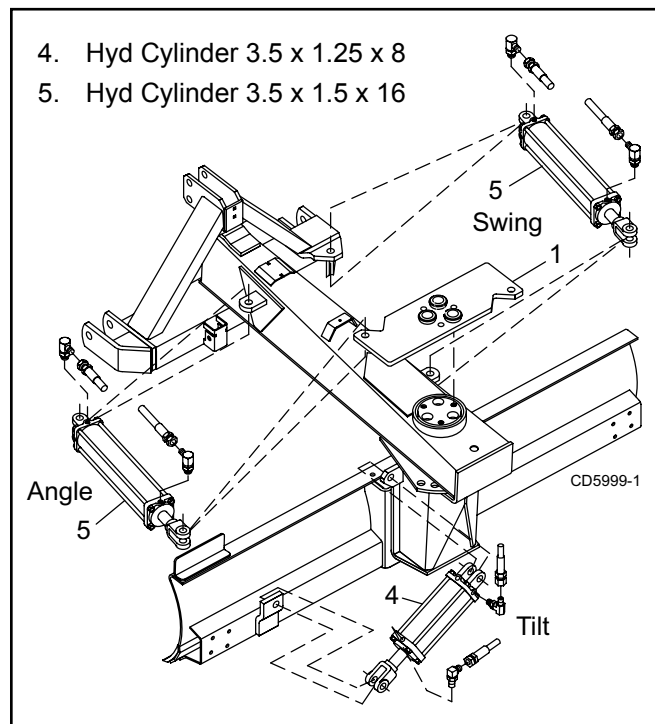


Figure 7. Hydraulic Configuration - Offset

## OPERATING TIPS

### ⚠ WARNING

- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate 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.
- 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.

### ⚠ CAUTION

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

## BACKFILLING

For backfilling ditches or trenches, reverse the blade by rotating counter-clockwise and back push.

## LEVELING AND GRADING

Set the blade to the desired position of offset, angle and tilt for leveling and grading.

## PRE-OPERATION CHECKLIST

### (OWNER'S RESPONSIBILITY)

- \_\_\_\_ Review and follow all safety rules and safety decal instructions on pages 5 through 8.
- \_\_\_\_ Check that equipment is properly and securely attached to tractor.
- \_\_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged
- \_\_\_\_ Check that all hardware and cotter pins are properly installed and secured.
- \_\_\_\_ Check that all lubrication points are greased.
- \_\_\_\_ Check that blade cutting edge is in good condition.
- \_\_\_\_ 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.

# OWNER SERVICE

## 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.**

- 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.
- Never perform service or maintenance with engine running.
- 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.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.

## CAUTION

- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

## BLADE CUTTING EDGE

To reverse the cutting edge

1. Remove the 5/8" plow bolts.
2. Remove the cutting edge from the moldboard and reinstall with the sharp edge down.
3. Replace cutting edge when both edges are worn.

## LUBRICATION

### Weekly

Oil the pivot pins with SAE 30 oil.

### 8 Hours

Grease optional skid shoes.

## BOLTS

1. Check bolts periodically to be sure they are tight.
2. Replace bolts as needed.

**NOTE:** Replacement bolts must have the same strength markings on the heads. Refer to bolt torque on page 48.

## CLEANING

### After Each Use

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

### Periodically or Before Extended Storage

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

# ASSEMBLY

## 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.
- 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.
- 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.**

## CAUTION

- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.
- 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.

## DEALER SET-UP INSTRUCTIONS

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

Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are located on page 48.

## ASSEMBLY TABLE OF CONTENTS

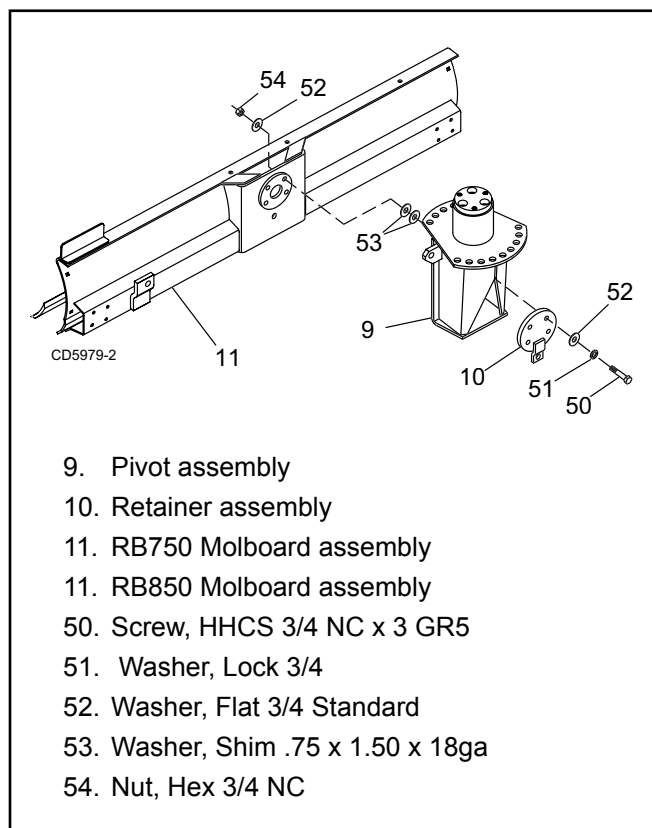
|  |    |
|--|----|
| <b>MAIN ASSEMBLY</b> . . . . .   | 15 |
| <b>MANUAL CONFIGURATION</b>  |    |
| OFFSET LINKAGE - MODELS: M & MT . . . . .                                    | 18 |
| HYDRAULIC ANGLE KIT - MODELS: MA, SA, TA, AND OPTIONAL KIT 1004870 . . . . . | 19 |
| HYDRAULIC TILT KIT - MODELS: MT & TA . . . . .                               | 20 |
| HYDRAULIC OFFSET KIT - MODEL: SA AND OPTIONAL KIT 1004872 . . . . .          | 22 |
| <b>HYDRAULIC CONFIGURATION</b>   |    |
| MODEL H . . . . .  | 23 |
| SELECTOR VALVE KIT 1004873 (OPTIONAL) . . . . .                              | 25 |
| <b>OPTIONAL EQUIPMENT - ALL MODELS</b>                                       |    |
| PNEUMATIC TAIL WHEEL (OPTIONAL) . . . . .                                    | 27 |
| SKID SHOE KIT 18296 (OPTIONAL) . . . . .                                     | 28 |
| END PLATE KIT 22658 (OPTIONAL) . . . . .                                     | 29 |
| PRE-DELIVERY & DELIVERY CHECKLIST . . . . .                                  | 29 |

## MAIN ASSEMBLY - ALL MODELS

### Attach Blade to Pivot Assembly

Assemble the main portion of the blade before starting on any of the optional configurations.

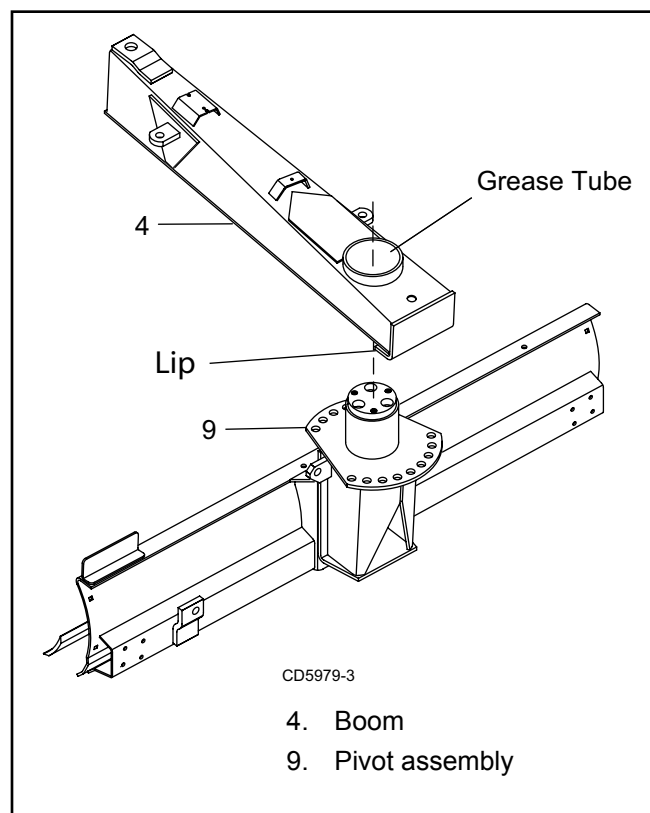
1. Place blade assembly (11) on floor with pivot attachment pointing up.
2. Raise the top end approximately 4" (102 mm) above the ground with a wooden block. Place pivot assembly (9) on blade assembly (11).
3. Stack two shim washers (53) on each of the four holes in blade. Place retainer assembly (10) on washers.
4. Place washers (52) and lock washers (51) on bolts (50) and insert through retainer (10), washers (53), and pivot attachment (9).
5. Secure by placing washers (52) and nuts (54) on bolts and torque to 300 lbs.-ft (403 N-m).



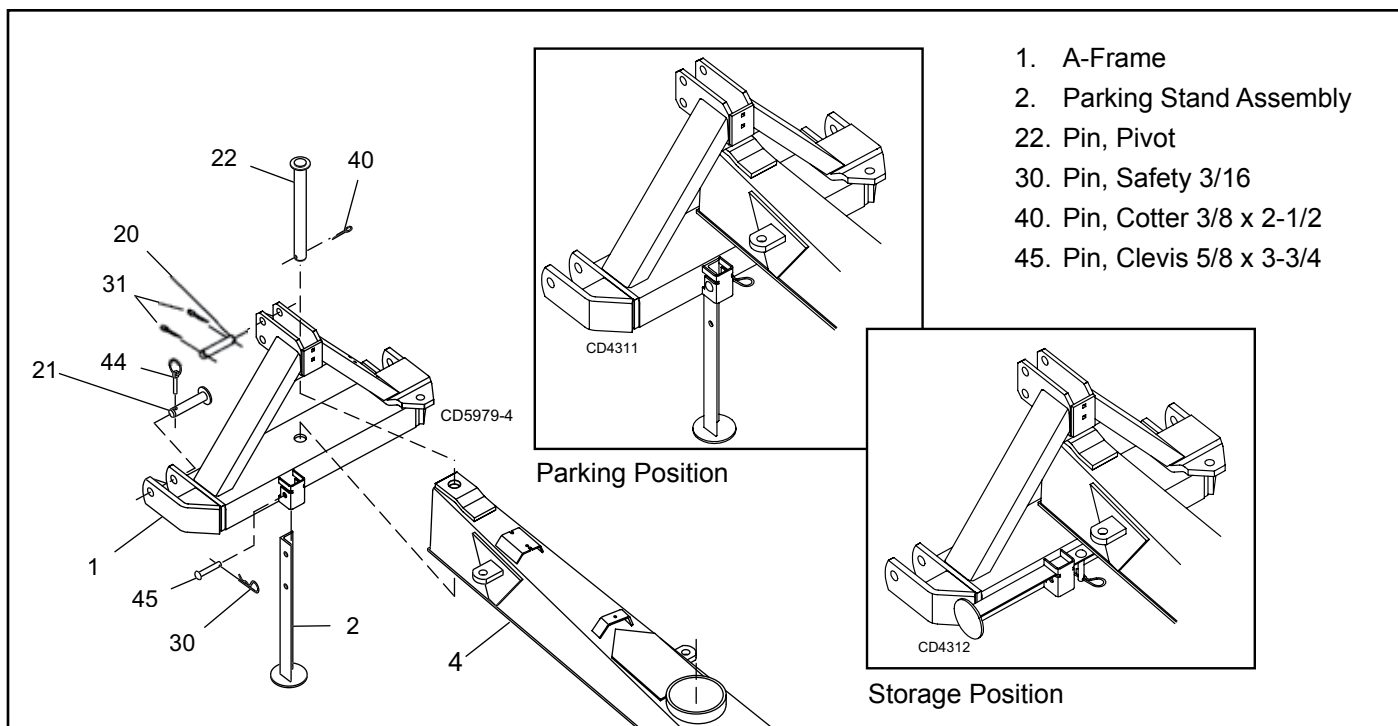
**Figure 8.** Blade and Pivot Assembly

### Attach Boom to Pivot Assembly

1. Grease inside of tube on rear of boom (4).
2. Set blade assembly upright. Place a block of wood under pivot assembly to secure.
3. Place boom parallel to blade and insert greased tube over post of pivot assembly (9). Rotate boom 90 degrees to lock lip on rear of boom over pivot assembly.
4. Place jack stand under boom so boom is in a horizontal position.



**Figure 9.** Boom and Blade Assembled



**Figure 10. A-Frame to Boom Assembly**

## Attach A-Frame

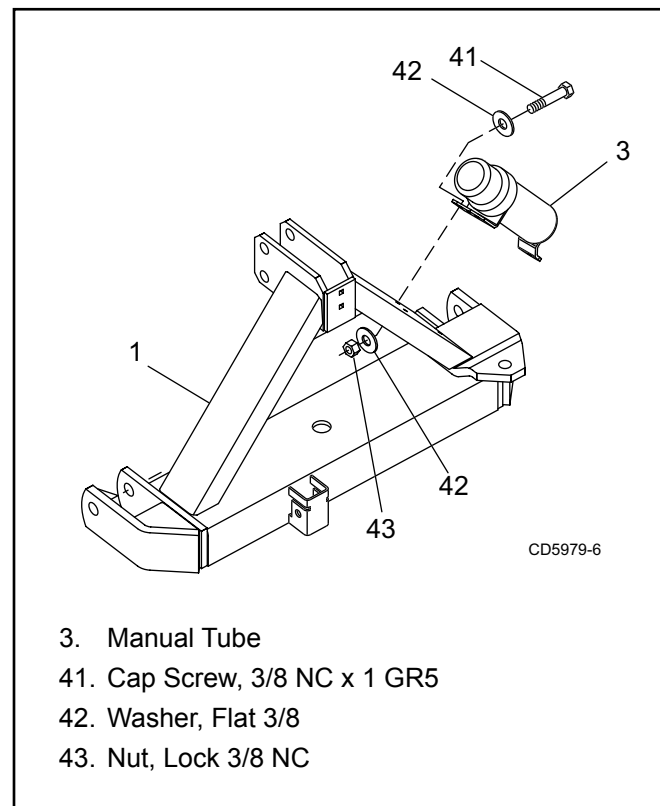
Refer to Figure 10.

1. Position A-frame (1) over end of boom and insert pivot pin (22). Secure with cotter pin (40).
2. Attach parking stand (2) in parking position as shown in Figure 10. Secure with clevis pin (45) and safety pin (30).

## Install Manual Tube

Refer to Figure 11.

1. Place manual tube (3) over holes on right side of A-Frame as shown in Figure 11.
2. Secure into position using three cap screws (41), six flat washers (42), (one on each side), and lock nuts (43).



**Figure 11. Manual Tube Installation**



Install Slow Moving Vehicle Sign

**NOTE:** If installing optional hydraulic kits that include double relief valves on Model SA or the complete hydraulic system for Model H, do not install bracket (5, Step 1) at this time. Begin with Step 2.

Refer to Figure 12.

- 1. Place bracket (5) to top of boom and secure with two carriage bolts (34), flat washers (36), lock washers (37), and hex nut (38).
- 2. Attach SMV socket (6) to bracket (5) using two carriage bolts (34), flat washers (36), lock washers (37), and hex nuts (38).
- 3. Attach SMV sign (8) to SMV sign bracket (7) using two round head screws (32) and nuts (33).
- 4. Insert sign and bracket assembly into socket (6) to display SMV sign.

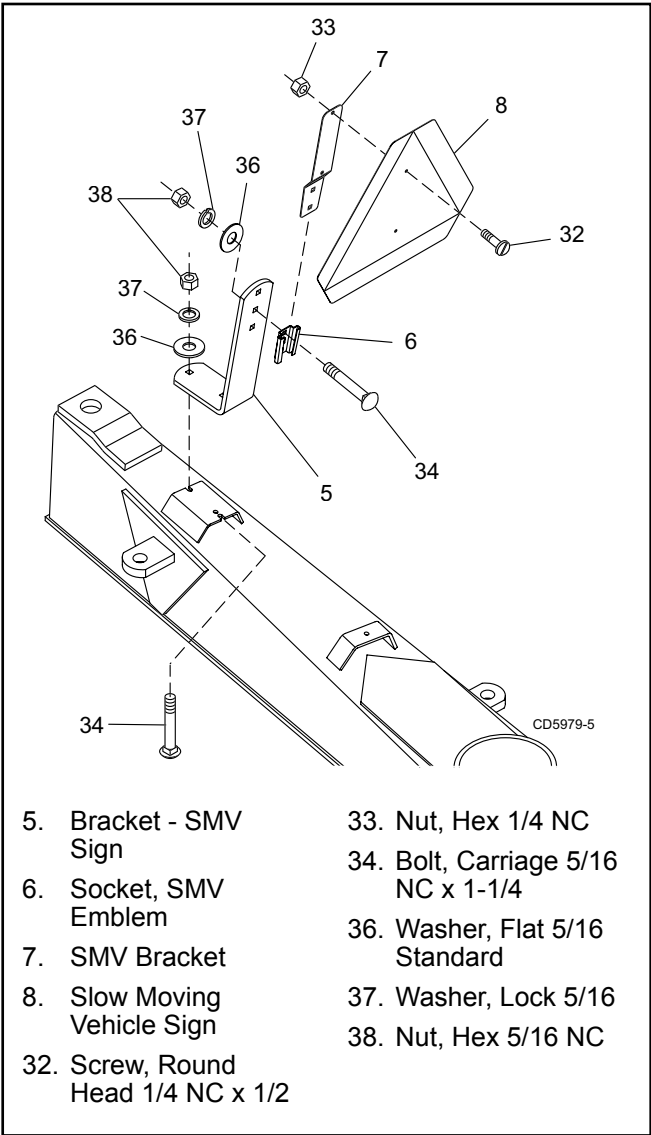


Figure 12. Slow Moving Vehicle Sign Installation

Proceed to page listed below to complete desired blade assembly.

|    |   |    |
|----|---|----|
| M  | = All Manual: Angle, Tilt & Swing . . . . .   | 18 |
| MT | = Manual Swing & Angle: Hydraulic Tilt for tractors with at least one hydraulic port . . . . .  | 18 |
| MA | = Manual Swing & Tilt: Hydraulic Angle for tractors with at least one hydraulic port . . . . .  | 19 |
| SA | = Manual Tilt: Hydraulic Swing & Angle for tractors with at least two hydraulic ports . . . . . | 19 |
| TA | = Manual Swing: Hydraulic Tilt & Angle for tractors with at least two ports. . . . .            | 19 |
| H  | = All Hydraulic: Angle, Tilt & Swing for tractors with three hydraulic ports . . . . .          | 23 |

# MANUAL CONFIGURATION

## Models: M & MT

### Install Offset Linkage

1. Model M only - Place boom and pivot assembly to desired position. Align holes at bottom of pivot assembly and insert tilt lock pin (1) as shown. Rotate pin to lock into position.
2. With boom 90 degrees to the blade, place retaining cap (3) on boom as shown in Figure 13.
3. Install three cap screws (12), lock washers (14), and flat washers (13) to secure boom to blade assembly.

**NOTE:** For model MT, do not install front cap screw, (12) at this time.

4. Rotate boom to desired position. Install lock pin assembly (2) through end of boom and pivot assembly. Secure with safety pin (10).
5. Insert inner swing link (4) into outer swing link (5).
6. Attach outer swing link to the A-Frame and insert clevis pin (15). Secure with cotter pin (11).
7. Attach inner swing link (4) to the boom and insert clevis pin (15). Secure with cotter pin (11).
8. Rotate A-Frame to desired position. Align holes in inner and outer swing links and insert lock pin (16). Secure with safety pin (10).

**NOTE:** For Model MT, proceed to page 20 for hydraulic tilt cylinder installation instructions.

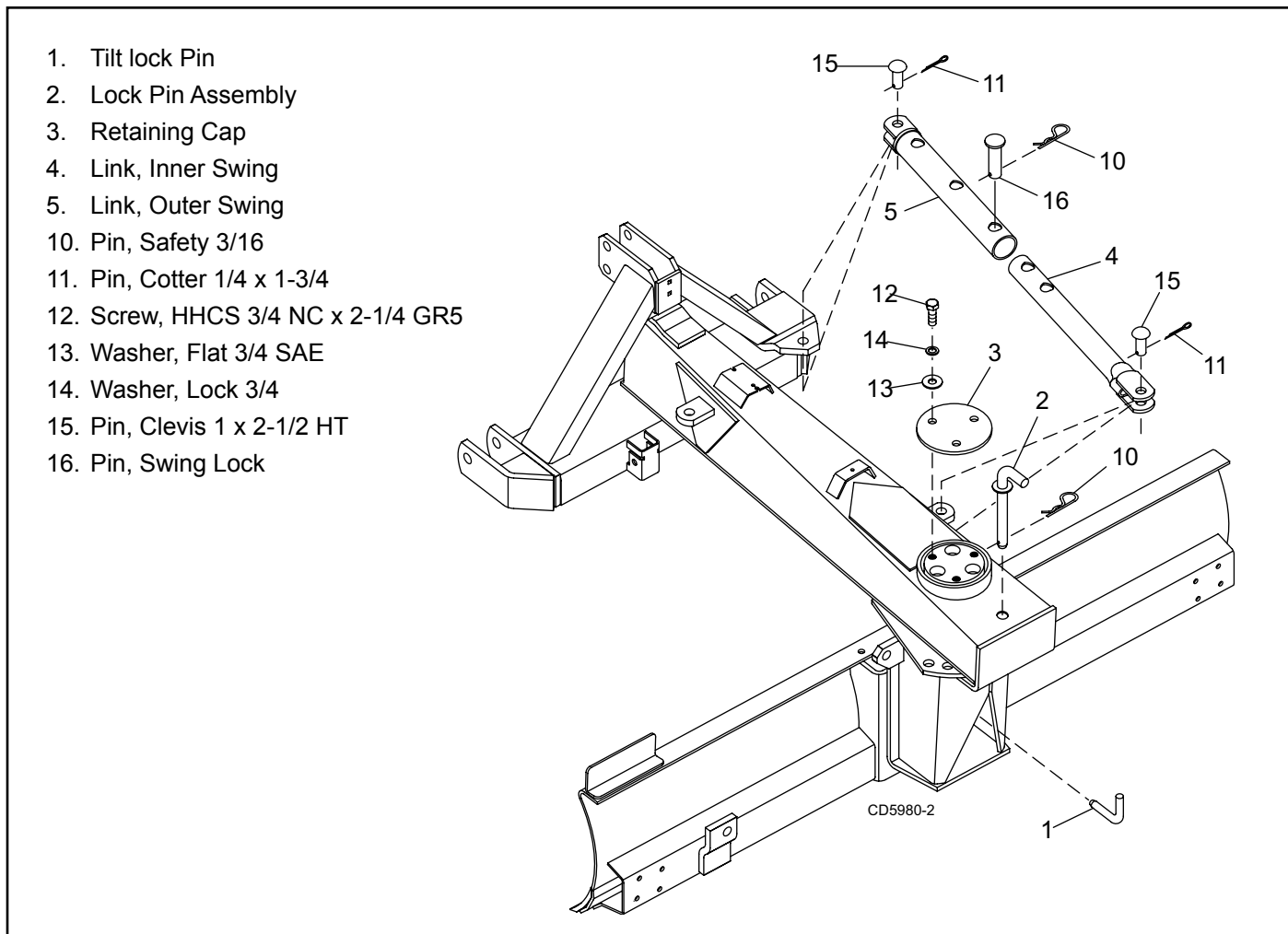
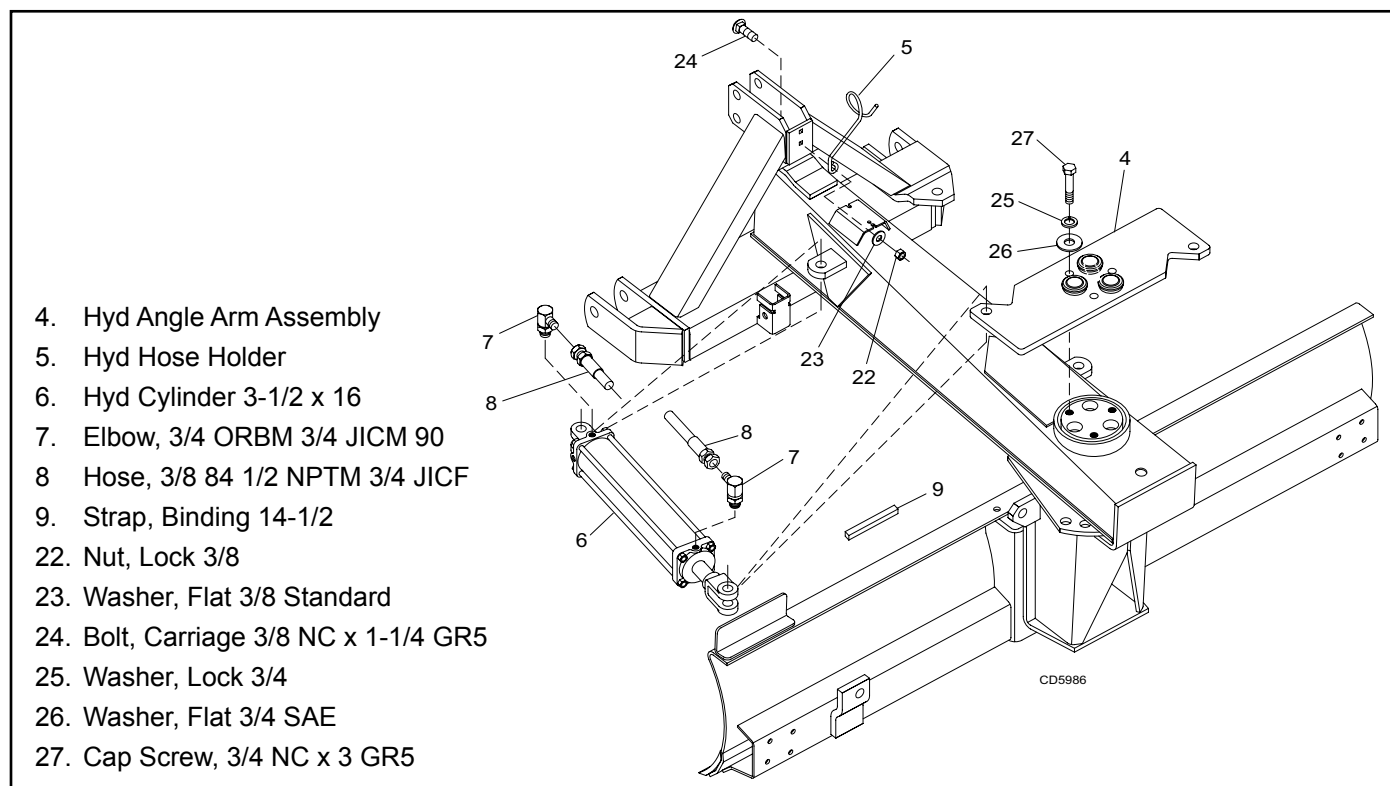


Figure 13. Manual Configuration

## Models: MA, SA, & TA or Optional Hydraulic Angle Kit 1004870



**Figure 14.** Angle Kit Installation

### Install Hydraulic Angle Cylinder

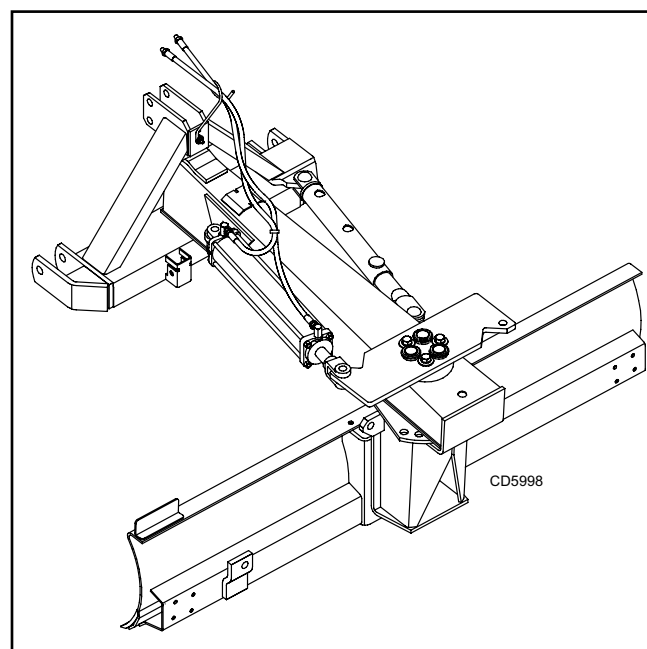
Refer to Figure 14.

1. Remove lock pin assembly (2) and safety pin (10) from rear of boom, if previously installed. See Figure 13 on page 18 for lock pin assembly location.
2. Remove hardware and retaining cap (3) from top of boom if previously installed. See Figure 13 on page 18 for retaining cap location.
3. Place hydraulic angle arm assembly (4) on boom as shown Figure 14.
4. Secure into position using three cap screws (27), lock washers (25), and flat washers (26).
5. Attach hydraulic cylinder (6) to boom and hydraulic angle arm assembly as shown. Secure with pins supplied with the cylinder.
6. Attach hose holder (5) to A-Frame using carriage bolt (24), flat washer (23), and lock nut (22).
7. Install adjustable elbows (7) and hoses (8) (Models MA and TA) to cylinder.

**NOTE:** Do not install 84" hoses (8) if Hydraulic Offset cylinder is to be installed.

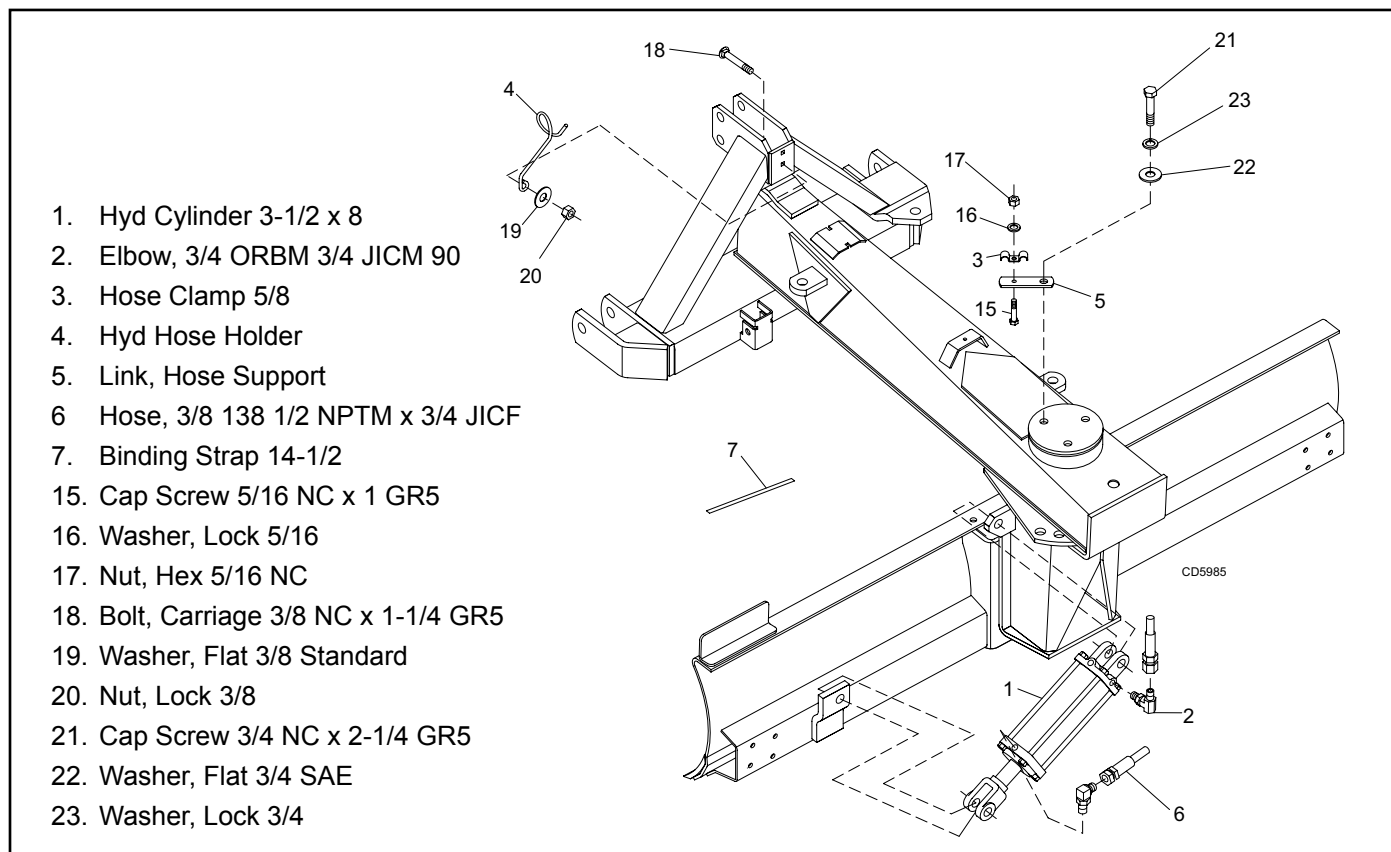
8. Route hoses as shown in Figure 15.

**NOTE:** For model SA, Proceed to page 22 for hydraulic offset cylinder and relief valve installation instructions.



**Figure 15.** Angle Kit Hose Routing

## Models: MT & TA



**Figure 16.** Tilt Kit Installation with Manual Angle Control

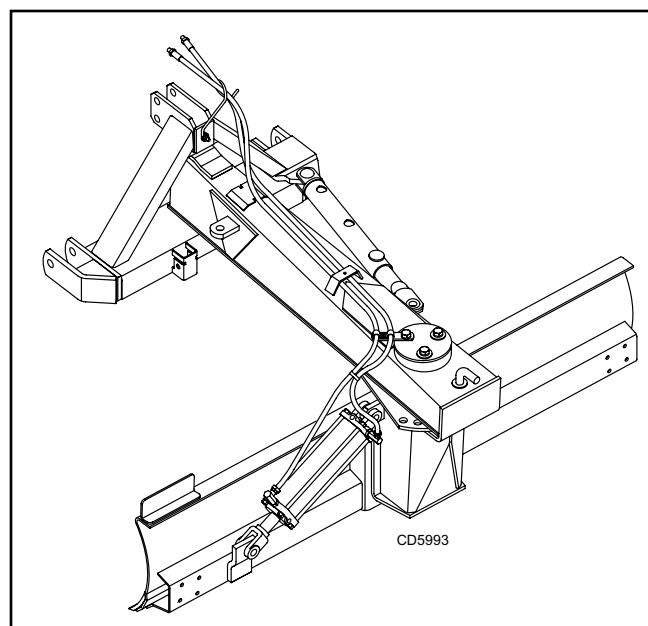
### Install Hydraulic Tilt Kit 1004871

Refer to Figure 16.

**NOTE:** Remove tilt lock pin (1) before installing hydraulic tilt kit. See Figure 13 on page 18 for lock pin location

1. Attach hydraulic cylinder (1) to blade assembly and pivot assembly as shown. Secure with pins supplied with the cylinder.
2. Install adjustable elbows (2) and hoses (6) to cylinder.
3. Attach hose holder (4) to A-Frame using carriage bolt (18), flat washer (19), and lock nut (20). For models with hydraulic angle (TA) proceed to page 21 for hose routing.
4. Attach hose clamp (3) to hose support (5) using cap screw (15), lock washer (16), and hex nut (17). Do not tighten at this time.
5. Remove cap screw (21), lock washer (23), and flat washer (22) from forward position on retaining cap as shown.
6. Position hose support (5) over hole and reinstall hardware.
7. Route hoses as shown in Figure 17.

8. Position hose support (5) and tighten hardware.
9. Place hoses in hose clamp (3) and tighten hardware. Leave adequate slack in hoses to allow for tilt and angling of blade.



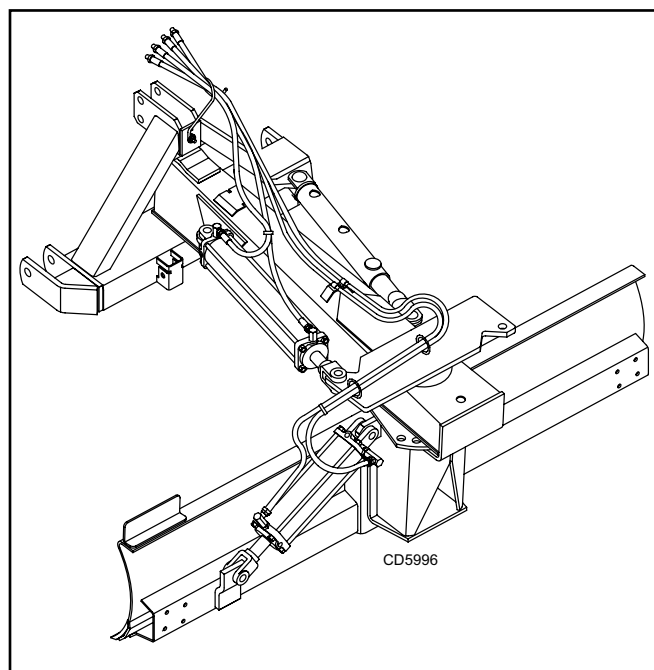
**Figure 17.** Tilt Kit Hose Routing

## Model: TA

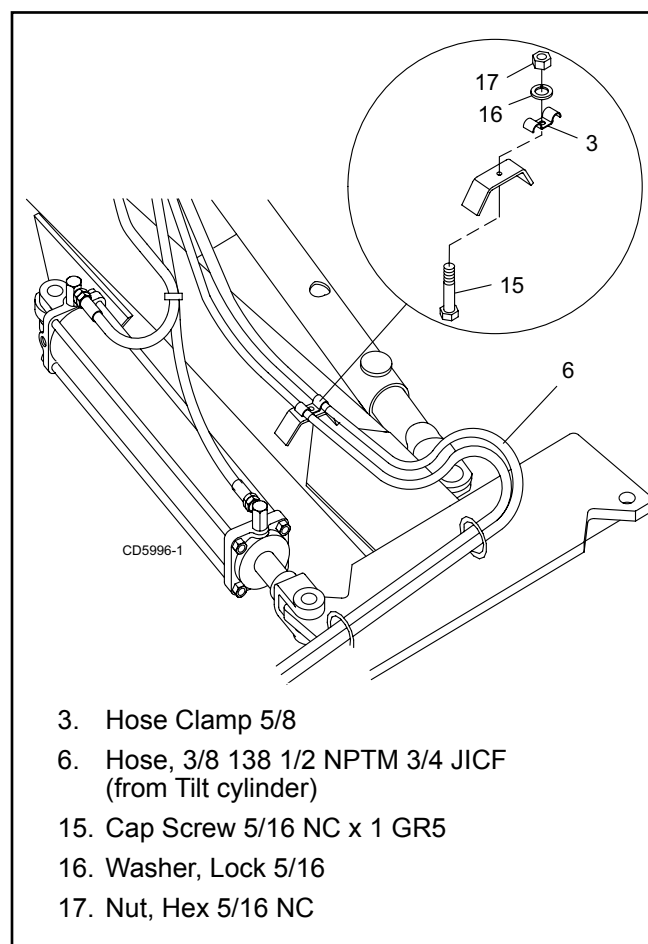
### Install Hydraulic Tilt Kit

**NOTE:** If Rear Blade is equipped with hydraulic angle cylinder, route tilt kit hydraulic hoses as shown in Figure 18.

1. Attach hose clamp (3) to boom as shown in Figure 19.
2. Position tape marked on hoses (6) at hose clamp (3).
3. Secure hose clamp (3) with cap screw (15), lock washer (16), and hex nut (17).



**Figure 18.** Hydraulic Tilt and Angle Kit Hose Routing



**Figure 19.** Hose Clamp Installation

## Model: SA or Optional Offset Kit 1004872

1. Bracket - SMV Sign
2. Valve Double Relief 1600 psi
3. Hyd Cylinder 3-1/2 x 16
4. Elbow, 3/4 ORBM 3/4 JICM 90
5. Elbow, 3/4 JICM x 3/4 ORMB 45
6. Hose, 3/8 18 3/4 ORBM 3/4 JICF
7. Hose, 3/8 24 3/4 ORBM 3/4 JICF
8. Hose, 3/8 28 3/4 ORBM 3/4 JICF
9. Hose, 3/8 34 3/4 ORBM 3/4 JICF
10. Hose, 3/8 66 1/2 NPTM 3/4 JICF
11. Binding Strap, 14-1/2
21. Cap Screw, 5/16 NC x 5-1/2 GR5
22. Washer, Flat 5/16 Standard
23. Washer, Lock 5/16
24. Nut, Hex 5/16 NC

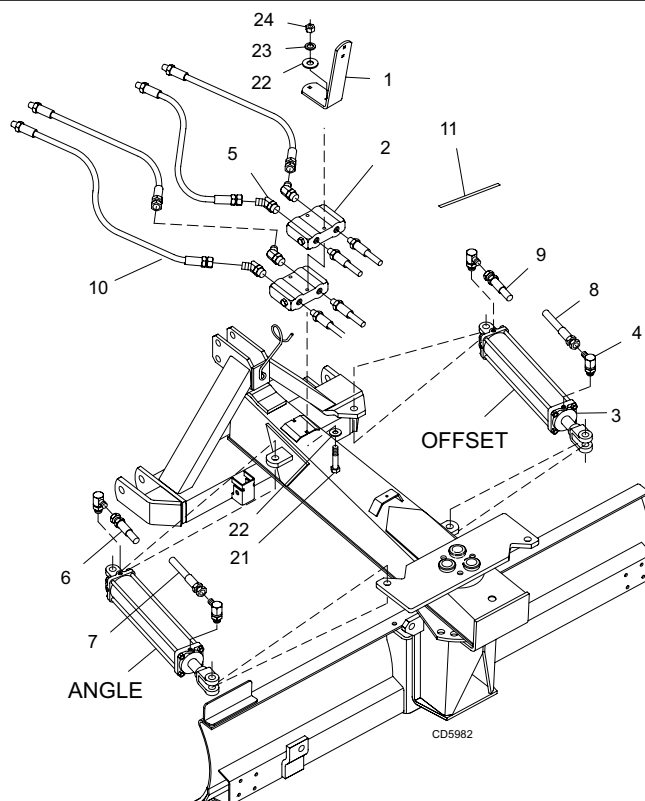


Figure 20. Offset Kit Installation

### Install Hydraulic Offset Cylinder

Refer to Figure 20.

**NOTE:** Hydraulic angle cylinder must be installed with this offset kit.

1. Install hydraulic angle kit as instructed on page 19. Remove 84" hoses from angle cylinder if previously installed.
2. Attach hydraulic cylinder (3) between A-Frame and boom as shown in Figure 20. Secure with pins supplied with the cylinder.
3. Install adjustable elbows (4) to cylinder (3).
4. Remove bracket (1) and hardware if previously installed.
5. Install 45-degree elbows (5) into relief valves (2). Position elbows outward as shown.
6. Attach both valve blocks (2) and bracket (1) to boom using two cap screws (21), four flat washers (22), two lock washers (23), and hex nuts (24).
7. Attach hoses (10) to elbows (5) as shown.
8. Attach hoses (8 & 9) to back side of relief valves (2) and offset cylinder (3) as shown in Figure 21.
9. Attach hoses (6 & 7) to back of relief valves (2) and angle cylinder as shown in Figure 21.

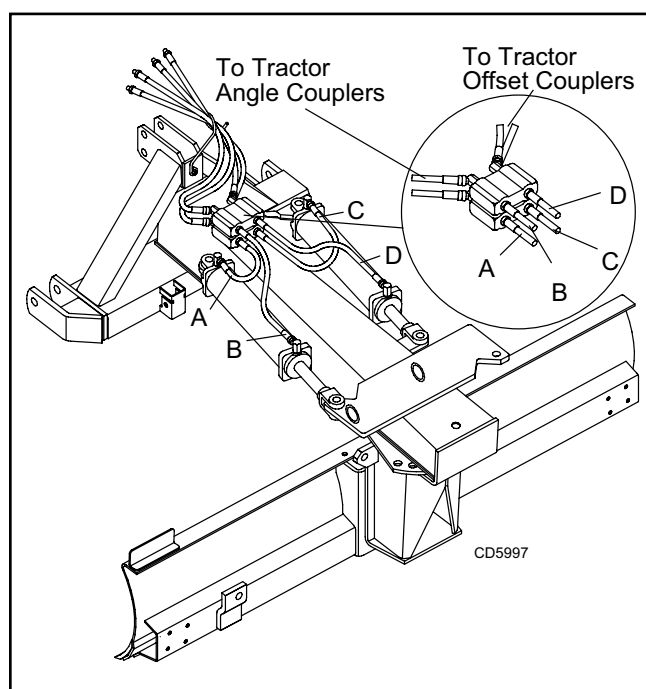


Figure 21. Hose Connection

# HYDRAULIC CONFIGURATION

## Model: H

### Install Hydraulic Cylinders

Refer to Figure 22.

1. Place hydraulic angle arm (1) on boom as shown.
  2. Secure into position using three cap screws (33), lock washers (35), and flat washers (34).
  3. Attach hydraulic angle cylinder (5) to boom and hydraulic angle arm assembly as shown. Secure with pins supplied with the cylinder.
  4. Attach hydraulic offset cylinder (5) to A-Frame and boom as shown. Secure with pins supplied with the cylinder.
  5. Attach hydraulic tilt cylinder (4) to pivot assembly and blade as shown. Secure with pins supplied with the cylinder.
  6. Install two adjustable elbows (6) to each of the hydraulic cylinders as shown.
  7. Install two hoses (15) to the hydraulic tilt cylinder.
- NOTE:** Do not install angle and offset cylinders hoses at this time.
8. Attach hose holder (9) to back side of A-Frame as shown. Secure using one carriage bolt (28), flat washer (29), and lock nut (30).

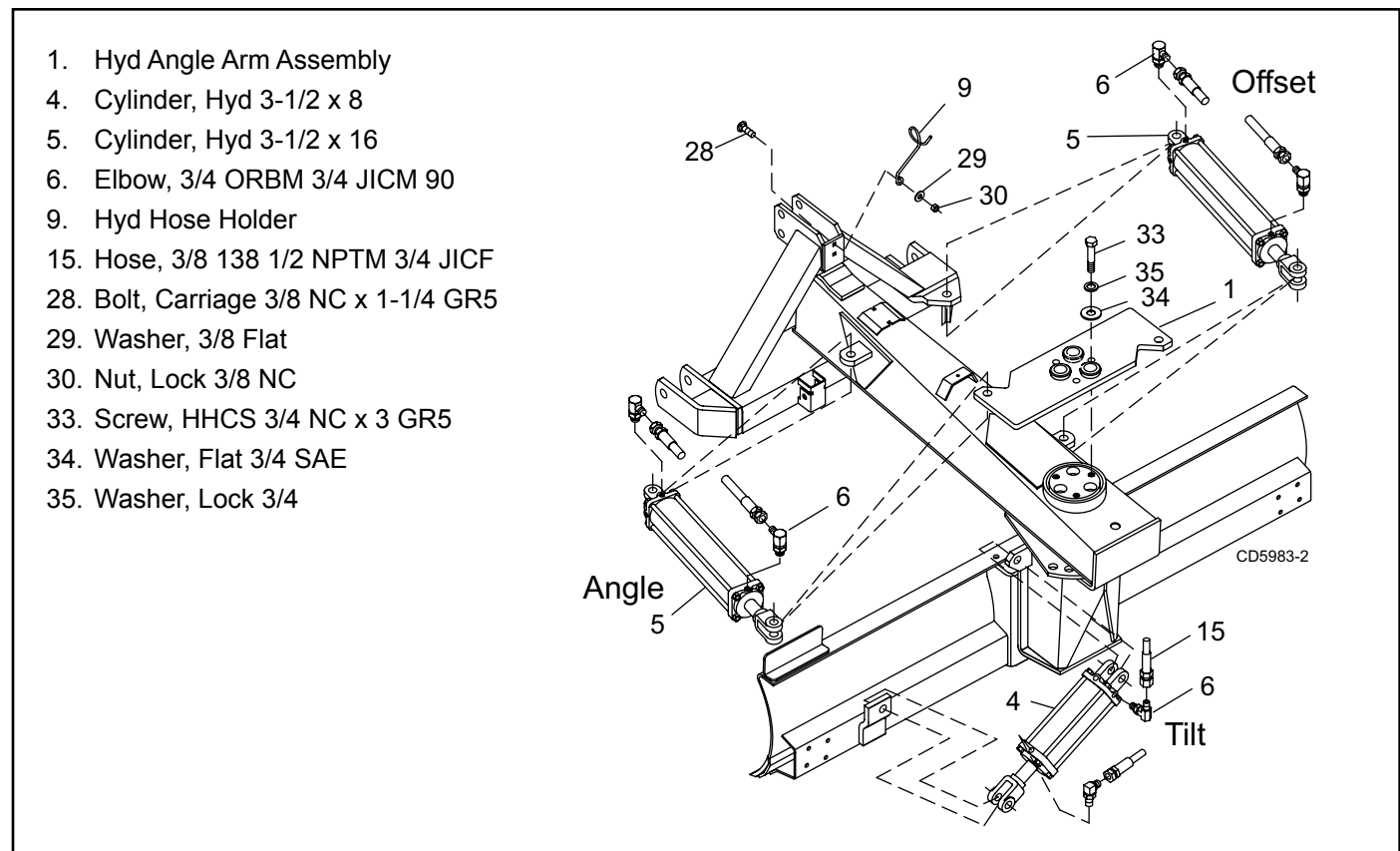
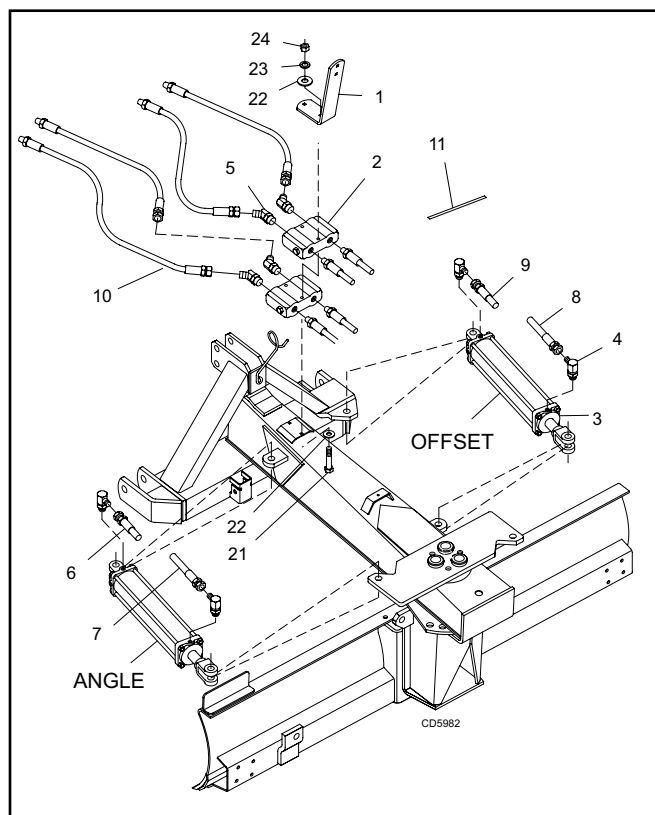


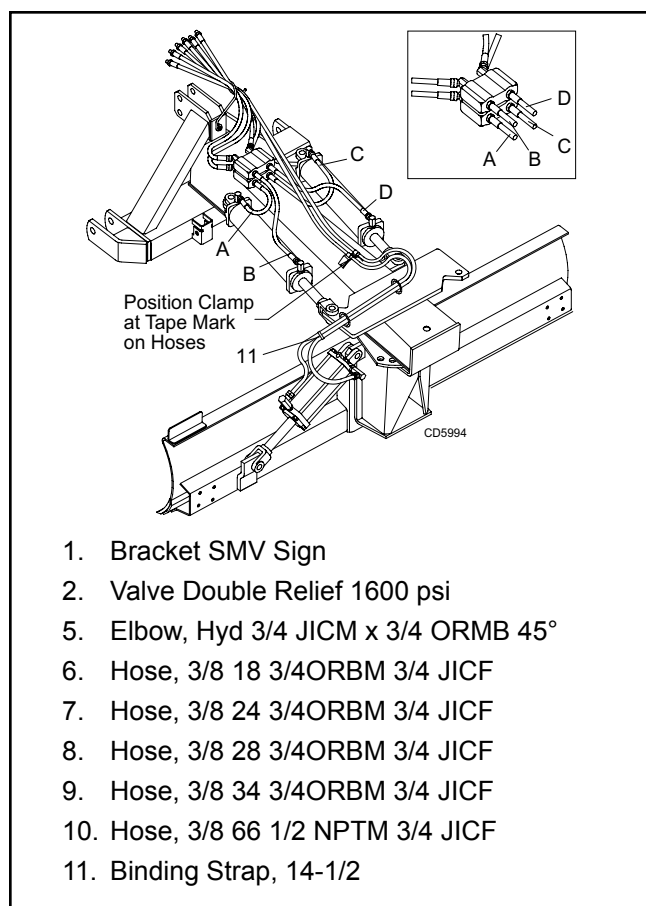
Figure 22. Hydraulic Cylinder Installation

## Install Relief Valves and Hoses

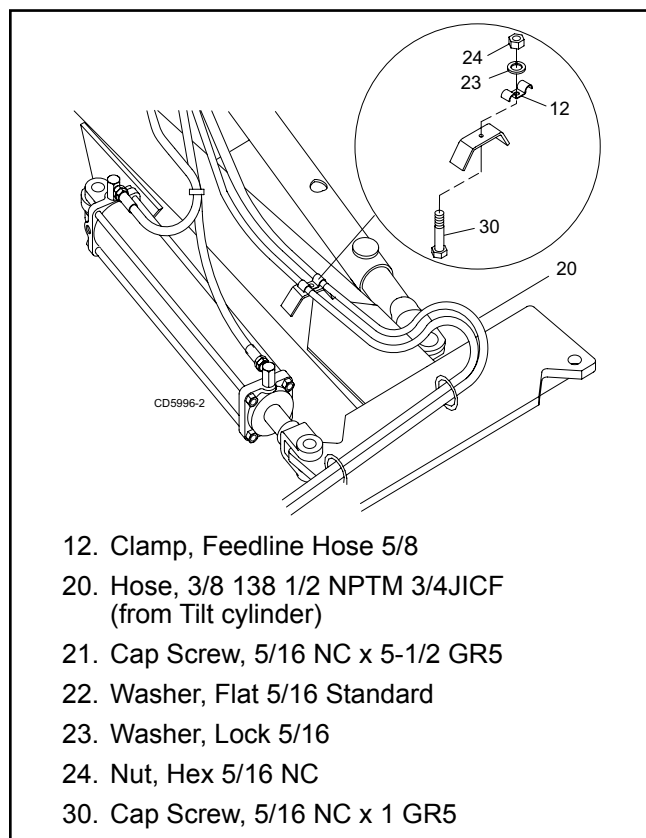
1. Install 45-degree elbows (5) into relief valves (2). Position elbows outward as shown in Figure 23.
2. Attach both valve blocks (2) and SMV bracket (1) to boom using two cap screws (21), four flat washers (22), two lock washers (23), and hex nuts (24).
3. Attach hoses (10) to elbows (5) as shown.
4. Attach hoses (8 & 9) to back side of relief valves (2) and offset cylinder (3) as shown.
5. Attach hoses (6 & 7) to back of relief valves (2) and angle cylinder as shown in Figure 23.
6. Attach hose clamp (12) to boom as shown in Figure 25.
7. Position tape marked on hoses (20) at hose clamp (12).
8. Secure hose clamp (12) with cap screw (30), lock washer (23), and hex nut (24).
9. Route hoses as shown in Figure 24.



**Figure 23.** Relief Valve and Hose Installation



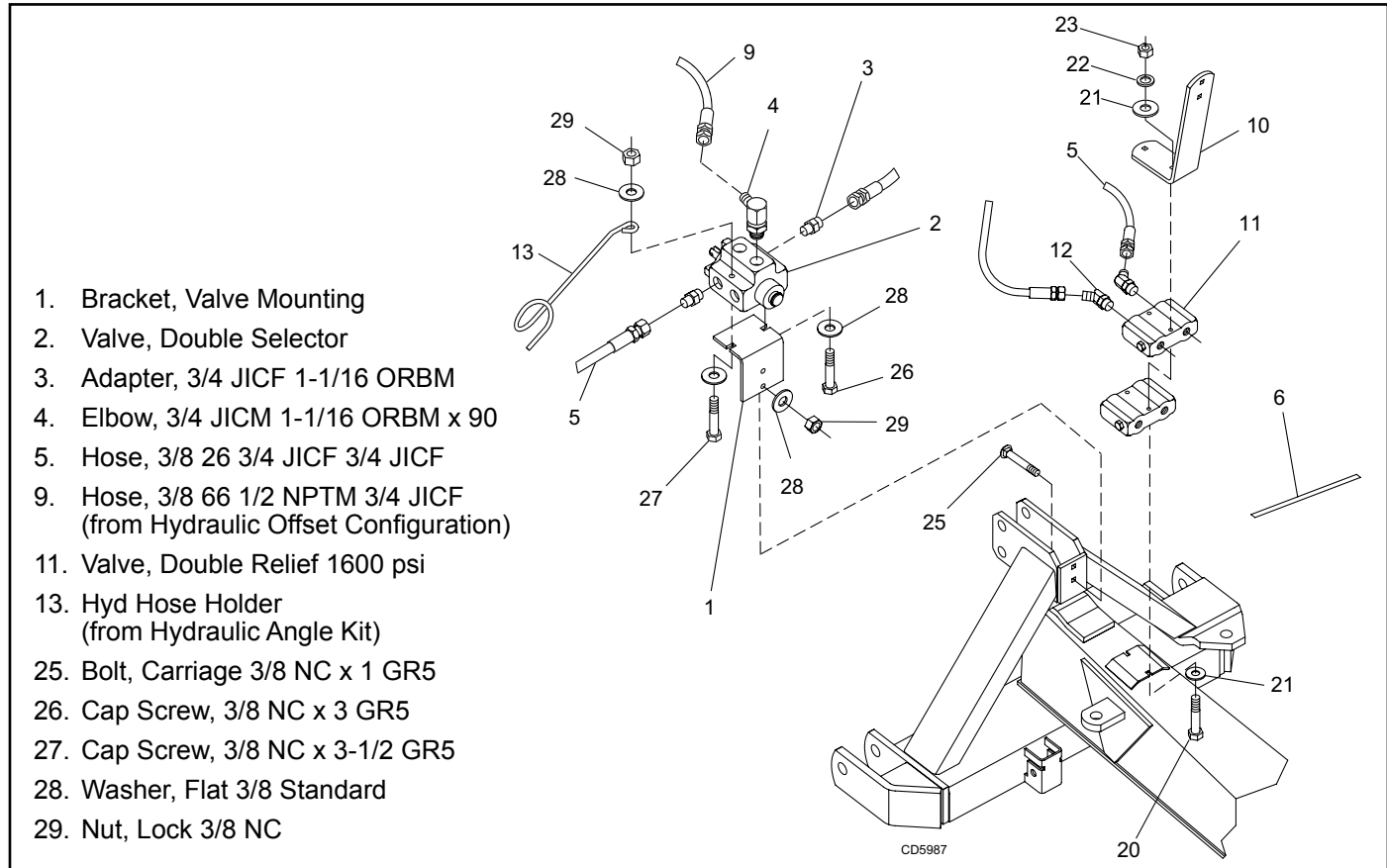
**Figure 24.** RB750H/RB850H Hose Routing



**Figure 25.** Hose Clamp Installation



## Install Selector Valve Kit 1004873 (Optional)



**Figure 26.** Selector Valve Kit Installation

### Refer to Figure 26.

**NOTE:** Double relief valves must be installed for use with this option.

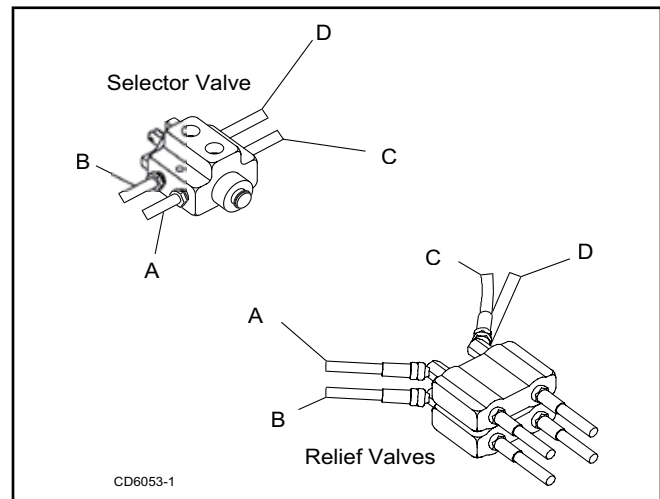
1. Remove hoses on the tractor side of double relief valves. Two of these hoses will be reused to complete the selector valve installation.
2. Remove hose holder (13) and hardware from the A-Frame if previously installed during angle kit assembly.
3. Attach double selector valve (2) to valve mounting bracket (1). Secure with cap screw (26), cap screw (27), four flat washers (28), and lock nuts (29).

**NOTE:** Cap screw (27) is 3-1/2 inches long and used for attaching hose holder (13) to the top of the selector valve as shown in Figure 26.

Hose holder can be positioned on either side of the selector valve, depending on the location of the tractor remote couplers.

4. Attach selector valve and bracket assembly to the A-Frame. Secure in place using two carriage bolts (25), flat washers (28), and lock nuts (29).
5. Install four adapter fittings (3) in the side ports of the selector valve (2).

6. Install four 26" hoses (5) between adapter fittings (3) in side ports of the selector valve (2) and the relief valve (11). See Figure 27 for hose connections.
7. Install two elbows (4) into the top ports of the selector valve.
8. Install two 66" hoses (9) into elbows (4) on the top of the selector valve.

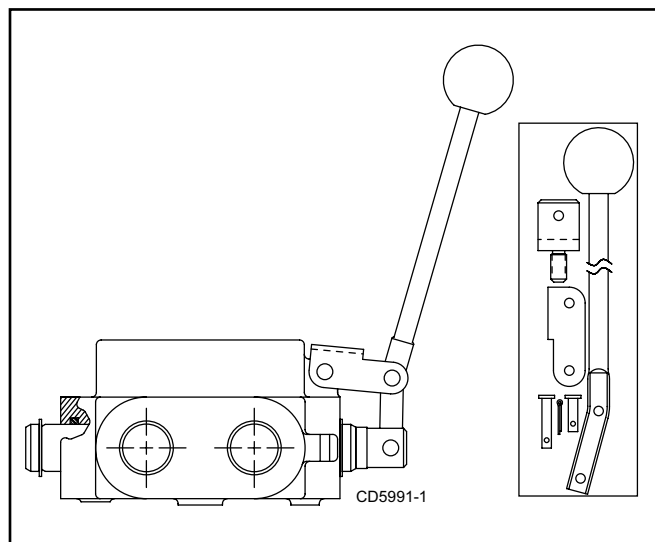


**Figure 27.** Selector Valve Hose Connections

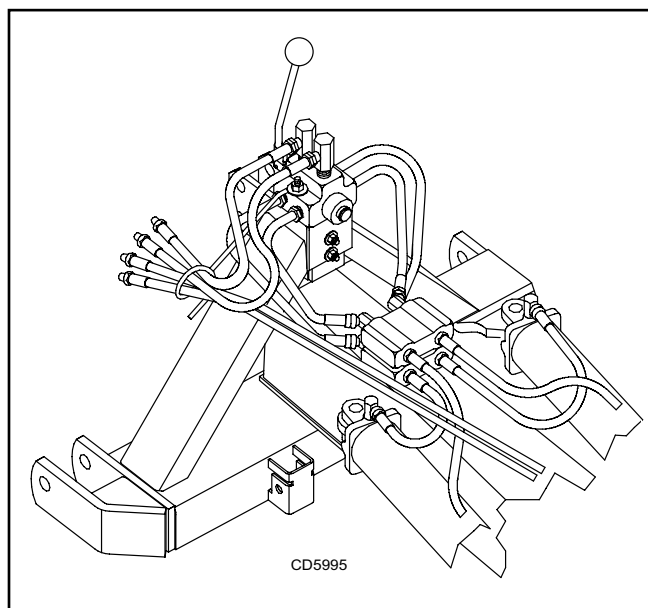
## Install Selector Valve Kit 1004873 (Optional) Cont'd

9. Attach handle kit (1004296) to selector valve.

10. Route hoses as shown in Figure 29.



**Figure 28.** 1004296 Handle Kit Installed



**Figure 29.** Selector Valve Hose Routing

## OPTIONAL EQUIPMENT - ALL MODELS

### Install Pneumatic Tail Wheel W28775 (Optional)

#### IMPORTANT

- When grading with tail wheel attached, do not attach upper link of tractor 3-point hitch to blade without using floating links (2 & 3). Without floating links, equipment damage may result and void warranty.

Refer to Figure 30.

The tail wheel is very helpful for finish grading and leveling work. The ratchet controls the approximate cutting height.

1. Remove top link of tractor 3-point hitch.
2. Attach float links (2 & 3) and sleeve (4) to inside of the top holes of A-Frame. 3/4 dia. welded pin on side of float links must face outward and be located on the bottom end.

**NOTE:** Do not use with Category 2 quick-attach couplers.

3. Secure into position with top link pin.
4. Attach bracket (9) to boom assembly with clevis pin (10), two flat washers (12) and two cotter pins (13). Secure together with cap screw (14).
5. Attach tail wheel arm (15) and yoke (24) to bracket (9) with clevis pin (11), washers (26), and cotter pin (13).
6. Attach ratchet (8) between bracket (9) and tail wheel arm (15). Secure with pins supplied with ratchet.
7. Attach top link to float links (2 & 3) using clevis pin (5), two SAE flat washers (6), and cotter pins (7).

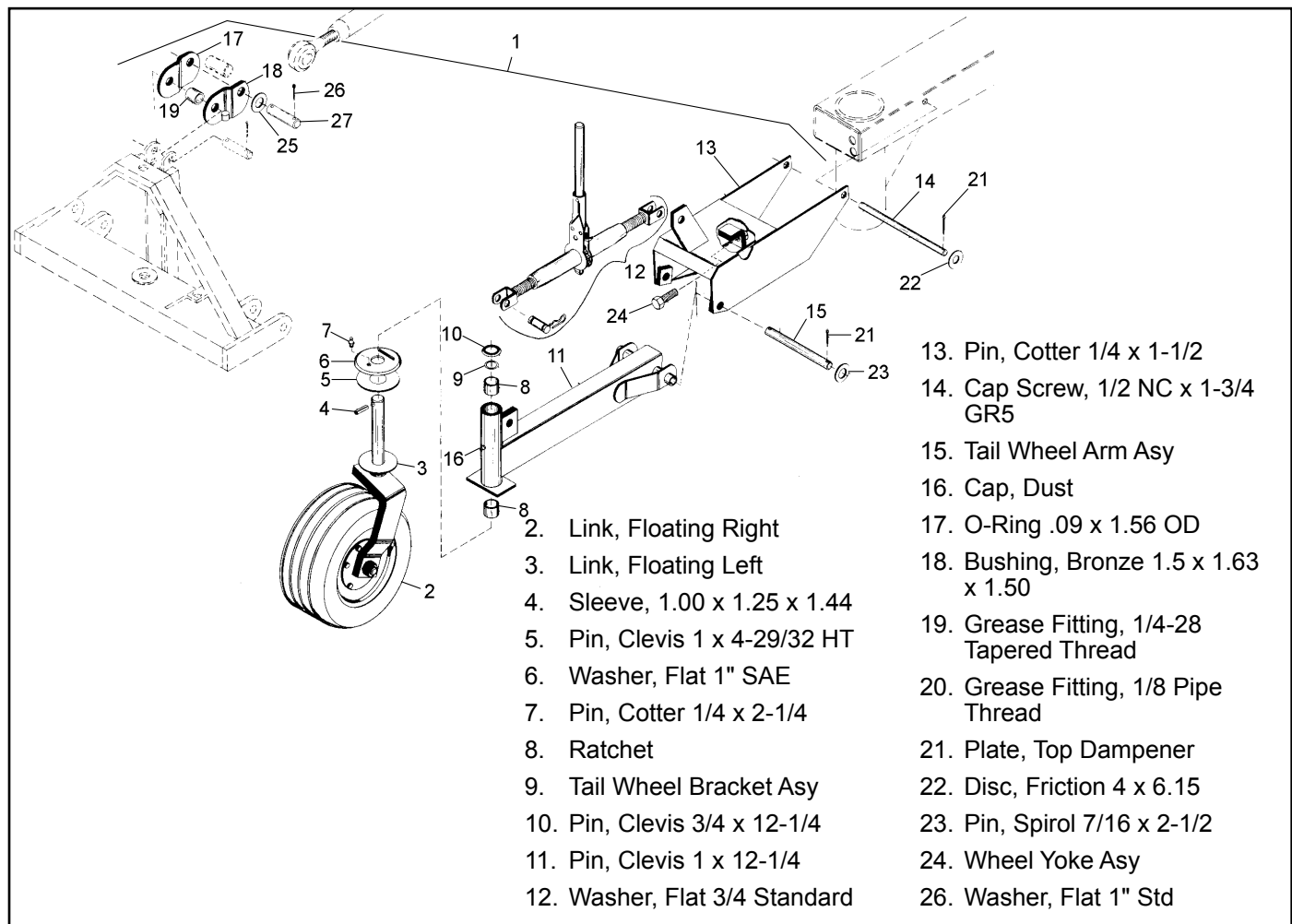


Figure 30. Pneumatic Tail Wheel Installation

## Install Skid Shoe Kit 18296 (Optional)

1. Attach the bracket (1) to the blade with four cap screws (8) and lock nuts (9) as shown in Figure 31. Torque hardware to 85 lbs.-ft (115 N-m).
2. Insert skid assembly (3) into tube of bracket (1) and secure with klik pin (4).
3. The cutting edge height is controlled by adjusting the skid shoes with a combination of spacers (2) and washers (10).

4. To raise the cutting edge, place spacer(s) (2) and washer(s) (10) under skid shoe bracket (1).

To lower the cutting edge, place spacer(s) (2) and washer(s) (10) on top of skid shoe bracket (1).

**NOTE:** Before using, make sure that skid shoes rotate freely. If not, work them loose to avoid premature wear. Rotating shoes will last longer.

Grease at assembly and after every eight hours of use.

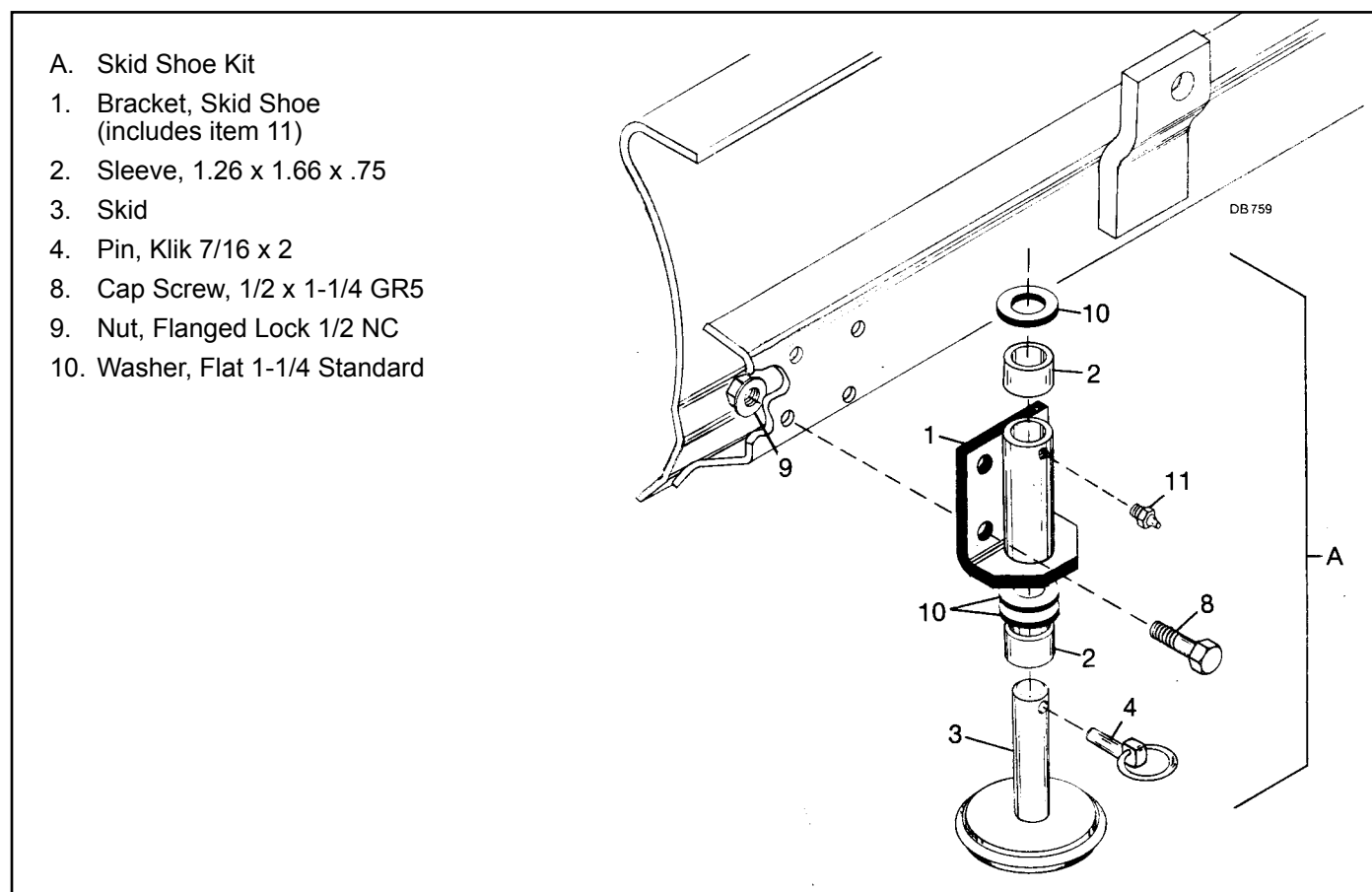
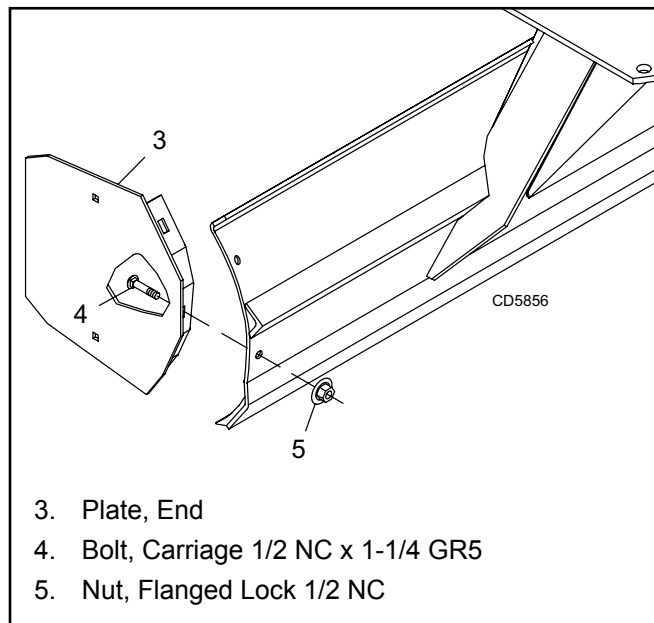


Figure 31. Skid Shoe Installation

## Install End Plate Kit 22658 (Optional)

1. Attach end plates (3) to each end of blade assembly. Use two carriage bolts (4) and flanged lock nuts (5) to each plate.
2. Torque to 85 lbs.-ft (115 N-m).



**Figure 32.** End Plate Installation

# 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 all bolts to be sure they are properly torqued.
- \_\_\_\_\_ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- \_\_\_\_\_ Check and grease all lubrication points.

## DEALER DELIVERY CHECKLIST (DEALER'S RESPONSIBILITY)

- \_\_\_\_\_ Show customer how to make adjustments.
- \_\_\_\_\_ 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.
- \_\_\_\_\_ Instruct customer how to lubricate and explain importance of lubrication.
- \_\_\_\_\_ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- \_\_\_\_\_ Explain to customer that when equipment is transported on a road or highway, a Slow Moving Vehicle (SMV) sign should be used to provide adequate warning to operators of other vehicles.



## PARTS INDEX

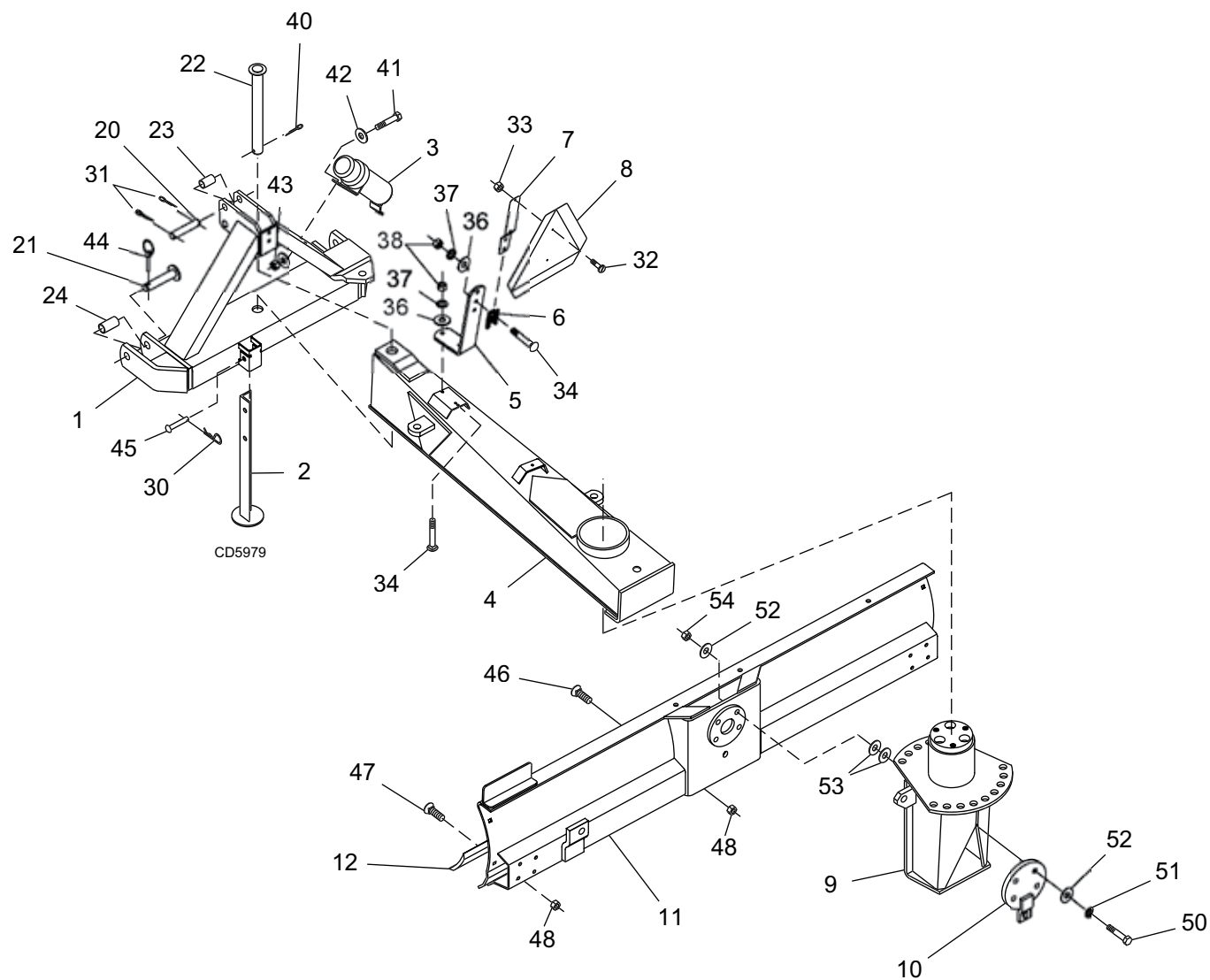
### REAR BLADES

**RB750-4    RB750-4H**

**RB850-4    RB850-4H**

|   |       |
|---|-------|
| MAIN ASSEMBLY . . . . .                                 | 32–33 |
| MODELS: M & MT . . . . .                                | 34    |
| MODELS: MA, SA, & TA . . . . .                          | 35    |
| MODEL: H . . . . .                                      | 36–37 |
| HYDRAULIC TILT KIT 1004871 FOR MODELS: MT & TA. . . . . | 38    |
| HYDRAULIC OFFSET KIT 1004872 FOR MODEL: SA . . . . .    | 39    |
| HYDRAULIC ANGLE KIT 1004870 . . . . .                   | 40    |
| SELECTOR VALVE KIT 1004873 . . . . .                    | 41    |
| SELECTOR VALVE 1004261 . . . . .                        | 42    |
| RELIEF VALVE 1004260. . . . .                           | 42    |
| HYDRAULIC CYLINDER ASSEMBLY . . . . .                   | 43    |
| PNEUMATIC TAIL WHEEL ASSEMBLY . . . . .                 | 44    |
| WHEEL HUB, TIRE & WHEEL ASSEMBLY . . . . .              | 45    |
| SKID SHOE KIT 18296 . . . . .                           | 46    |
| END PLATE KIT 22658 . . . . .                           | 46    |

# RB750-4 & RB850-4 MAIN ASSEMBLY



**32 Parts**

MAN0160  
(05/16/2023)



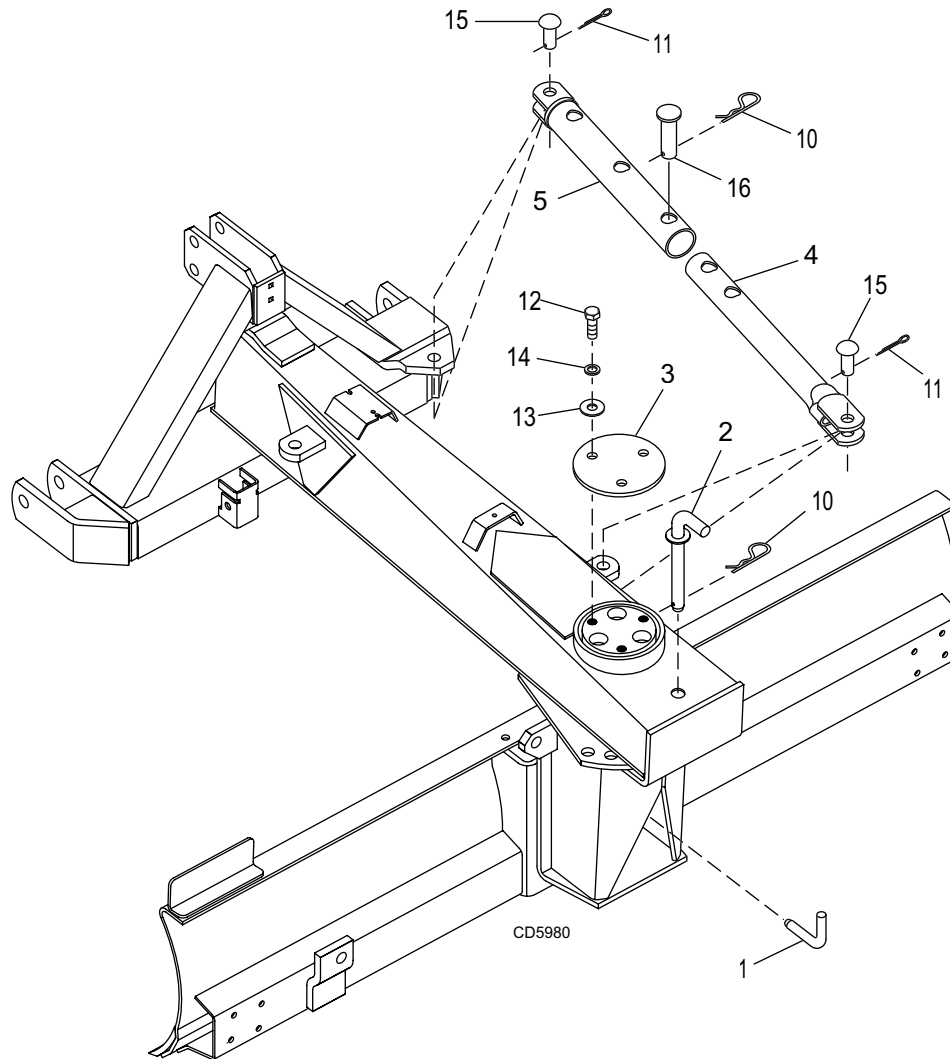
## RB750-4 & RB850-4 MAIN ASSEMBLY PARTS LIST

| REF | PART      | QTY | DESCRIPTION                    | REF | PART    | QTY | DESCRIPTION   |
|-----|-----------|-----|--------------------------------|-----|---------|-----|---|
| 1   | 1005001   | 1   | A-Frame with Decals            | 37  | 2472    | 4*  | Washer, 5/16 Lock   |
| 2   | 28418RP   | 1   | Parking Stand Assembly         | 38  | 4529    | 4*  | Nut, Hex 5/16 NC GR5  |
| 3   | 1003828   | 1   | Manual Tube                    | 40  | 744     | 1*  | 3/8 x 2-1/2 Cotter Pin  |
| 4   | 1005002   | 1   | Boom with Decals               | 41  | 839     | 3*  | Cap screw, 3/8 NC x 1 GR5                                       |
| 5   | 1004262RP | 1   | Bracket - SMV Sign             | 42  | 565     | 6*  | Washer, 3/8 Flat  |
| 6   | 62484     | 1   | Socket SMV Emblem              | 43  | 6698    | 3*  | Nut, Lock 3/8 NC  |
| 7   | 1004251   | 1   | SMV Bracket                    | 44  | 27542   | 2   | 7/16 x 11/32 Klik Pin HT  |
| 8   | 24611     | 1   | Slow Moving Vehicle Sign       | 45  | 8099    | 1   | Pin, Clevis 5/8 x 3-3/4 HT                                      |
| 9   | 28363RP   | 1   | Pivot Assembly                 | 46  | 26920   | 2   | Bolt, Plow 5/8 NC x 1-3/4 GR5                                   |
| 10  | 27549RP   | 1   | Retainer Assembly              | 47  | 21261   | 6   | Bolt, 5/8 NC x 2.0 Plow GR8                                     |
| 11  | 1004857   | 1   | RB750-4 Moldboard Assembly     | 48  | 6239    | 8*  | Nut, Lock 5/8 NC  |
|     |           |     | or                             | 50  | 14334   | 4*  | Cap screw, 3/4 NC x 3 GR5                                       |
| 11  | 1004858   | 1   | RB850-4 Moldboard Assembly     | 51  | 2522    | 4*  | Washer, 3/4 Lock  |
| 12  | 25263     | 1   | Edge, Cutting .50 x 6.0 x 83   | 52  | 1257    | 8*  | Washer, 3/4 Flat  |
|     |           |     | or                             | 53  | 11036   | 8   | Washer, 3/4 x 1-1/2 x 18 ga                                     |
| 12  | 25270     | 1   | Edge, Cutting .50 x 6.0 x 95   | 54  | 1450    | 4*  | Nut, Hex 3/4 NC   |
| 20  | 26148     | 1   | Pin, Clevis 1 x 4-29/32 HT     | N/S | -----   |     | Decal, Model RB750<br>(discontinued Order<br>Woods Decal, 4225) |
| 21  | 27573     | 2   | Hitch Pin 1-1/8                | N/S | 1004256 |     | Decal, Model Decal RB850  |
| 22  | 27546     | 1   | Pivot Pin                      |     |         |     |   |
| 23† | 14695     | 1   | Sleeve, 1 x 1-1/4 x 2          |     |         |     |   |
| 24† | 26100     | 2   | Sleeve, 1-1/8 x 1-7/16 x 2-5/8 |     |         |     |   |
| 30  | 18270     | 1*  | 3/16 Safety Pin                |     |         |     |   |
| 31  | 923       | 4*  | 1/4 x 1-3/4 Cotter Pin         |     |         |     |   |
| 32  | 1282      | 2*  | Screw, 1/4 NC x 1/2            |     |         |     |   |
| 33  | 5288      | 2*  | Nut, 1/4 NC                    |     |         |     |   |
| 34  | 14458     | 4*  | Bolt, Carriage 5/16 NC x 1-1/4 |     |         |     |   |
| 36  | 4378      | 4*  | Washer, 5/16 Flat              |     |         |     |   |

\* Standard Hardware, obtain locally  
N/S Not Shown  
† Optional sleeves for Category 2 Quick Hitch and Category 3 three point hitch; order bushing kit 18295

**NOTE:** For safety decals, see pages 7 and 8.  
Order decals separately.

## RB750-4 & RB850-4 - MODELS: M & MT

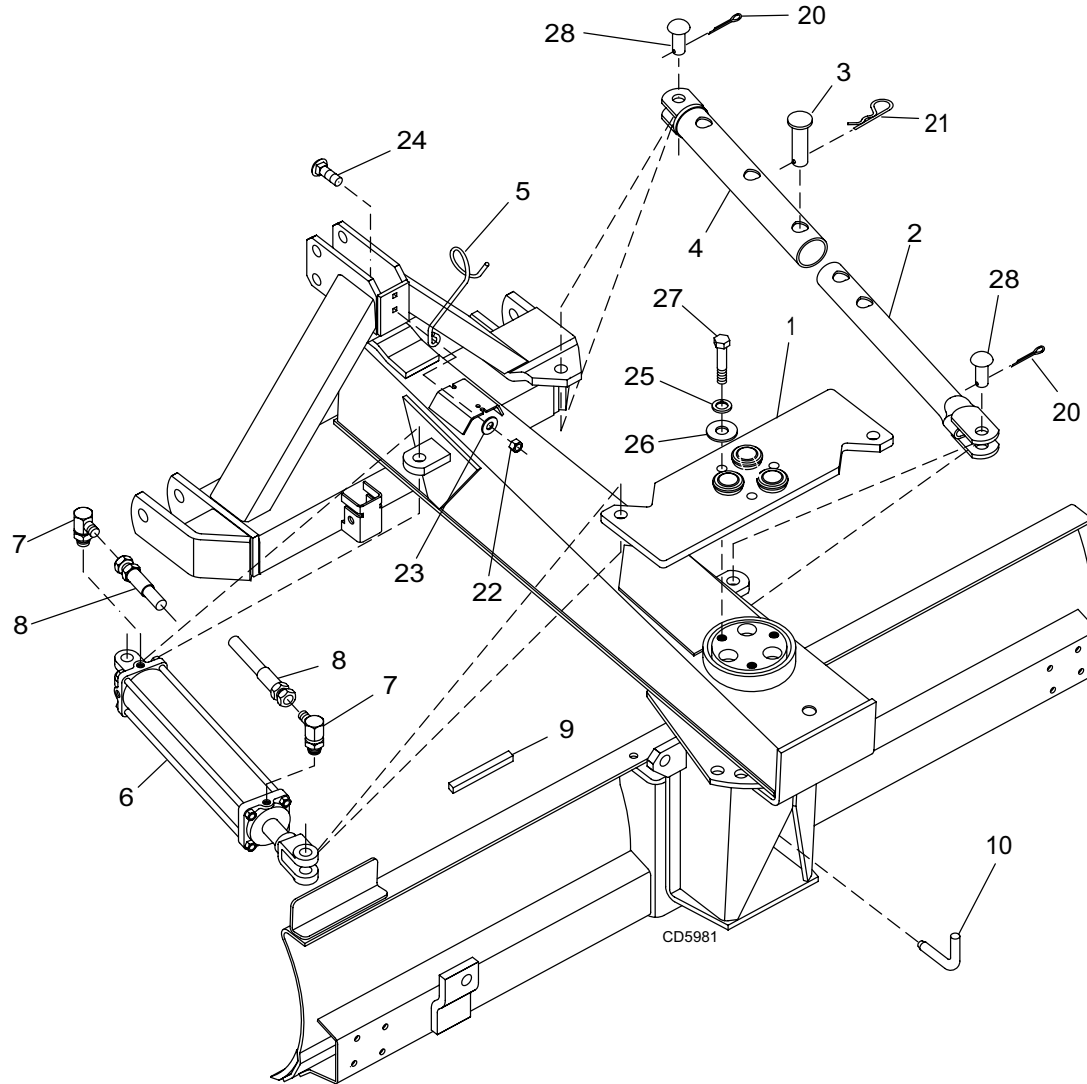


| REF | PART    | QTY | DESCRIPTION                   |
|-----|---------|-----|-------------------------------|
| 1   | 27543   | 1   | Tilt Lock Pin                 |
| 2   | 27544   | 1   | Lock Pin Assembly             |
| 3   | 28360RP | 1   | Retaining Cap                 |
| 4   | 27552RP | 1   | Swing Link Inner              |
| 5   | 27555RP | 1   | Swing Link Outer              |
| 10  | 18270   | 2*  | 3/16 Safety Pin               |
| 11  | 923     | 2*  | 1/4 x 1-3/4 Cotter Pin        |
| 12  | 13759   | 3*  | Cap Screw, 3/4 NC x 2-1/4 GR5 |
| 13  | 2864    | 3*  | Washer, 3/4 SAE Flat          |
| 14  | 2522    | 3*  | Washer, 3/4 Lock              |
| 15  | W8341   | 2   | Pin, Clevis 1 x 2-1/2 HT      |
| 16  | 26446   | 1   | Lock Pin                      |

\* Standard Hardware, obtain locally

For Model **MT** proceed to page 38 for Hydraulic Tilt Kit Parts List.

## RB750-4 & RB850-4 MODELS: MA, SA, & TA

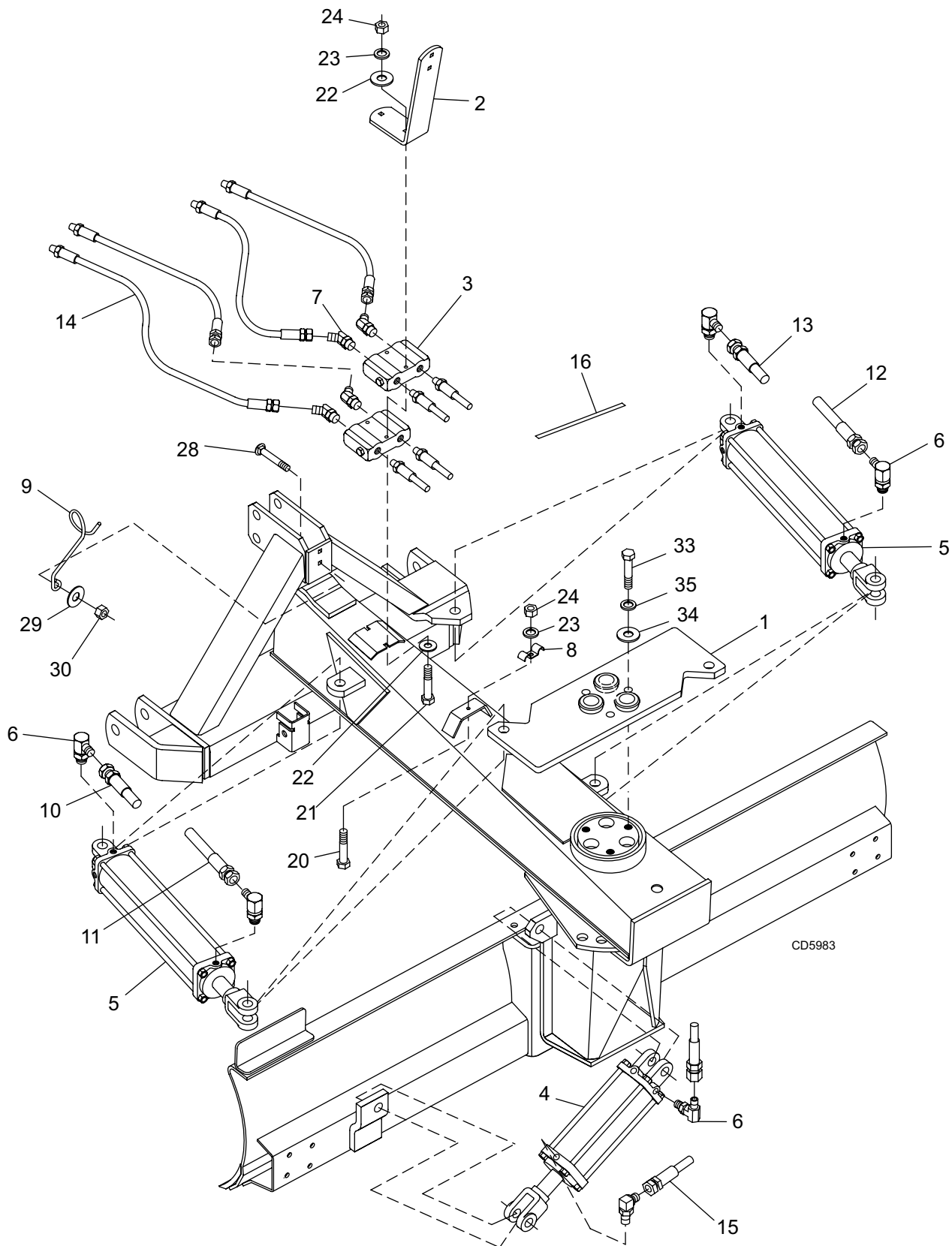


| REF | PART    | QTY | DESCRIPTION                    | REF | PART  | QTY | DESCRIPTION                       |
|-----|---------|-----|--------------------------------|-----|-------|-----|-----------------------------------|
| 1   | 27599RP | 1   | Hydraulic Angle Arm Assembly   | 20  | 923   | 4*  | 1/4 x 1-3/4 Cotter Pin            |
| 2   | 27552RP | 1   | Swing Link, Inner              | 21  | 18270 | 2*  | 3/16 Safety Pin                   |
| 3   | 26446   | 1   | Lock Pin                       | 22  | 6698  | 1*  | Nut, Lock 3/8 NC                  |
| 4   | 27555RP | 1   | Swing Link, Outer              | 23  | 565   | 1*  | Washer, 3/8 Flat                  |
| 5   | 3443    | 1   | Hyd Hose Holder                | 24  | 20973 | 1*  | Bolt, Carriage 3/8 NC x 1-1/4 GR5 |
| 6   | 597277  | 1   | Hyd Cylinder 3.5 x 1.50 x 16.0 | 25  | 2522  | 3*  | Washer, 3/4 Lock                  |
| 7   | 316004  | 2   | Elbow, 3/4 ORBM 3/4 JICM 90°   | 26  | 2864  | 3*  | Washer, 3/4 SAE Flat              |
| 8   | 1004284 | 2   | Hose, 3/8 84 1/2 NPTM 3/4 JICF | 27  | 14334 | 3*  | Cap Screw, 3/4 NC x 3 GR5         |
| 9   | W8641   | 3*  | Binding Strap, 14-1/2          | 28  | W8341 | 2   | Pin Clevis, 1 x 2-1/2 HT          |
| 10  | 27543   | 1   | Tilt Lock Pin                  |     |       |     |                                   |

\* Standard Hardware,  
Obtain Locally

For Model **TA** proceed to page 38 for Hydraulic Tilt Kit Parts list.  
For Model **SA** proceed To page 39 For Hydraulic Offset Parts List.

# RB750-4 RB850-4 MODEL: H



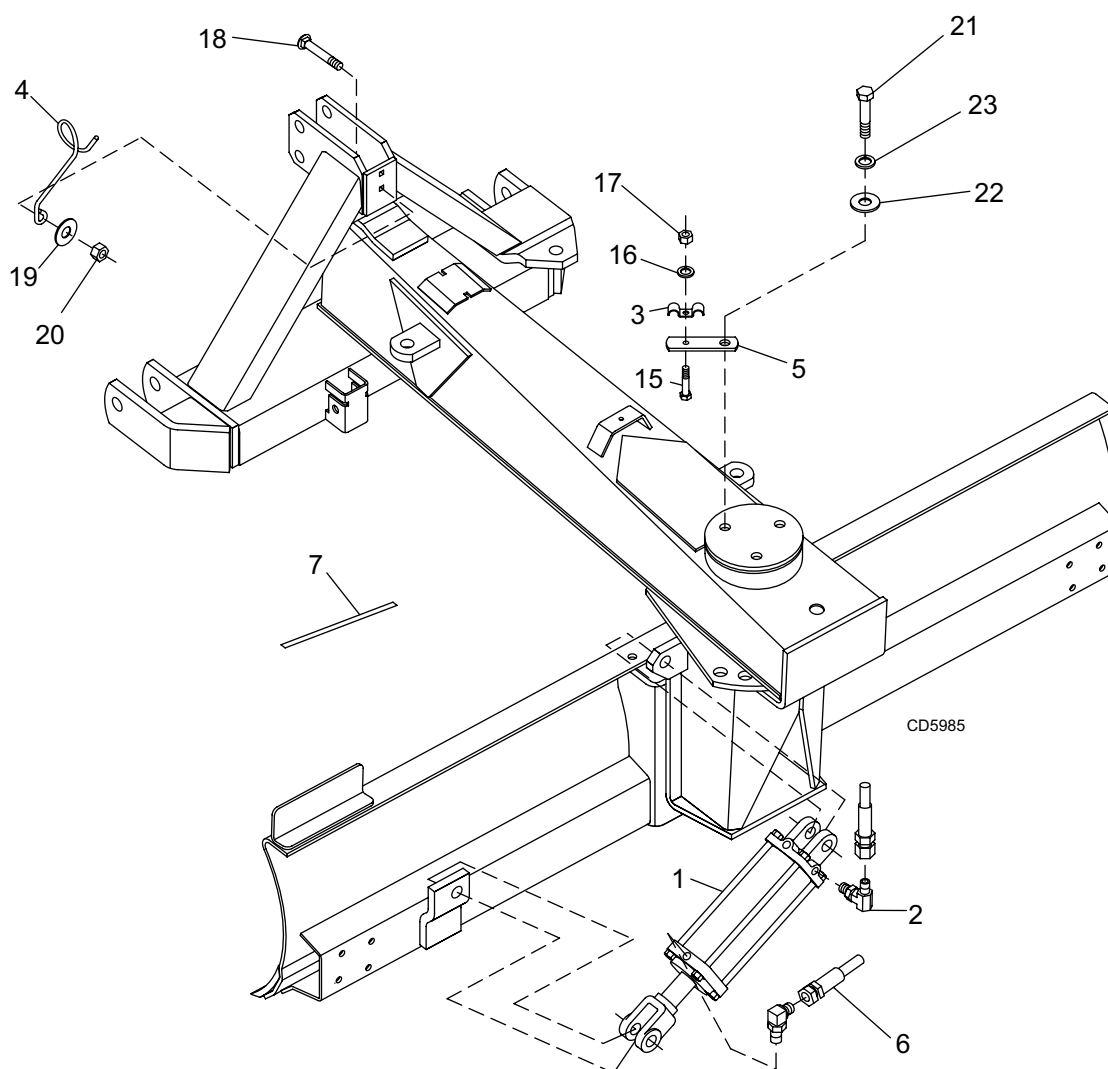
**36 Parts**

MAN0160  
(05/16/2023)

## RB750-4 & RB850-4 MODEL: H - PARTS LIST

| REF | PART      | QTY | DESCRIPTION                           | REF | PART    | QTY | DESCRIPTION                          |
|-----|-----------|-----|---------------------------------------|-----|---------|-----|--------------------------------------|
| 1   | 27599RP   | 1   | Hyd Angle Arm Assembly                | 15  | 1004285 | 2   | Hose, 3/8 138 1/2<br>NPTM 3/4 JICF   |
| 2   | 1004262RP | 1   | Bracket - SMV Sign<br>(From Main Asy) | 16  | W8641   | 6*  | Binding Strap, 14-1/2                |
| 3   | 1004260   | 2   | Valve Double Relief 1600psi           | 20  | 14562   | 1*  | Cap Screw, 5/16 NC x 1 GR5           |
| 4   | 597274    | 1   | Hyd Cylinder 3.5 x 1.25 x 8.0         | 21  | W300107 | 2*  | Cap Screw, 5/16<br>NC x 5-1/2 GR5    |
| 5   | 597277    | 2   | Hyd Cylinder 3.5<br>x 1.50 x 16.0     | 22  | 4378    | 4*  | Washer, 5/16 Flat                    |
| 6   | 316004    | 6   | Elbow, 3/4 ORBM<br>3/4 JICM 90°       | 23  | 2472    | 5*  | Washer, 5/16 Lock                    |
| 7   | 1004288   | 4   | Elbow, 3/4 ORBM<br>3/4 JICM 45°       | 24  | 4529    | 5*  | Nut, Hex 5/16 NC GR5                 |
| 8   | 56        | 1   | Hose Clamp 5/8                        | 28  | 20973   | 1*  | Bolt, Carriage 3/8<br>NC x 1-1/4 GR5 |
| 9   | 3443      | 1   | Hyd Hose Holder                       | 29  | 565     | 1*  | Washer, 3/8 Flat                     |
| 10  | 360181    | 1   | Hose, 3/8 18 3/4<br>ORBM 3/4 JICF     | 30  | 6698    | 1*  | Nut, Lock 3/8 NC                     |
| 11  | 360203    | 1   | Hose, 3/8 24 3/4ORBM<br>3/4 JICF      | 33  | 14334   | 3*  | Cap Screw, 3/4 NC x 3 GR5            |
| 12  | 1004286   | 1   | Hose, 3/8 28 3/4<br>ORBM 3/4 JICF     | 34  | 2864    | 3*  | Washer, 3/4 SAE Flat                 |
| 13  | 1004287   | 1   | Hose, 3/8 34 3/4<br>ORBM 3/4 JICF     | 35  | 2522    | 3*  | Washer, 3/4 Lock                     |
| 14  | 1004283   | 4   | Hose, 3/8 66 1/2<br>NPTM 3/4 JICF     |     |         | *   | Standard Hardware,<br>obtain locally |

## RB750-4 & RB850-4 HYDRAULIC TILT KIT 1004871 FOR MODELS: MT & TA

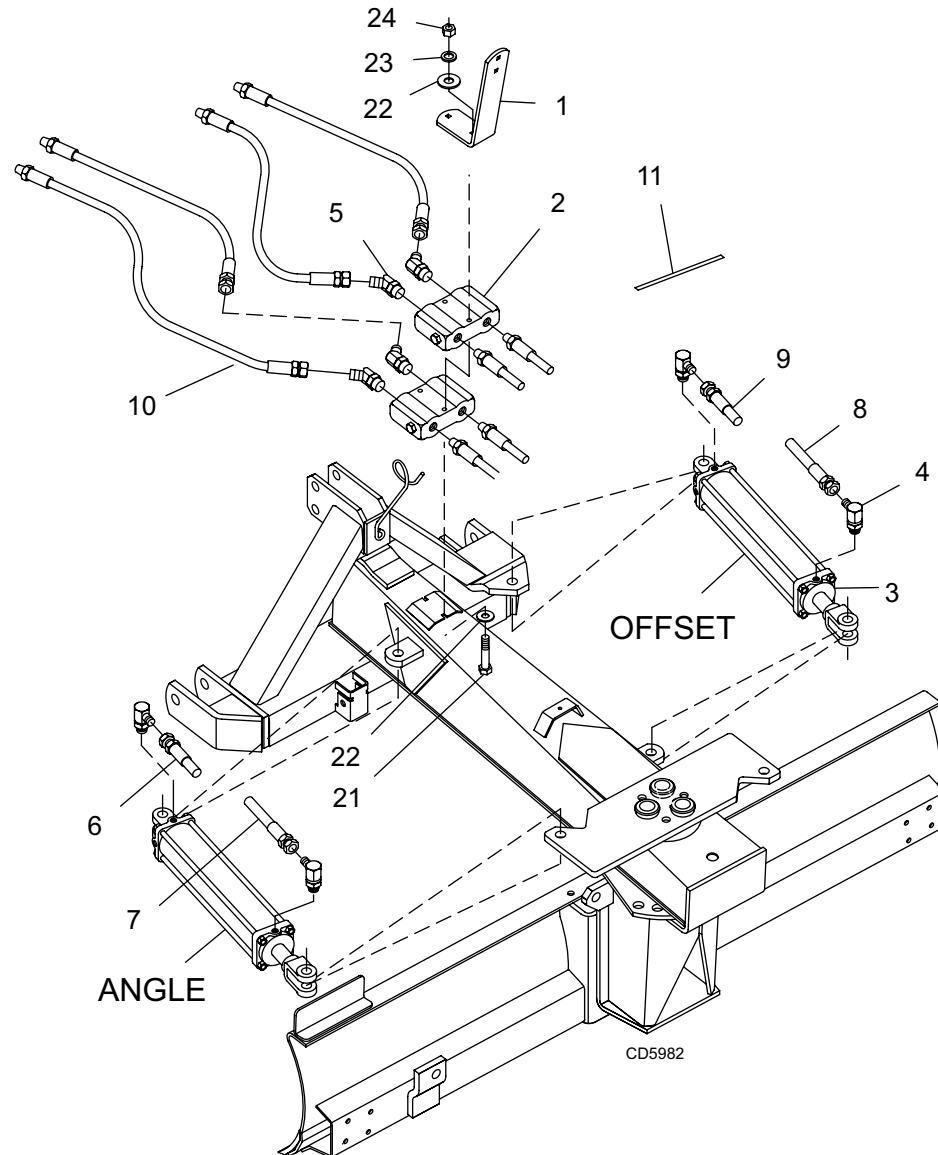


| REF | PART    | QTY | DESCRIPTION                          | REF | PART  | QTY | DESCRIPTION  |
|-----|---------|-----|--------------------------------------|-----|-------|-----|--|
| 1   | 597274  | 1   | Hyd Cylinder 3.5 x 1.25 x 8.0        | 19  | 565   | 1*  | Washer, 3/8 Flat   |
| 2   | 316004  | 2   | Elbow, 3/4 ORBM<br>3/4 JICM 90°      | 20  | 6698  | 1*  | Nut, Lock 3/8 NC   |
| 3   | 56      | 1   | Hose Clamp 5/8                       | 21# | 13759 | 3*  | Cap Screw, 3/4 NC<br>x 2-1/4 GR5   |
| 4   | 3443    | 1   | Hyd Hose Holder                      | 22# | 2864  | 3*  | Washer, 3/4 SAE Flat   |
| 5†  | 1004832 | 1   | Link - Hose Support                  | 23# | 2522  | 3*  | Washer, 3/4 Lock   |
| 6   | 1004285 | 2   | Hose, 3/8 138 1/2<br>NPTM 3/4 JICF   |     |       |     |  |
| 7   | W8641   | 3*  | Binding Strap, 14-1/2                |     |       |     | * Standard Hardware,<br>obtain locally   |
| 15  | 14562   | 1*  | Cap Screw, 5/16 NC x 1 GR5           |     |       |     | † Not used if blade has<br>hydraulic angle option.   |
| 16  | 2472    | 5*  | Washer, 5/16 Lock                    |     |       |     | # Not included in this kit; from<br>blade with mechanical angle<br>adjustment configuration. |
| 17  | 4529    | 5*  | Nut, Hex 5/16 NC GR5                 |     |       |     |  |
| 18  | 20973   | 1*  | Bolt, Carriage 3/8<br>NC x 1-1/4 GR5 |     |       |     |  |

# 38 Parts

MAN0160  
(05/16/2023)

## RB750-4 & RB850-4 HYDRAULIC OFFSET KIT 1004872 FOR MODEL: SA

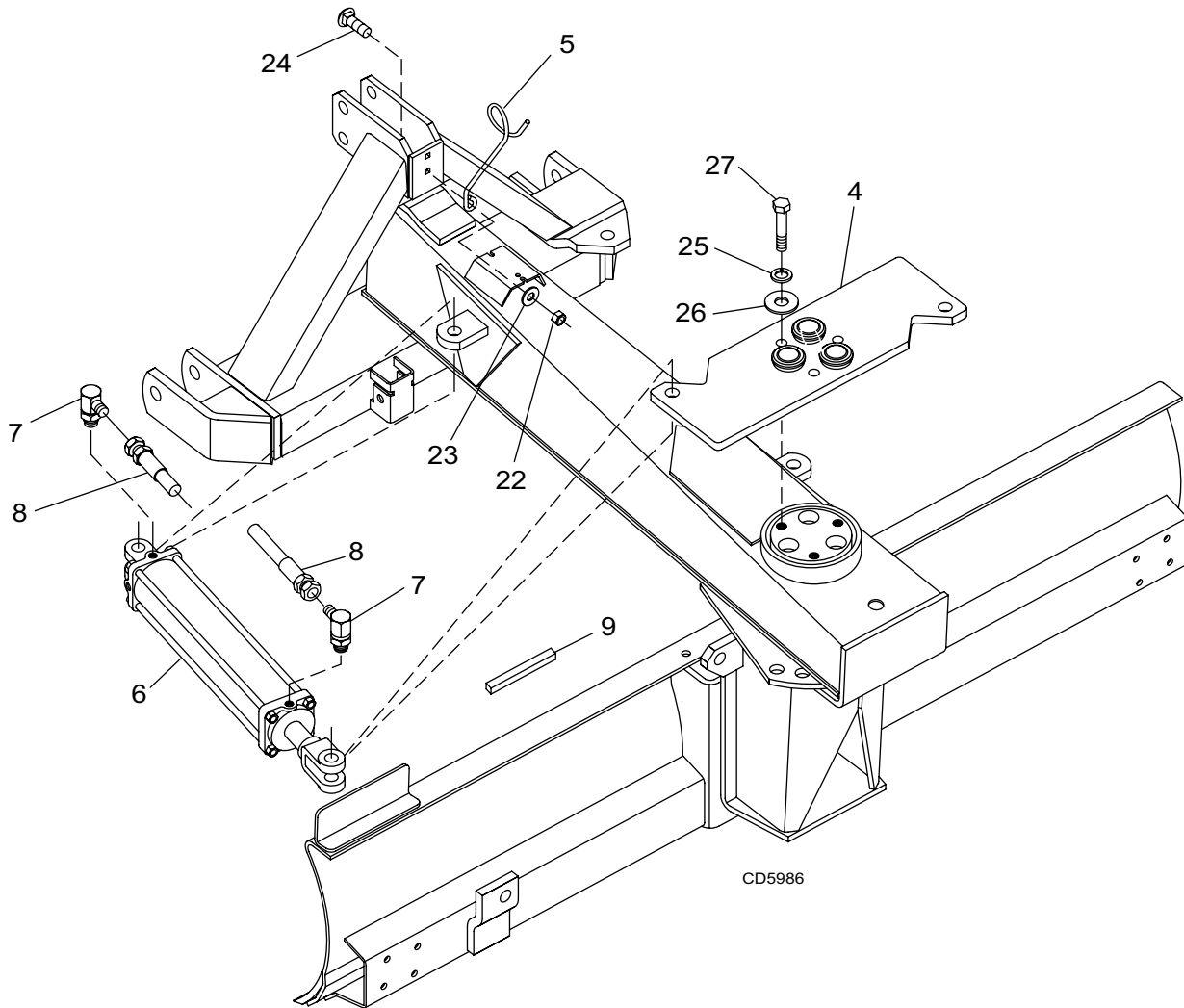


| REF | PART      | QTY | DESCRIPTION                        | REF | PART    | QTY | DESCRIPTION                    |
|-----|-----------|-----|------------------------------------|-----|---------|-----|--------------------------------|
| 1   | 1004262RP | 1   | Bracket - SMV Sign (From Main Asy) | 10  | 1004283 | 4   | Hose, 3/8 66 1/2 NPTM 3/4 JICF |
| 2   | 1004260   | 2   | Valve Double Relief 1600 psi       | 11  | W8641   | 6*  | Binding Strap, 14-1/2          |
| 3#  | 597277    | 1   | Hyd Cylinder 3.5 x 1.50 x 16.0     | 21  | W300107 | 2*  | Cap Screw, 5/16 NC x 5-1/2 GR5 |
| 4#  | 316004    | 6   | Elbow, 3/4 ORBM 3/4 JICM 90°       | 22# | 4378    | 2*  | Washer, 5/16 Flat              |
| 5   | 1004288   | 4   | Elbow, 3/4 ORBM 3/4 JICM 45°       | 23# | 2472    | 2*  | Washer, 5/16 Lock              |
| 6   | 360181    | 1   | Hose, 3/8 18 3/4 ORBM 3/4 JICF     | 24# | 4529    | 2*  | Nut, Hex 5/16 NC GR5           |
| 7   | 360203    | 1   | Hose, 3/8 24 3/4 ORBM 3/4 JICF     |     |         |     |                                |
| 8   | 1004286   | 1   | Hose, 3/8 28 3/4 ORBM 3/4 JICF     |     |         |     |                                |
| 9   | 1004287   | 1   | Hose, 3/8 34 3/4 ORBM 3/4 JICF     |     |         |     |                                |

\* Standard Hardware, obtain locally

# Quantity shown is for this kit. Additional items come from Model MA or Hydraulic Angle Kit 1004870.

# HYDRAULIC ANGLE KIT 1004870



| REF | PART    | QTY | DESCRIPTION                       |
|-----|---------|-----|-----------------------------------|
| 4   | 27599RP | 1   | Hyd Angle Arm Assembly            |
| 5   | 3443    | 1   | Hyd Hose Holder                   |
| 6   | 597277  | 1   | Hyd Cylinder 3.5<br>x 1.50 x 16.0 |
| 7   | 316004  | 2   | Elbow, 3/4 ORBM<br>3/4 JICM 90°   |
| 8   | 1004284 | 2   | Hose 3/8 84 1/2<br>NPTM 3/4 JICF  |
| 9   | W8641   | 3*  | Binding Strap, 14-1/2             |
| 22  | 6698    | 1*  | Nut, Lock 3/8 NC                  |

| REF | PART  | QTY | DESCRIPTION                          |
|-----|-------|-----|--------------------------------------|
| 23  | 565   | 1*  | Washer, 3/8 Flat                     |
| 24  | 20973 | 1*  | Bolt, Carriage 3/8<br>NC x 1-1/4 GR5 |
| 25  | 2522  | 3*  | Washer, 3/4 Lock                     |
| 26  | 2864  | 3*  | Washer, 3/4 SAE Flat                 |
| 27  | 14334 | 3*  | Cap Screw, 3/4 NC x 3 GR5            |

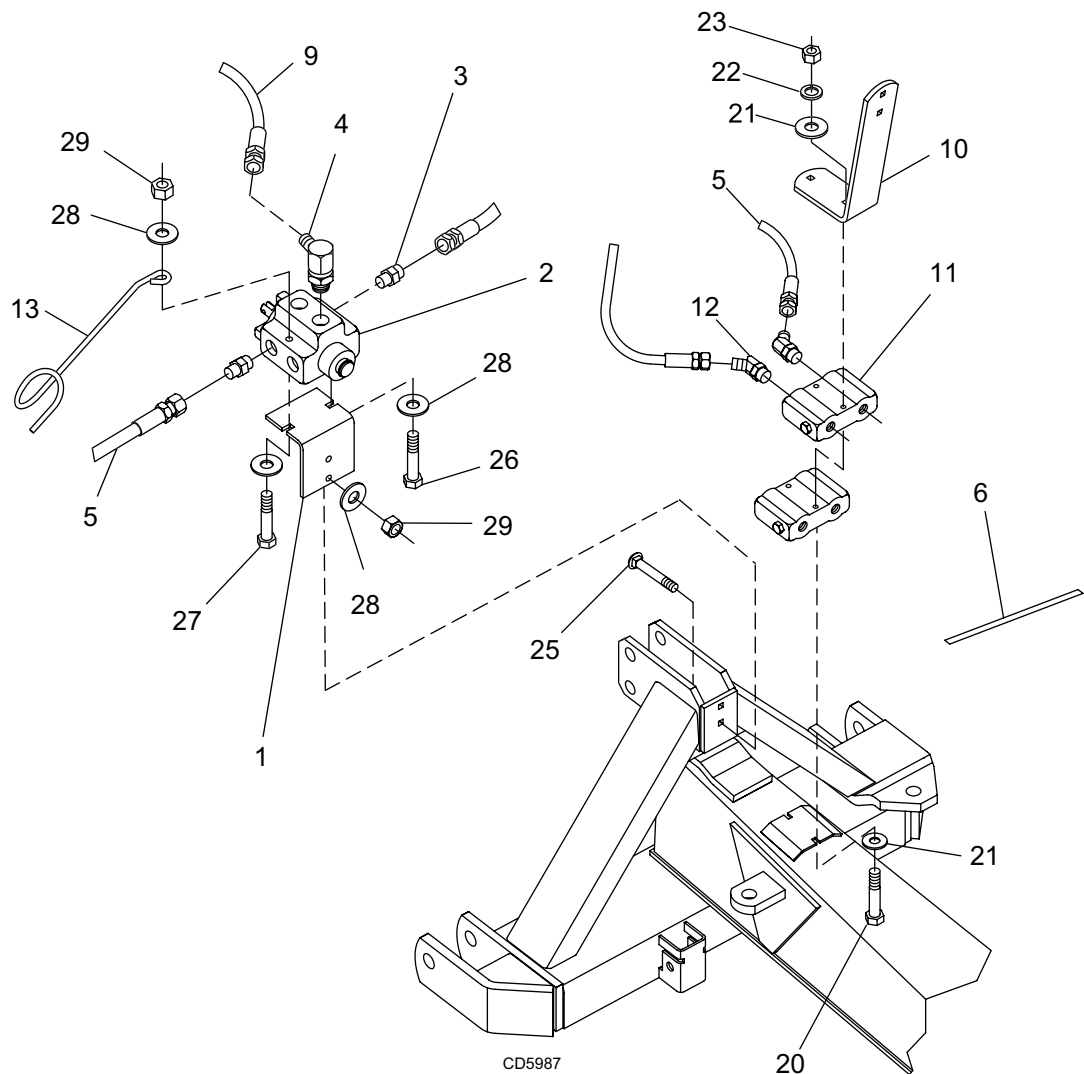
\* Standard Hardware,  
obtain locally

**40 Parts**

MAN0160  
(05/16/2023)



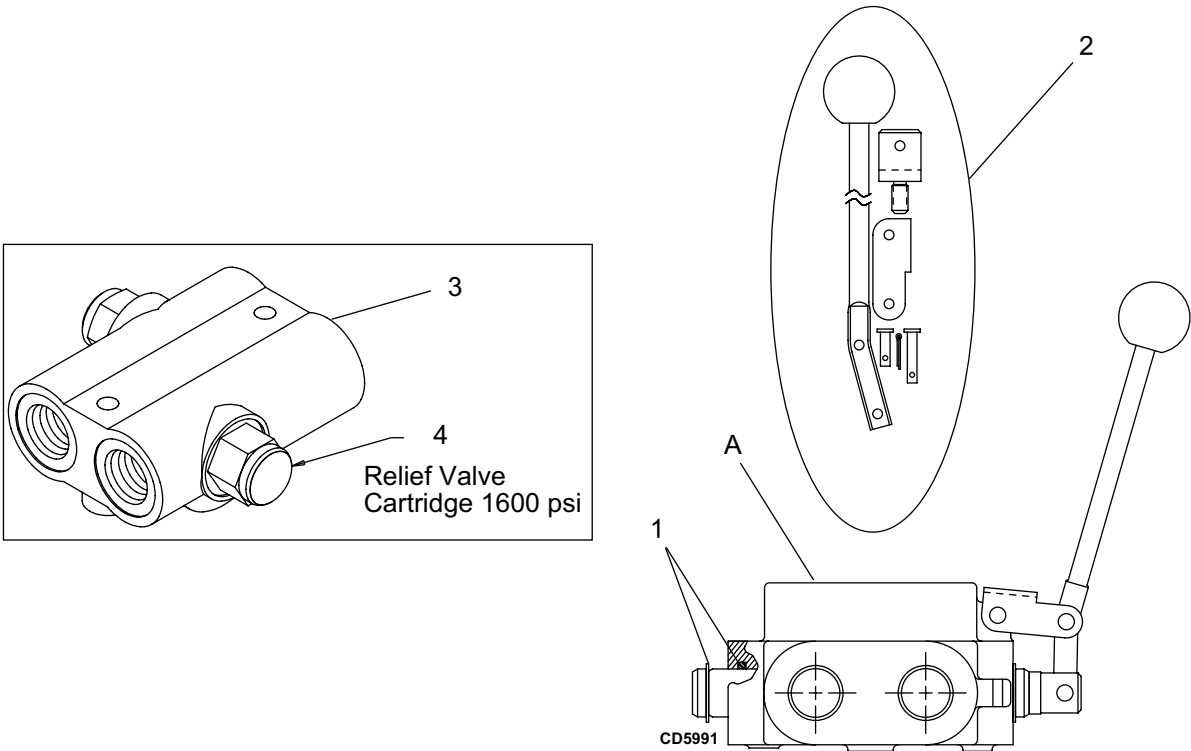
SELECTOR VALVE KIT 1004873



| REF | PART      | QTY | DESCRIPTION                       | REF | PART  | QTY | DESCRIPTION                   |
|-----|-----------|-----|-----------------------------------|-----|-------|-----|-------------------------------|
| 1   | 27598     | 1   | Valve, Mounting Bracket           | 21# | 4378  | 4*  | Washer, 5/16 Flat             |
| 2   | 1004261   | 1   | Valve, Double Selector            | 22# | 2472  | 5*  | Washer, 5/16 Lock             |
| 3   | 316017    | 4   | Adapter, 3/4 JICM 1-1/16 ORBM     | 23# | 4529  | 5*  | Nut, Hex 5/16 NC GR5          |
| 4   | W37501    | 2   | Elbow, 3/4 JICM 1-1/16 ORBM x 90° | 25  | 6697  | 2*  | Bolt, Carriage 3/8 NC x 1 GR5 |
| 5   | 1004281   | 4   | Hose, 3/8 26 3/4 JICF 3/4 JICF    | 26  | 7747  | 1*  | Cap Screw, 3/8 NC x 3 GR5     |
| 6   | W8641     | 3*  | Binding Strap, 14-1/2             | 27  | 31138 | 1*  | Cap Screw, 3/8 NC x 3-1/2 GR5 |
| 9#  | 1004283   | 2   | Hose, 3/8 66 1/2 NPTM 3/4 JICF    | 28  | 565   | 1*  | Washer, 3/8 Flat              |
| 10# | 1004262RP | 1   | Bracket - SMV Sign                | 29  | 6698  | 1*  | Nut, Lock 3/8 NC              |
| 11# | 1004260   | 2   | Valve, Double Relief 1600psi      |     |       |     |                               |
| 12# | 1004288   | 4   | Elbow, 3/4 ORBM 3/4 JICM 45°      |     |       |     |                               |
| 13# | 3443      | 1   | Hyd Hose Holder                   |     |       |     |                               |
| 20# | W300107   | 2*  | Cap Screw, 5/16 NC x 5-1/2 GR5    |     |       |     |                               |

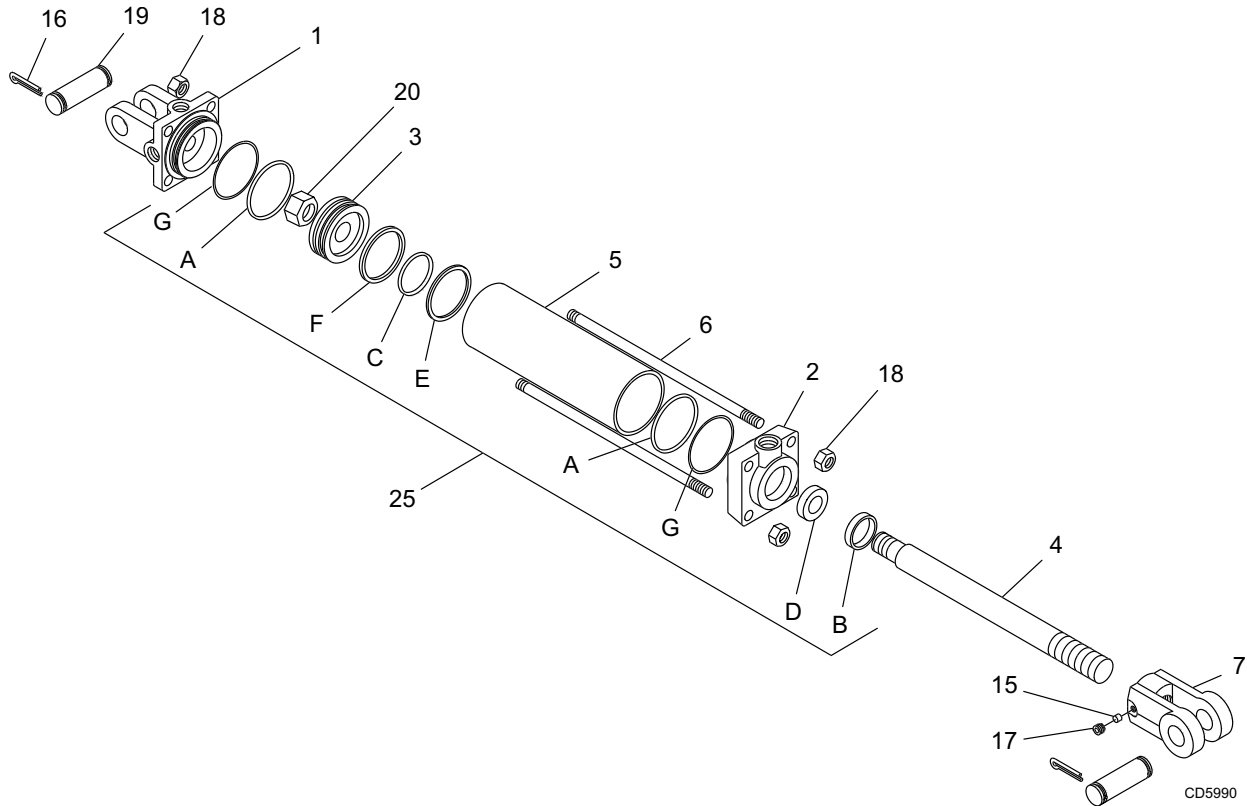
\* Standard Hardware, obtain locally  
# Not included in this kit. Included in Hydraulic Angle and Offset configuration.

**SELECTOR VALVE 1004261**  
**RELIEF VALVE 1004260**



| REF | PART    | QTY | DESCRIPTION                       |
|-----|---------|-----|-----------------------------------|
| A   | 1004261 |     | Valve, Double Selector            |
| 1   | 1004295 | 1   | Seal kit, Double Selector Valve   |
| 2   | 1004296 | 1   | Kit, Selector Valve Handle        |
| 3   | 1004260 | 1   | Valve, Hyd Double Relief 1600 psi |
| 4   | 1004297 | 1   | Relief Valve Cartridge, 1600 psi  |

## HYDRAULIC CYLINDER ASSEMBLY & PARTS LIST



| REF | PART   | QTY | DESCRIPTION   |
|-----|--------|-----|---|
|     | 597274 |     | Cylinder, Hyd 3-1/2 x 8 (Tilt)<br>(1003196 no longer available)               |
|     | 597277 |     | Cylinder, Hyd 3-1/2 x 16<br>(Angle - Offset)<br>(1003198 no longer available) |
| 1   | N/S    | 1   | Clevis Cap  |
| 2   | N/S    | 1   | Rod Cap   |
| 3   | N/S    | 1   | Piston, 3.50 OD   |
| 4   | N/S    | 1   | Rod, 1.25 OD (for 1003196)<br>or  |
| 4   | N/S    | 1   | Rod, 1.50 OD (for 1003198)  |
| 5   | N/S    | 1   | Tube  |
| 6   | N/S    | 4   | Tie Rod   |
| 7   | N/S    | 1   | Rod, Clevis   |
| 15  | N/S    | 1   | Nylon Thread Patch  |
| 17  |        | 1*  | Screw, Set 3/8 NC x 1/2<br>(Torque to 20 lbs.-ft.)                            |
| 18  | N/S    | 8*  | Nut, Hex 5/8 UNF<br>(Torque to 160 lbs.-ft.)                                  |
| 19  | 1631   | 2   | Pin, Clevis   |
| 20  | N/S    | 1*  | Nut, Lock 1-14 UNS<br>(Torque to 300 lbs.-ft.)                                |

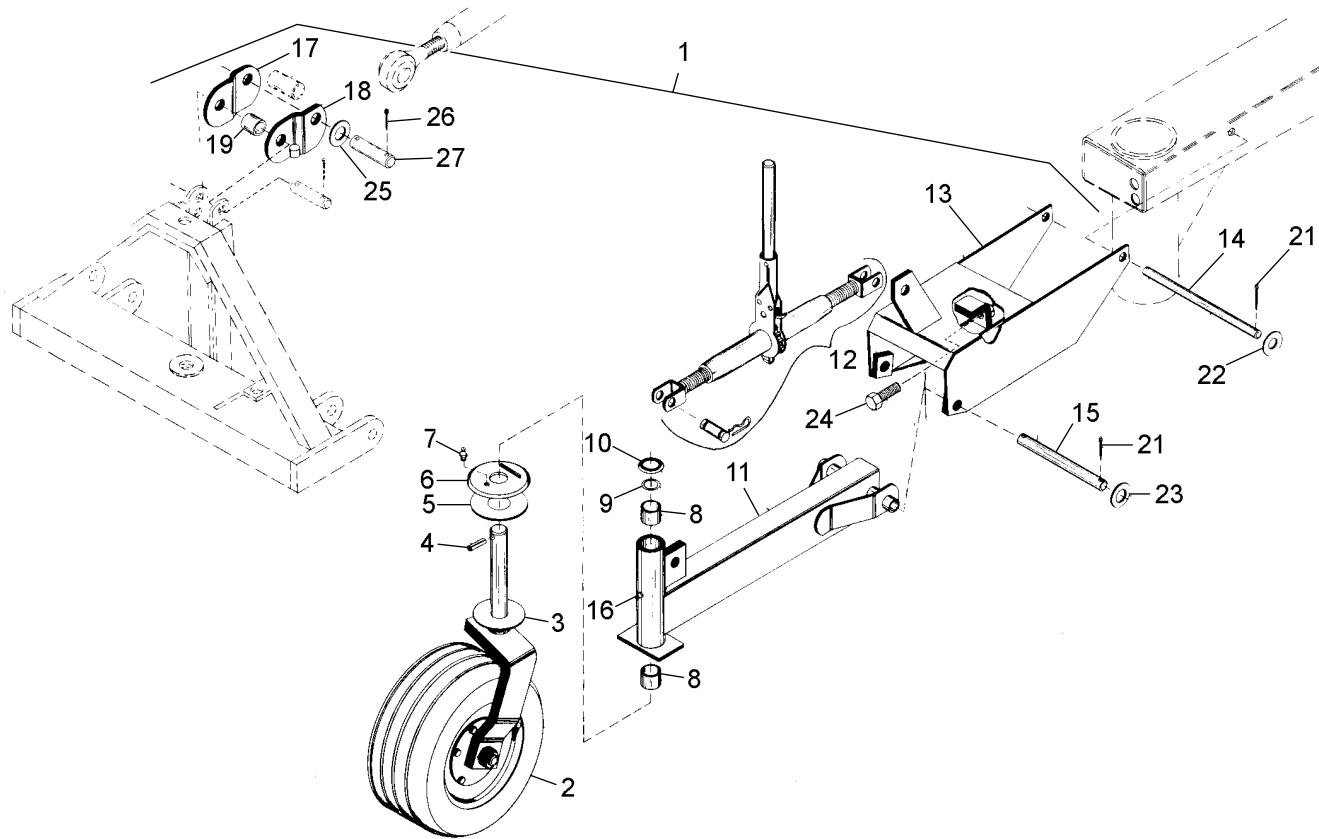
| REF | PART    | QTY | DESCRIPTION   |
|-----|---------|-----|---|
| 25  | 1005000 |     | Seal Kit (for 1003196 and<br>1003198)<br>(Includes items A - G) |
| OR  |         |     |   |
| 25  | 600250  |     | Seal Kit (for Cylinder 597274)<br>(Includes items A-G)          |
| OR  |         |     |   |
| 25  | 600382  |     | Seal Kit (for Cylinder 597277)<br>(Includes items A-G)          |

Note: Before ordering seal kits, check part number stamped on cylinder tube.

|   |   |                                  |
|---|---|----------------------------------|
| A | 2 | O-Ring                           |
| B | 1 | Rod Wiper                        |
| C | 1 | O-Ring<br>(Piston Seal Expander) |
| D | 1 | Rod Seal                         |
| E | 1 | Piston Seal                      |
| F | 2 | Piston Wear Ring                 |
| G | 2 | Backup Washer                    |

\* Standard Hardware,  
obtain locally  
N/S Not Serviced Separately

## PNEUMATIC TAIL WHEEL ASSEMBLY

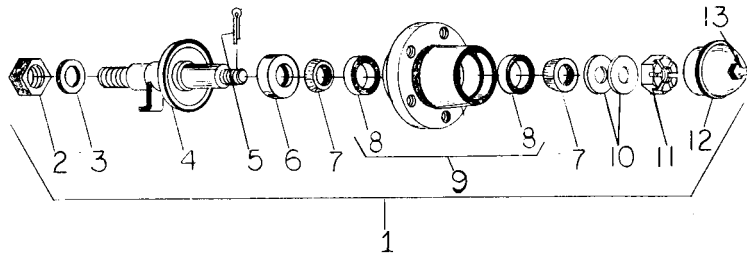


| REF | PART      | QTY | DESCRIPTION                    |
|-----|-----------|-----|--------------------------------|
| 1   | W28775    | 1   | Tail Wheel, Pneumatic Complete |
| 2   | 29030RP   | 1   | Link, Floating Right           |
| 3   | 29031RP   | 1   | Link, Floating Left            |
| 4   | W29034    | 1   | Sleeve, 1.00 x 1.25 x 1.44     |
| 5   | 26148     | 1   | Pin, Clevis 1 x 4-29/32 HT     |
| 6   | 1863      | 2*  | Washer, Flat 1" SAE            |
| 7   | 6185      | 2*  | Pin, Cotter 1/4 x 2-1/4        |
| 8   | S010541OE | 1   | Ratchet                        |
| 9   | 28781RP   | 1   | Tail Wheel Bracket Assembly    |
| 10  | 28788     | 1   | Pin, Clevis 3/4 x 12-1/4       |
| 11  | 28789     | 1   | Pin, Clevis 1 x 12-1/4         |
| 12  | 1257      | 2*  | Washer, Flat 3/4 Standard      |
| 13  | 1285      | 4*  | Pin, Cotter 1/4 x 1-1/2        |
| 14  | 24576     | 1*  | Cap Screw, 1/2 NC x 1-3/4 GR5  |

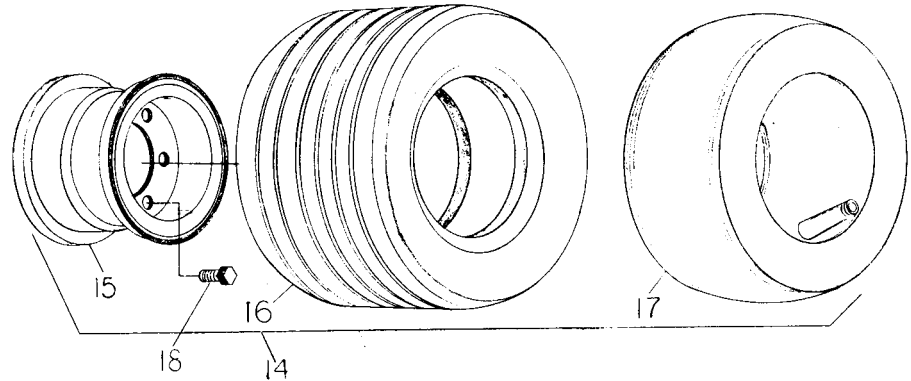
| REF | PART    | QTY | DESCRIPTION                           |
|-----|---------|-----|---------------------------------------|
| 15  | W28776  | 1   | Tail Wheel Arm Assembly               |
| 16  | W12881  | 1   | Cap, Dust                             |
| 17  | 12889   | 1   | O-Ring .09 x 1.56 OD                  |
| 18  | W11011  | 2   | Bushing, Bronze 1.5 x 1.63 x 1.50     |
| 19  | 1972    | 1*  | Grease Fitting, 1/4-28 Tapered Thread |
| 20  | 195     | 1   | Grease Fitting, 1/8 Pipe Thread       |
| 21  | 14135RP | 1   | Plate, Top Dampener                   |
| 22  | 19459   | 1   | Disc, Friction 4 x 6.15               |
| 23  | W7276   | 1   | Pin, Spirol 7/16 x 2-1/2              |
| 24  | 14125   | 1   | Wheel Yoke Assembly                   |
| 25  | ----    | 1   | Tire, Wheel & Hub                     |
| 26  | 832     | 2   | Washer, Flat 1" Standard              |

\* Standard Hardware, obtain locally

## WHEEL HUB, TIRE & WHEEL ASSEMBLY



DB-418

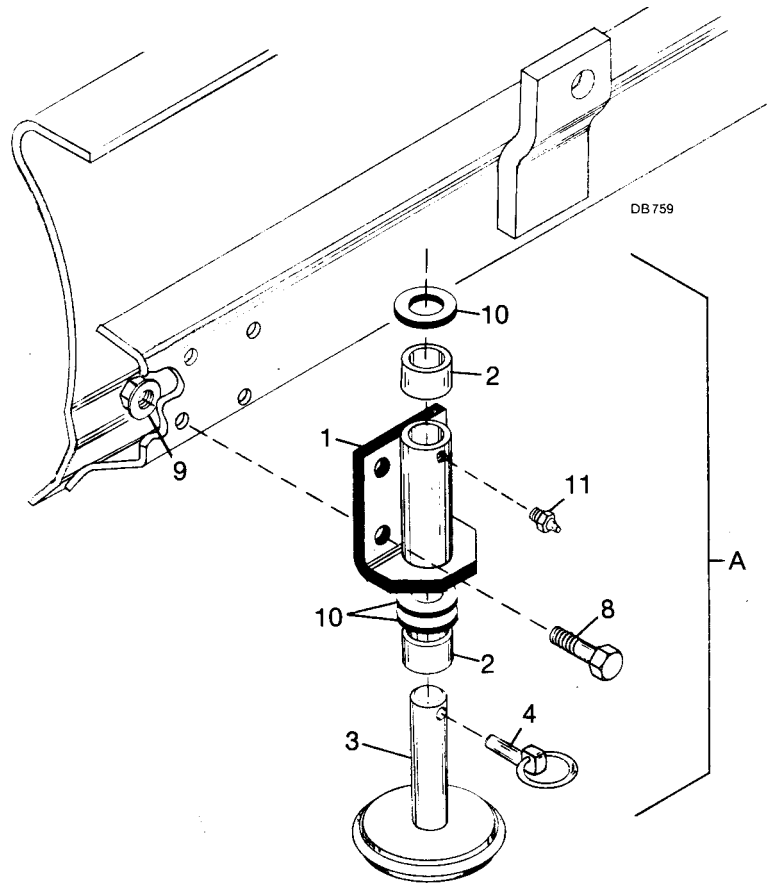


TIRE INFLATION: 45 LBS.

| REF | PART    | QTY | DESCRIPTION   | REF | PART    | QTY | DESCRIPTION                         |
|-----|---------|-----|---|-----|---------|-----|-------------------------------------|
| 1   | 14130RP | 1   | Wheel Hub & Axle Assembly   | 11  | 5849    | 1   | Nut, Slotted Hex 3/4 NF             |
| 2   | 3626    | 1   | Nut, Hex 1-14 UNS   | 12  | 14133RP | 1   | Hub Cap Assembly w/fitting          |
| 3   | 1863    | 1*  | Washer, Flat 1" SAE   | 13  | N/S     | 1*  | Grease Fitting, 1/4 Tapered Thread  |
| 4   | 14131   | 1   | Axle Assembly   | 14  | 14255   | 1   | Wheel & Tire 18 x 9.5 - 8           |
| 5   | 1266    | 1*  | Pin, Cotter 3/16 x 1-1/2  | 15  | N/S     | 1   | Rim 18 x 9.5 x 8                    |
| 6   | 314     | 1   | Seal, 1.50 x 2.44 x .31<br>(Note: Point spring-loaded lip outward in assembly of seal to housing) | 16  | N/S     | 1   | Tire, Rib 18 x 9.5 x 8 6-ply        |
| 7   | 1017028 | 2   | Bearing Cone  | 17  | N/S     | 1   | Inner Tube, 18 x 9.50 x 8           |
| 8   | 1017036 | 2   | Bearing Cup   | 18  | 1258    | 5   | Bolt, Wheel 1/2 NF x 1-1/8          |
| 9   | 14132   | 1   | Wheel Hub, Housing w/cups   |     |         |     | * Standard Hardware, obtain locally |
| 10  | 1257    | 2*  | Washer, Flat 3/4 Standard   |     |         | N/S | Not Serviced Separately             |

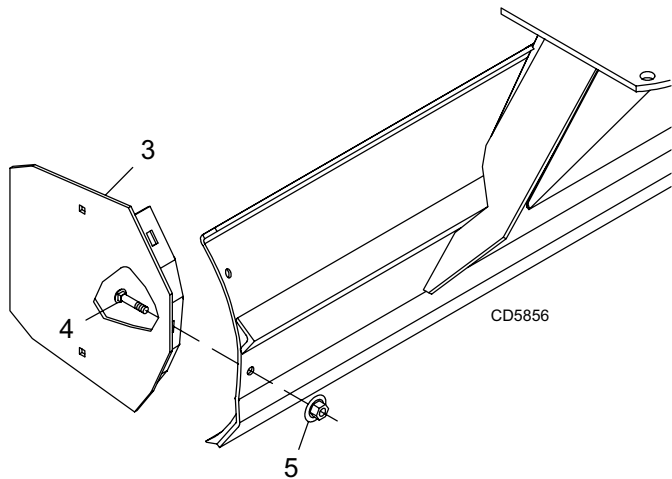
# SKID SHOE KIT 18296

| REF | PART    | QTY | DESCRIPTION                                 |
|-----|---------|-----|---|
| A   | 18296   | —   | Skid Shoe Kit<br>(includes items 1 thru 11) |
| 1   | 27587RP | 2   | Bracket, Skid Shoe                          |
| 2   | 52854   | 4   | Sleeve, 1.26 x 1.66 x .75                   |
| 3   | 27586   | 2   | Skid & shaft assembly                       |
| 4   | 27542   | 2   | Pin, Klik 7/16 x 2                          |
| 8   | 6100    | *   | Cap Screw, 1/2 x 1-1/4 GR5                  |
| 9   | 11900   | —   | Nut, Flanged Lock 1/2 NC                    |
| 10  | 7163    | *   | Washer, Flat 1-1/4 Standard                 |
| 11  | 1972    | *   | Grease Fitting, 1/4-28<br>Tapered Thread    |
|     |         | *   | Standard Hardware,<br>obtain locally        |



# END PLATE KIT 22658

| REF | PART  | QTY | DESCRIPTION                          |
|-----|-------|-----|--------------------------------------|
| 3   | N/S   |     | Plate, End                           |
| 4   | 2615  | *   | Bolt, Carriage 1/2<br>NC x 1-1/4 GR5 |
| 5   | 11900 |     | Nut, Flanged Lock 1/2 NC             |
|     |       | *   | Standard Hardware,<br>obtain locally |
|     | N/S   |     | Not Serviced Separately              |



# INDEX

## ADJUSTMENTS

- Blade Angle Adjustment
  - Hydraulic 10
  - Mechanical 10
- Offset (Swing)
  - Hydraulic Swing Cylinder 12
  - Mechanical Adjustment 11
- Operating Tips 12
- Reverse Blade 10
- Tilt Adjustment
  - Hydraulic 11
  - Mechanical 11

## ASSEMBLY

- Dealer Set-Up Instructions 14
- Hydraulic Configuration
  - Cylinders 23
  - Relief Valves and Hoses 24
  - Selector Valve Kit 25, 26
- Main Assembly 15
  - A-Frame 16
  - Blade to Pivot Assembly 15
  - Boom to Pivot Assembly 15
  - Manual Tube 16
  - Slow Moving Vehicle Sign 17
- Manual Configuration
  - Hydraulic Angle Kit 19
  - Hydraulic Offset Kit 22
  - Hydraulic Tilt Kit 20
  - Offset Linkage 18
- Optional Equipment
  - End Plate Kit 29
  - Pneumatic Tail Wheel 27
  - Skid Shoe Kit 28

## DEALER CHECKLISTS

- Delivery Checklist
  - (Dealer's Responsibility) 30
- Pre-Delivery Checklist
  - (Dealer's Responsibility) 30

## GENERAL

- Appendix
  - Abbreviations 49
  - Bolt Size Chart 49
  - Bolt Torque Chart 48
- General Information 4
- Introduction 2
- Obtaining Replacement Manuals 2
- Product Registration 2
- Specifications 4
- Warranty 2

## OPERATION

- Backfilling 12
- Blade Angle Adjustment 10
- Leveling And Grading 12
- Mount Blade To Tractor 9
- Offset (Swing) 11
  - Hydraulic Swing Cylinder 12
- Operating Tips 12
- Pre-Operation Checklist
  - (Owner's Responsibility) 12
- Reverse Blade 10
- Tilt Adjustment 11

## OWNER SERVICE

- Blade Cutting Edge 13
- Bolts 13
- Cleaning
  - After Each Use 13
  - Periodically or Before Extended Storage 13
- Lubrication 13

## PARTS

- Parts Index 31

## SAFETY

- Checklist
  - Delivery Checklist
    - (Dealer's Responsibility) 30
  - Pre-Delivery Checklist
    - (Dealer's Responsibility) 30
  - Pre-Operation Checklist
    - (Owner's Responsibility) 12
- Safety Decals 7
- Safety Rules 5
- Safety Symbols Explained 2

# BOLT TORQUE CHART

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

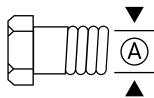
Fasteners must always be replaced with the same grade as specified in the manual parts list.

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)



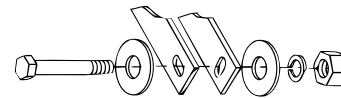
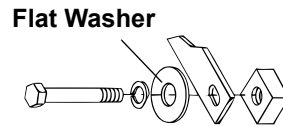
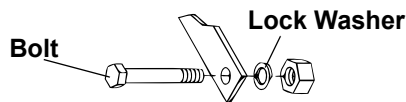
SAE Grade 5  
(3 Radial Dashes)



SAE Grade 8  
(6 Radial Dashes)

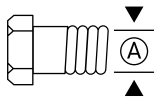
| Ⓐ     | Wrench Size | Marking on Head |     |        |     |        |      |
|-------|-------------|-----------------|-----|--------|-----|--------|------|
|       |             | SAE 2           |     | SAE 5  |     | SAE 8  |      |
|       |             | lbs-ft          | N-m | lbs-ft | N-m | lbs-ft | 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

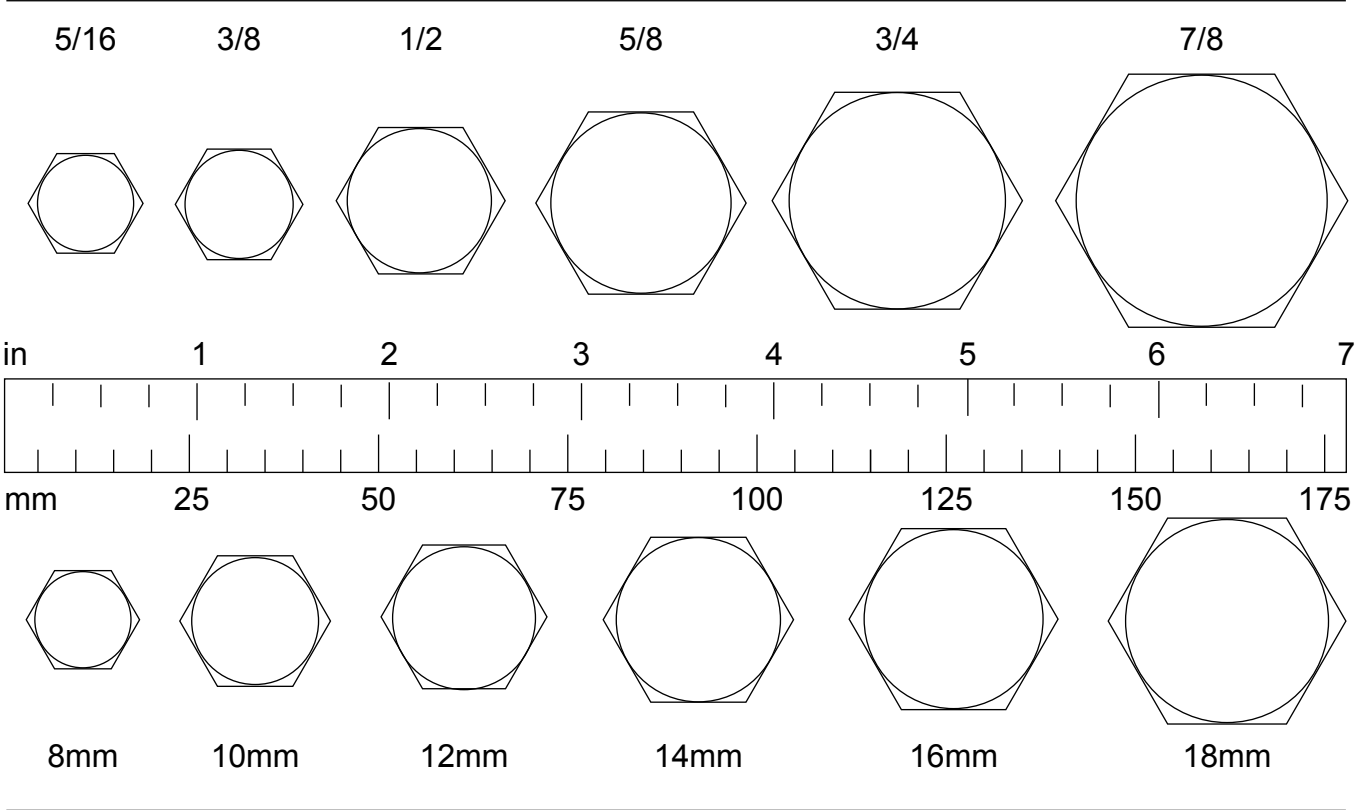
| Ⓐ<br>Diameter &<br>Thread Pitch<br>(Millimeters) | Wrench Size | Coarse Thread   |        |             |        | Fine Thread     |        |             |        | Ⓐ<br>Diameter &<br>Thread Pitch<br>(Millimeters) |
|--|-------------|-----------------|--------|-------------|--------|-----------------|--------|-------------|--------|--|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

**PART NO.**  
**MAN0160**

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