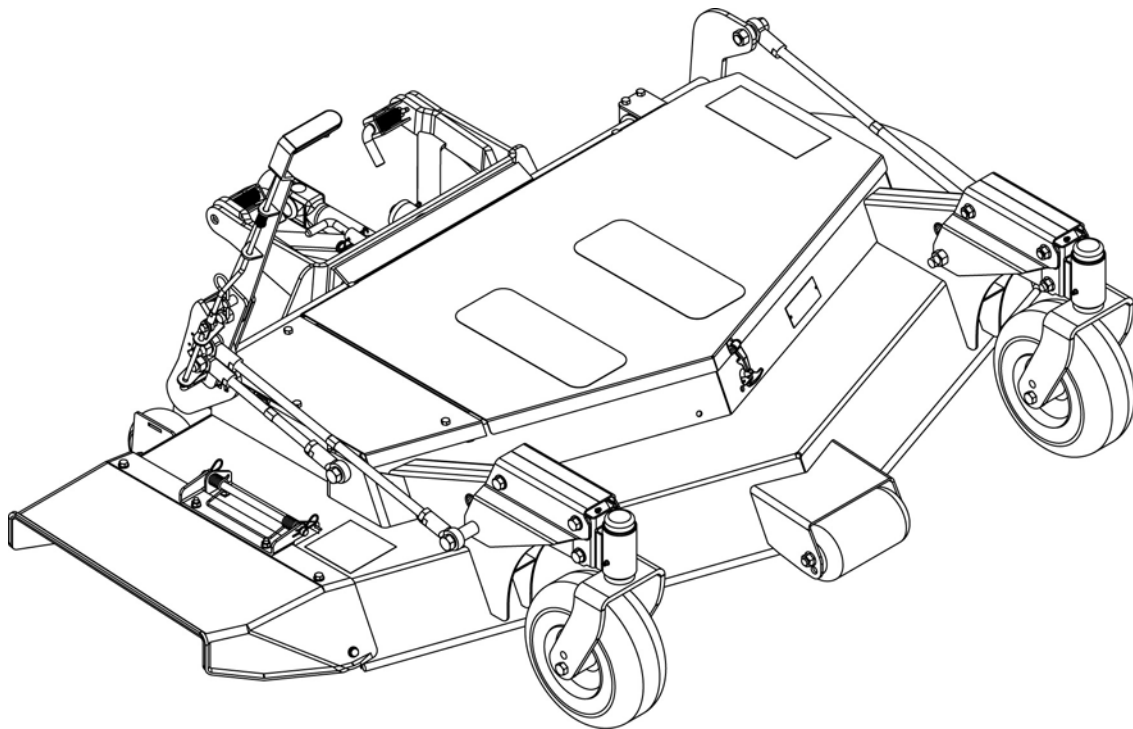


# WOODS MOW'N MACHINE MOWER DECK

Manual Lift Models:  
MX54 & MX61

PowerTilt™ Models:  
MX54T & MX61T



**MAN0253**  
(Rev. 6/8/2010)

**WOODS®**

OPERATOR'S MANUAL

## TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists 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 Check List items have been completed. Please contact your dealer to complete this form. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

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

## TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To 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 personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



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



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



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

**IMPORTANT  
or NOTICE**

Is used to address practices not related to personal injury.

**NOTE**

Indicates helpful information.

**WOODS®**

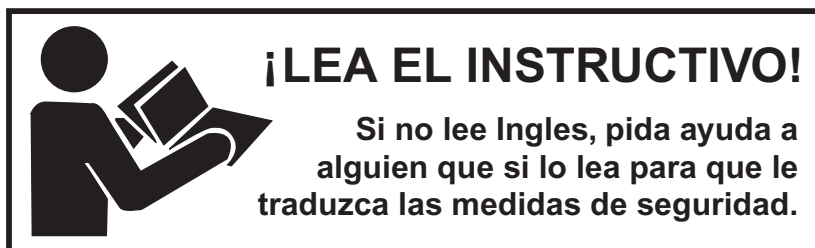
**ALITEC™**  
**BMP®**  
**CENTRAL FABRICATORS®**  
**GANNON®**  
**GILL®**  
**WAIN-ROY®**  
**WOODS®**

## 2 Introduction

Gen'l (Rev. 3/5/2010)

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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

	MX54	MX54T (with PowerTilt™)	MX61	MX61T (with PowerTilt™)
Cutting Width	54"	54"	61"	61"
Cutting Height Range	1- 5"	1- 5"	1- 5"	1- 5"
Blade RPM (Approximate)	3,635	3,635	3,328	3,328
Blade Tip Speed (Approximate Ft./Min.)	17,800	17,800	18,300	18,300
Blade Spindles	3	3	3	3
Number of Blades	3	3	3	3
Caster Wheels	11 x 4.0 x 5	11 x 4.0 x 5	11 x 4.0 x 5	11 x 4.0 x 5
Mower Frame Thickness	10 Gauge	10 Gauge	10 Gauge	10 Gauge
Weight	429 lbs	429 lbs	453 lbs	453 lbs
Deck Angle (PowerTilt)	N/A	55°	N/A	55°
Power Unit and Deck Length (Down Position, Wheels Turned Inward; FZ23B, FZ28K)	103.5"	103.5"	108.5"	108.5"
Power Unit and Deck Length (Deck Raised; FZ23B, FZ28K)	N/A	95.5"	N/A	100.5"
Power Unit and Deck Length (Down Position, Wheels Turned Inward; FZ25D)	106.5"	106.5"	111.5"	111.5"
Power Unit and Deck Length (Deck Raised; FZ25D)	N/A	98"	N/A	103"

## GENERAL INFORMATION

### WARNING

■ Some illustrations in this manual show the equipment with safety shields removed to provide a better view. This equipment should never be operated with any necessary safety shielding removed.

The purpose of this manual is to assist you in operating and maintaining your Mow'n Machine Mower. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data.

Some information may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

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

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

## 4 Introduction

MAN0253 (Rev. 12/22/2007)





# 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 instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.**
- **Never allow children or untrained persons to operate equipment.**
- **Data indicates that those operators age 60 years and above are involved in a large percentage of riding mower-related injuries. Those operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from injury.**

### PREPARATION

- **Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.**
- **Make sure attachment is properly secured, adjusted, and in good operating condition.**

- **Make sure the driveline spring-activated locking collar slides freely and is seated firmly in power unit PTO groove. Make sure the set screws securely attach driveline to the attachment gearbox shaft.**
- **Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.**
- **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**
- **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**
- **Be sure either the discharge chute, mulching end cap, or complete vacuum attachment is installed and in good condition. Replace if damaged.**
- **Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.**

### OPERATION

- **Keep bystanders away from equipment.**
- **Do not mow on wet grass.**
- **Never direct discharge toward people, animals, or property.**
- **Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.**
- **Do not operate or transport equipment while under the influence of alcohol or drugs.**
- **Operate only in daylight or good artificial light.**
- **Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.**
- **Never allow riders on power unit or attachment.**
- **Installation of a grasscatcher assembly will reduce the stability and maneuverability of the Mow'n Machine when operating on sloping terrain.**
- **Do not drive or operate mower in optional tilt-up position. Power unit is not stable enough and lifting device can be damaged or fail. A tilted deck also increases the chance of thrown objects and blade contact.**
- **Do not operate power unit with attachment removed. Attachment is required for power unit stability.**

*(Safety Rules continued on next page)*

# SAFETY RULES



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



*(Safety Rules continued from previous page)*

## **MAINTENANCE**

- Before performing any service or maintenance, lower attachment to ground, turn off power unit engine, remove key, and disconnect battery ground cable (negative -).
- Block mower securely before working underneath.
- Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Do not work under elevated mower deck unless lock-up mechanism is in good condition and fully engaged as instructed. Replace if damaged.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.
- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.

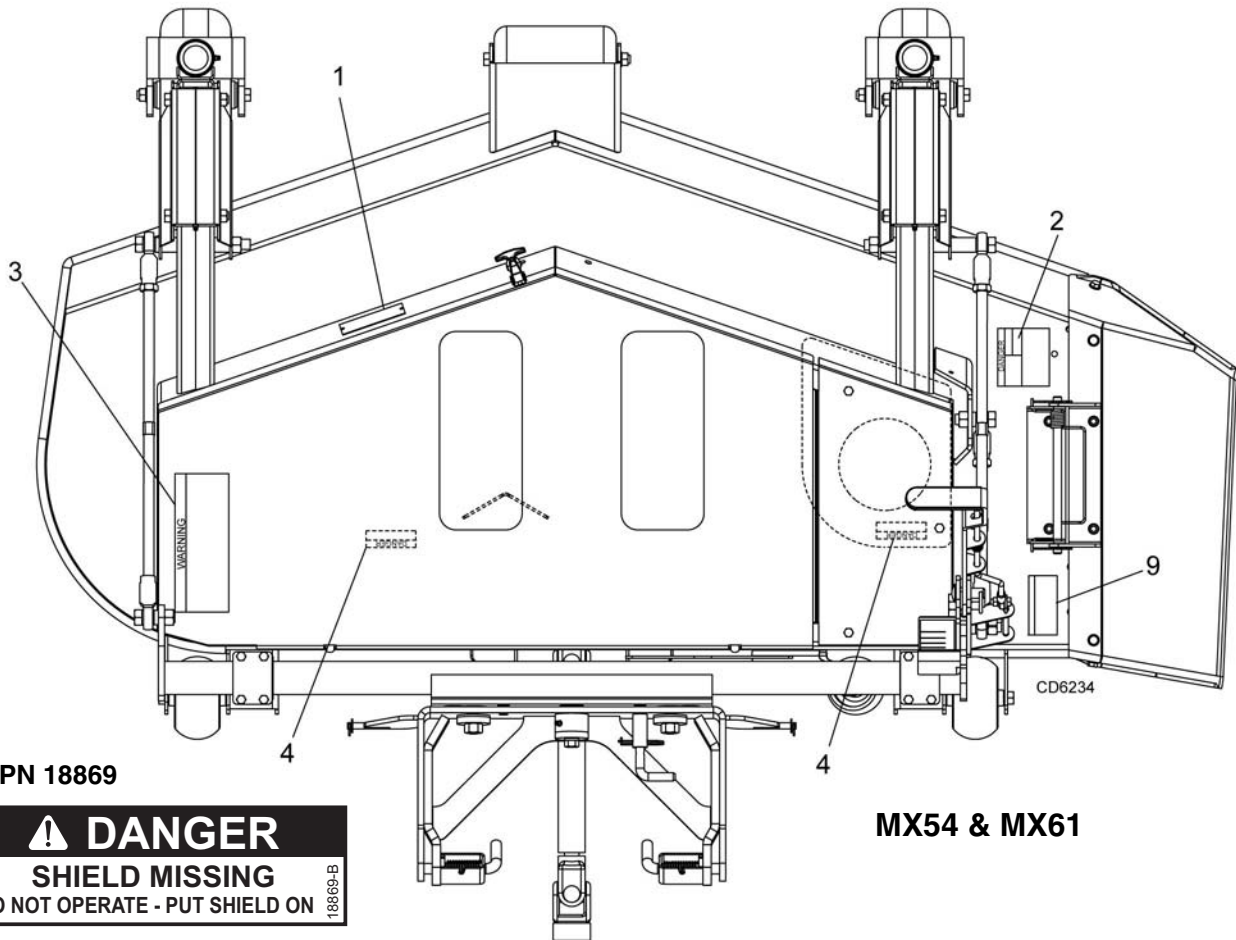
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.
- Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.

## **STORAGE**

- Block equipment securely for storage.
- Follow manual instructions for storage.
- Keep children and bystanders away from storage area.



**SAFETY & INSTRUCTIONAL DECALS**  
**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**  
**Replace Immediately If Damaged!**



4 - PN 18869

**⚠ DANGER**  
**SHIELD MISSING**  
 DO NOT OPERATE - PUT SHIELD ON

18869-B

**MX54 & MX61**

1 - SERIAL NUMBER PLATE

MODEL NO.	SERIAL NO.
Woods Equipment Company Oregon, Illinois, U.S.A.	

9 - PN 72672

**⚠ WARNING**

THROWN OBJECT HAZARD CAN RESULT IN SERIOUS INJURY OR DEATH.  
 NEVER OPERATE WITHOUT DISCHARGE CHUTE OR ENTIRE GRASSCATCHER SYSTEM IN PLACE.

72672

2 - PN 78207

**⚠ DANGER**

**KEEP AWAY!**  
 Blade contact or thrown objects can cause serious injury or death.

Never operate without the plastic, hinged discharge chute, mulching end cap, or entire grasscatcher in place.

78207-A

3 - PN 72426

**⚠ WARNING**

**TO AVOID SERIOUS INJURY OR DEATH:**

1. Do not operate without all shields, guards and safety devices in place and in good condition. Replace if damaged or not working.
2. Securely block up mower and remove key before working underneath.
3. Do not operate equipment when children and others are around.
4. Allow no children or untrained persons to operate equipment.
5. Clear mowing area of debris.

72426-A

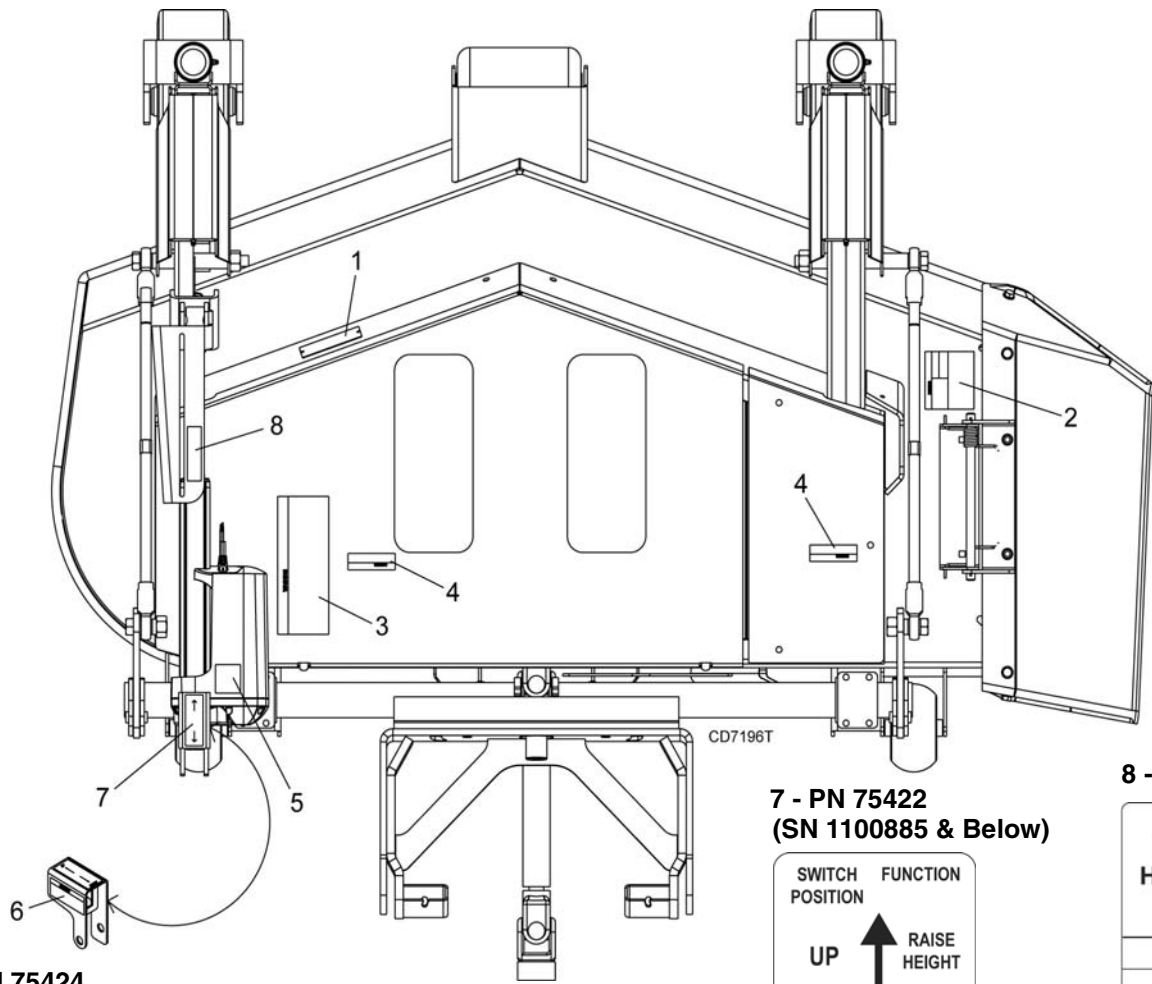
*(Safety Decals continued on next page)*

# SAFETY & INSTRUCTIONAL DECALS

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

**Replace Immediately If Damaged!**

(Safety Decals continued from previous page)



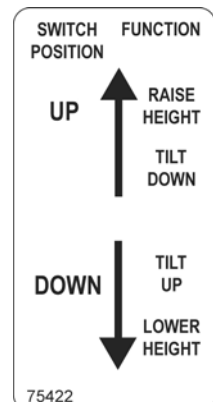
5 - PN 75424



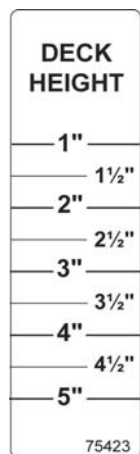
6 - PN 75430 (SN 1100885 & Below)



7 - PN 75422 (SN 1100885 & Below)



8 - PN 75423



## BE CAREFUL!

Use a clean, damp cloth to clean safety decals.

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

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

# OPERATION

## **⚠ WARNING**

- Make sure the driveline spring-activated locking collar slides freely and is seated firmly in power unit PTO groove. Make sure the set screws securely attach driveline to the attachment gearbox shaft.
- Do not operate power unit with attachment removed. Attachment is required for power unit stability.

## **⚠ CAUTION**

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

## **ATTACHING MOWER TO POWER UNIT**

### **NOTICE**

- The power unit must comply with counterweight requirements before attaching to power unit.

1. Place power unit and mower on a level surface.
2. Rotate parking stand to the down position so deck is resting on the parking stand wheel.
3. Center the power unit behind mower as close as possible. Shut off engine.
4. Open dump valves on both hydraulic pumps to allow power unit to be moved by hand. See Mow'n Machine power unit manual for location of dump valves.

**NOTE:** If you have a PowerTilt™ model, the wiring harness must be connected before raising or lowering the deck to align the arm with the mounting bracket. See Connect Wiring Harness - PowerTilt™ Units MXT Deck SN 1100885 and below, page 24 for instructions.

5. Use the height adjustment handle (or height adjustment switch on PowerTilt models) to raise or lower rear pivot lift arm and align arm with mounting brackets.
6. Attach rear pivot lift arm in desired power unit mounting bracket holes and connect with spring-loaded pins. See Figure 1 for hole locations.
7. Attach driveline from deck to PTO shaft on power unit.

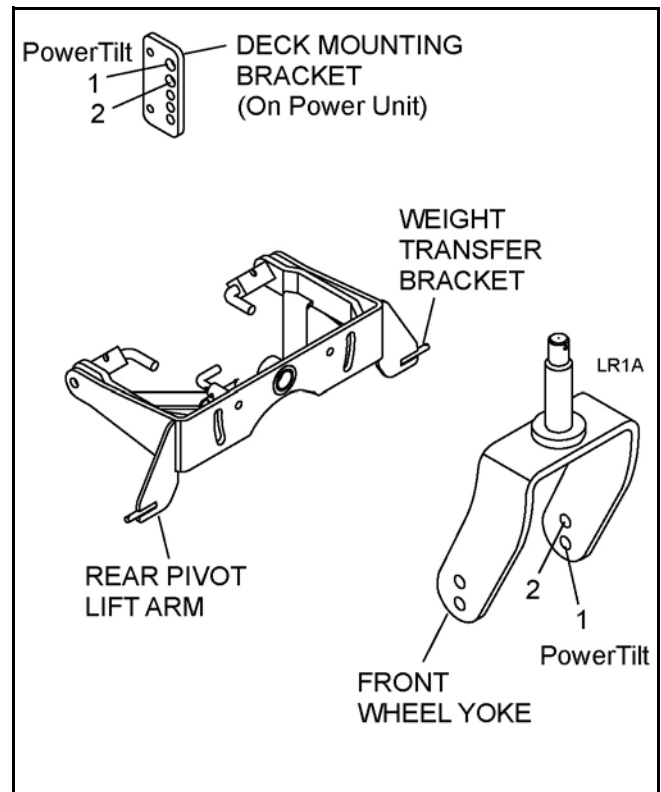
8. Attach weight transfer chains to right and left weight transfer brackets on rear pivot lift arm.

**NOTE:** Stepping on the weight transfer arms with your foot will make attaching chains easier.

9. Install flat washers and safety pins in right and left weight transfer brackets to secure chains into position.
10. Close power unit hydraulic pump dump valves.
11. After deck is attached to power unit, raise deck high enough and rotate parking stand into the storage position.

**NOTE:** Attach rear pivot lift arm in hole position 1 on deck mounting brackets when front wheels are in hole 1 on front wheel yoke. This will put the deck in the high cut range, (2 to 5 inches - manual, 1-1/4 to 5-1/2 inches - PowerTilt™). Attach weight transfer chains to weight transfer brackets using four links. Use PowerTilt™ in hole position 1 shown in Figure 1.

**NOTE:** Attach rear pivot lift arm in hole position 2 on deck mounting brackets when front wheels are in hole 2 on front wheel yoke. This will put the deck in the low cut range, (1 to 4 inches). Attach weight transfer chains to weight transfer brackets using five links.



**Figure 1. Mounting Hole Location**

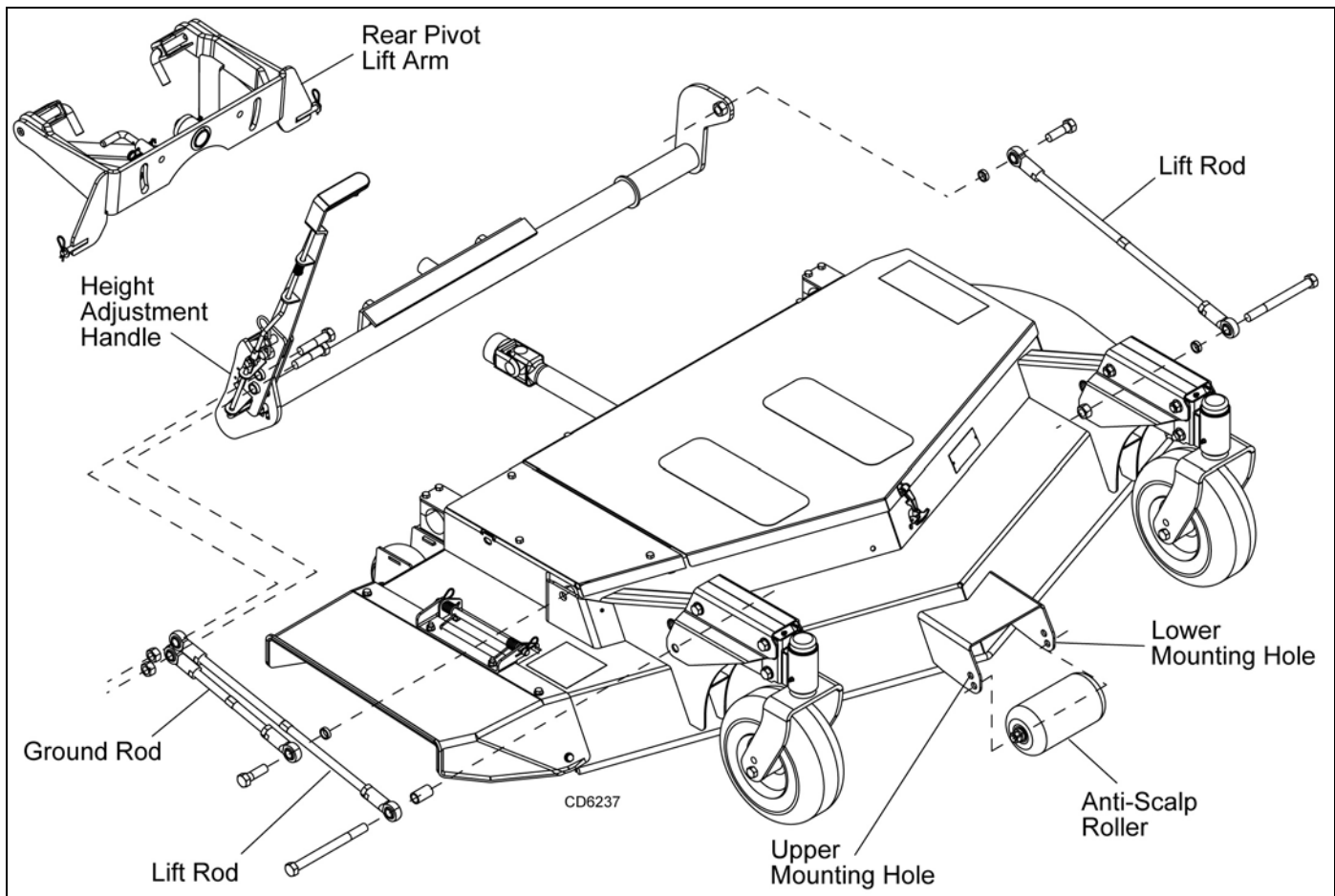


Figure 2. Manual Height Adjustment Linkage - MX54 / MX61

### **CUTTING HEIGHT ADJUSTMENT** (Figure 2 & Figure 4)

1. Place power unit and mower on a level surface.
2. Make sure power unit tire pressure is set equally on both sides. Improper pressure will adversely affect steering control, traction and mower cutting height.
 

Standard Front:	12 psi	Drive Tire
Rear:	18 psi	Rear Caster
Front:	45 psi	Deck Caster
3. Cutting height is manually adjusted on the **MX54 & MX61 models** by moving the height adjustment handle forward to lower the cutting height and rearward to raise the cutting height. For **MX54T & MX61T models**, see PowerTilt™ Operation.
4. In the high cut range, the caster wheel assembly should be bolted through the lower hole in the caster fork. Anti-scalp rollers should be installed in the lower mounting hole. Use this range for PowerTilt™ decks.
5. In the low cut range, the caster wheel assembly should be bolted through the upper hole in the

caster fork. Anti-scalp rollers should be installed in the upper mounting hole.

6. When the caster wheels are moved to a different hole in the fork, it will be necessary to move the rear pivot lift arm to the corresponding hole in the power unit mounting brackets. See Figure 1.
7. If cut height does not correspond to the respective position for the height adjustment handle on MX54/MX61, the ground rod should be adjusted. See Adjust Mower Deck (Figure 27 & Figure 29), page 26 and page 28. For MX54T/MX61T models, the cut height is aligned with the height decal.

### **PowerTilt™ Operation (Figure 3 & Figure 4)**

Turn power unit key to the ON position.

#### **To set cutting height:**

1. Activate rocker switch following instruction decal on top of rocker switch mount. Hold switch until deck is in the fully raised position.
2. Activate switch in the opposite direction to lower deck and to choose the desired cutting height.





**Figure 3.** Deck Fully Raised

**To tilt deck up:**

Activate switch to lower deck and subsequently move deck into fully tilted position. The actuator will make a ratcheting noise at this position.

**To untilt deck:**

1. Actuate switch in the opposite direction until actuator makes a ratcheting noise and the height gauge indicates 5".

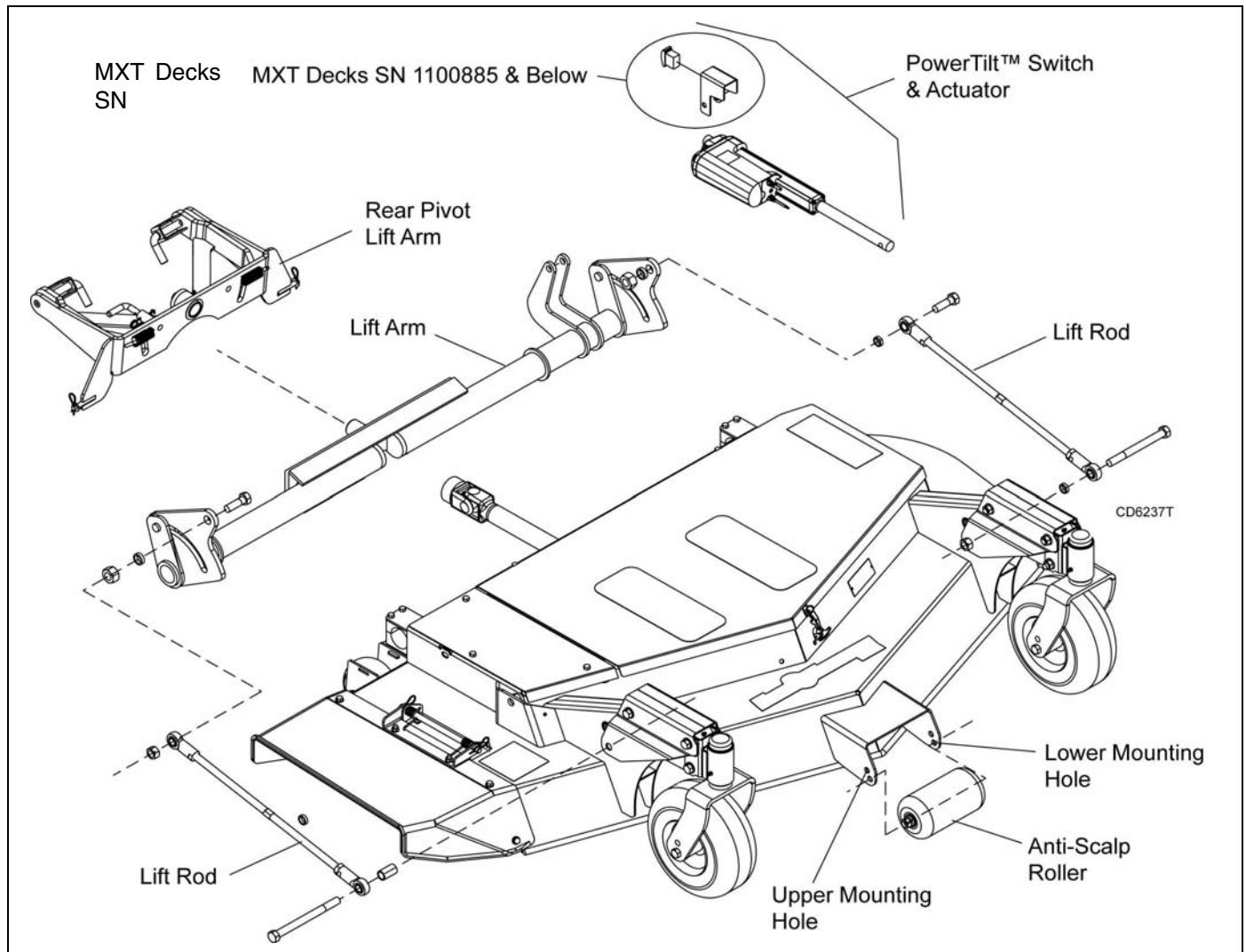
2. Activate switch following instruction decal to lower deck to desired cutting height.

**NOTE:** Excessive operation of actuator with engine off will drain battery.

**NOTE:** The micro switch underneath the height gauge prevents the engine from running with the deck in the raised position. The power unit will not move unless the deck is down and the switch lever is depressed. To check that the switch is working properly when the deck is raised, tilt the deck up halfway and move a traction lever out of neutral while sitting in the operator's seat. This should shut the engine off.

**MOWER SIDE-TO-SIDE ADJUSTMENT**  
(Figure 2 & Figure 4)

Measure a similar spot to the ground on each rear corner of the mower deck. If there is more than an 1/8" difference between sides, adjust lift rods until sides are within 1/8".



**Figure 4.** PowerTilt™ Height Adjustment Linkage - MX54T / MX61T



## MOWING TIPS

### **⚠ WARNING**

- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Keep bystanders away from equipment.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.

### **NOTICE**

- Always operate power unit engine at full throttle when mowing to maintain proper blade speed and produce a clean cut.

1. Before mowing, analyze the area to determine the best mowing procedure. Consider the height, type of grass, and the terrain type (rolling, level or rough).
2. It is better to mow grass more often rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing seasons. Follow local recommendations for the suitable cutting height in your area.
3. Proper ground speed for mowing will depend on the height, type and density of grass to be cut. Normally, ground speed will range from two to five m.p.h. Tall dense grass should be mowed at low ground speeds, while thin medium-height grass can be cut at a faster ground speed.
4. Extremely tall grass should be cut twice. Cut grass higher on first pass. Cut the second time at desired height and 90° to first pass.
5. When mowing long grass, stop power unit, turn ignition key off, remove key, and disengage PTO. Check for grass wrap around PTO shaft every 30 minutes of operation.
6. Remember, sharp blades produce cleaner cuts and use less power.
7. For side-discharge mowers, mow with uncut grass to the left. This will distribute the clippings over the cut area. Discharging clippings over the uncut area would cause a build-up and could prevent uniform cutting.
8. All side-discharge mowers are shipped with high-suction blades. These blades will give you satisfactory performance in most conditions. If, however, you are operating in sandy areas, you should change to the optional medium-suction blades.
9. In some conditions the high-suction blades may cause a small windrow when used in conjunction

with the optional vacuum attachments; should this occur, install medium-suction blades.

10. When transporting the Mow'n Machine on a trailer, always lower attachment height adjustment lift mechanism to lowest setting to reduce lift loads, which could damage the height adjustment sector.

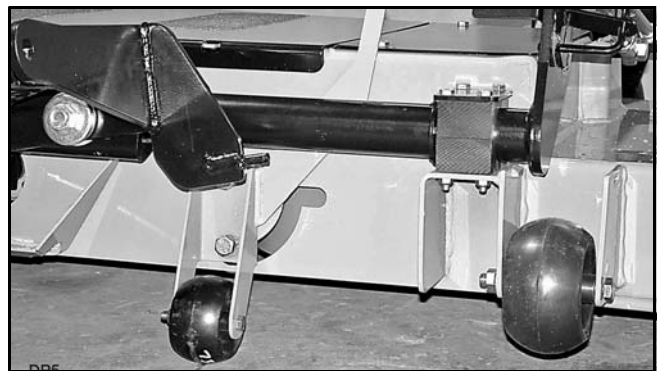
## STORAGE

### **⚠ WARNING**

- Do not operate power unit with attachment removed. Attachment is required for power unit stability.

The parking stand can be used to support the rear of the mower deck when not attached to the power unit.

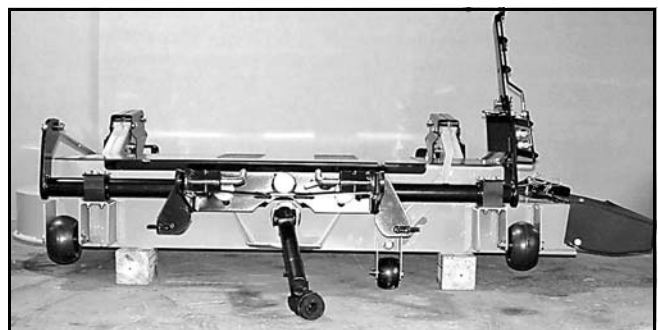
1. Raise the mower deck sufficiently to provide the necessary clearance for rotating the parking stand into position.
2. Carefully remove the weight transfer chains from the rear pivot lift arm.
3. Disconnect driveline and mower attachment arm from power unit.
4. Back power unit away from deck.



**Figure 5.** Parking Stand

If deck is to be stored for a long period of time, 4-inch wooden blocks can be used instead of the parking stand. See Figure 6.

Also see Cleaning Before Extended Storage, page 21.



**Figure 6.** Storage Position

# TROUBLESHOOTING

## MOWING CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Grass cut higher in center of swath than at edge	Height of mower higher at front than at the rear	Adjust mower height and attitude so that mower is 3/8-inch lower in the front than the rear. See Adjust Mower Deck (Figure 27 & Figure 29), page 26 and page 28.
	Loose blade or blade spindle	Check hardware.
Grass cut lower in center of swath than at edge	Height of mower lower at front than at the rear	Adjust mower height and attitude so that mower is 3/8-inch lower in the front than the rear. See Adjust Mower Deck, page 26.
	Loose blade or blade spindle	Check hardware.
Streaking conditions in swath	Conditions too wet for mowing	Allow grass to dry before mowing.
	Blades unable to cut that part of grass pressed down by path of deck casters	Slow ground speed of power unit but keep engine running at full rpm. Cutting lower will help.
	Dull blades	Sharpen or replace blades.
Material discharges from mower unevenly; bunches of material along swath	Loose blade or blade spindle	Check hardware.
	Material too high and too much material	Reduce ground speed but maintain full engine rpm, or make two passes over material. Raise mower for the first pass and lower for the second and cut 90 degrees to first pass.
Uneven cut or poor grass discharge	Conditions too wet for mowing	Allow grass to dry before mowing.
	Worn, bent or loose blade(s)	Replace blade(s). Tighten blades.
	Mower deck not level	Level mower deck. See Adjust Mower Side-to-Side, page 27.
	Buildup of grass, leaves, and trash under mower	Clean underside of mower.
	Bent spindle shaft	Replace spindle shaft.
	Engine speed too slow	Run throttle at full RPM.
	Travel speed too fast	Slow ground speed.
	Conditions too wet for mowing	Allow grass to dry before mowing.
	Low/uneven tire pressure	Check tires for proper air pressure.
	Blades improperly installed	Reinstall blades with sharp edge down.
Deck out of adjustment	Adjust deck. See Adjust Mower Deck, page 26.	
Mower blades will not rotate	Obstruction in clutch mechanism	Remove obstruction.
	Worn/damaged mower PTO belts	Replace belts.
	Frozen idler pulley	Replace pulley.
	Frozen blade spindle	Replace spindle.
	Wiring harness not hooked up	Connect wiring harness (PowerTilt), page 24.
Dandelion seed heads are not being cut	Material is being bent over too far to be cut with the blades	Remove baffle extensions from front baffle. Reduce ground speed. <i>(Continued)</i>

# TROUBLESHOOTING

## MOWING CONDITIONS (Continued)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Blade fins and /or cutting edge wearing rapidly	Soil conditions are too sandy. Sand lifted by the blades is wearing them prematurely	Install medium lift blades.
Streaking conditions with mulch kit	Blades unable to cut grass pressed down front caster wheels	Reduce power unit ground speed but maintain full PTO rpm. Replace mulching blades with standard lift blades to achieve more lift.
Dribbling cut material from back of deck in the cut path	Deck unable to discharge the material as quickly as it is being cut	Reduce power unit ground speed but maintain full PTO rpm. Clean underside of mower.
Dribbling cut material from back of deck in the cut path with the grass collection system installed	Cut material is being held under deck instead of being collected by the vac	Install to medium lift blades. Clean collection system.

## BELT CONDITIONS

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

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

## **PRE-OPERATION CHECK LIST**

### (OWNER'S RESPONSIBILITY)

- \_\_\_ Review and follow all safety rules and safety decal instructions on page 5 through page 8.
- \_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_ Check to make sure all shields and guards are properly installed and in good condition. Be sure that either the discharge chute, mulching end cap, or complete vacuum attachment is installed.
- \_\_\_ Check that all hardware and cotter pins are properly installed and secure.
- \_\_\_ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.
- \_\_\_ Check that equipment is properly and securely attached to power unit.
- \_\_\_ Do not allow riders.
- \_\_\_ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- \_\_\_ Check engine oil level. Clean area around oil fill dipstick. Remove dipstick and check to be sure oil is in operating range (between marks on dipstick). Add oil if necessary but **Do Not Overfill**. Install Dipstick assembly firmly until cap bottoms out on tube. Dipstick assembly must always be secured into fill tube when engine is running.
- \_\_\_ Check all lubrication points and grease as instructed in Lubrication, page 16.
- \_\_\_ Perform a functional check of the safety interlock system each time you operate the unit. Place both steering levers outward, start engine, engage PTO and then rise up out of the seat. The engine should die when you raise up. If it does not, do not operate unit until the safety interlock system has been repaired and operates properly.
- \_\_\_ Check that the PowerTilt™ deck safety switch is working properly. While sitting in the seat, with the engine running, raise the deck to a partially tilted position and move a traction arm out of neutral. The engine should shut off. Repeat the same steps with the deck in the cutting height range. The engine should continue to run with the traction arms moved out of neutral.



# SERVICE

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

## ⚠ WARNING

■ Before performing any service or maintenance, lower attachment to ground, turn off power unit engine, remove key, and disconnect battery ground cable (negative -).

■ Do not drive or operate mower in optional tilt-up position. Power unit is not stable enough and lifting device can be damaged or fail. A tilted deck also increases the chance of thrown objects and blade contact.

■ Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

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

## ⚠ CAUTION

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

## LUBRICATION

1. Do not let excess grease collect on or around parts, particularly when operating in sandy areas.
2. See Figure 7 for lubrication points and frequency of lubrication based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.
3. Use a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive for all locations unless otherwise noted. Be sure to clean fittings thoroughly before attaching grease gun. One good pump of most guns is sufficient when the lubrication schedule is followed.
4. Gearbox requires a minimum of 3 fl. oz. of 90W gear oil. Do not use more than 6 fl. oz.

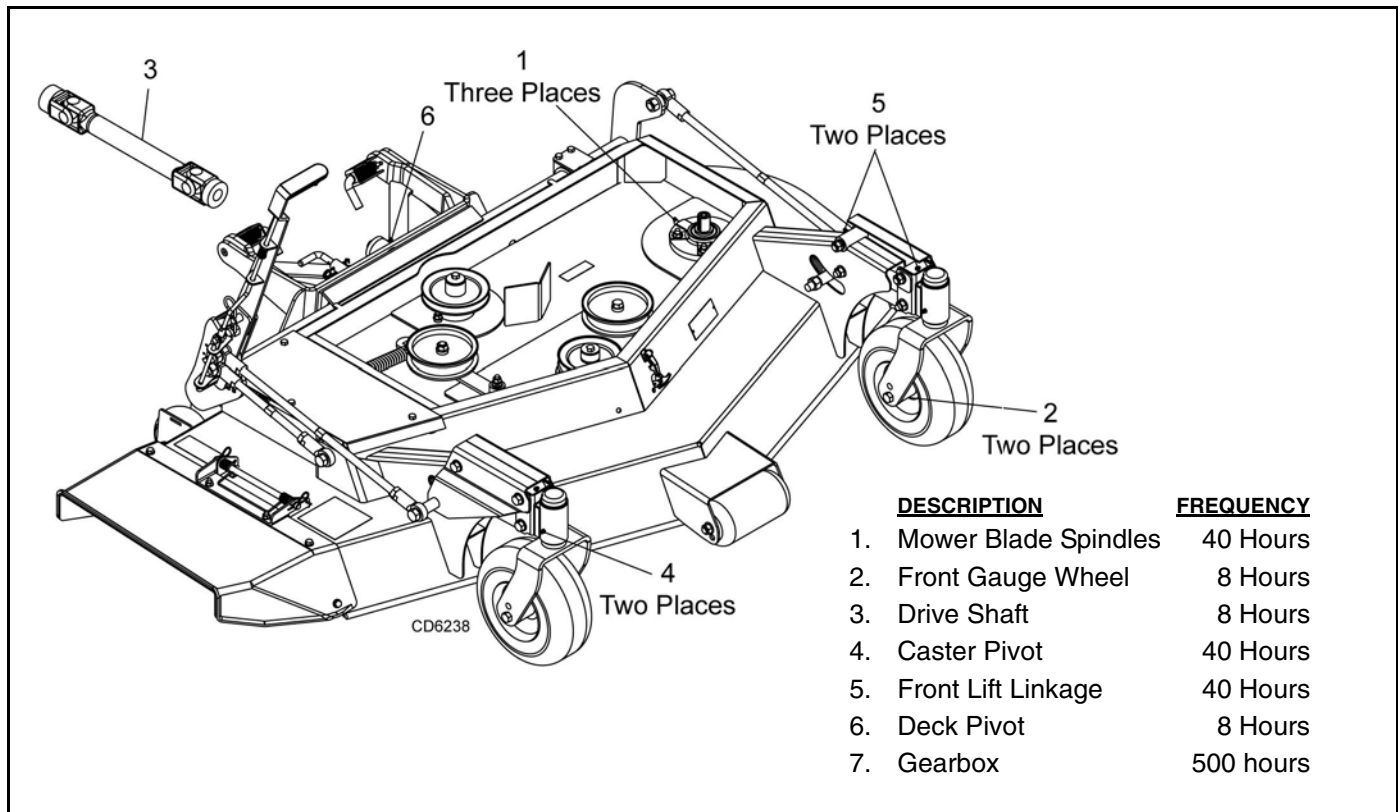


Figure 7. Lubrication Points

## **BLADE SERVICE**

### **⚠ CAUTION**

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

1. Inspect blades before each use to determine that they are mounted securely and are in good condition.
2. Replace any blade that is bent, excessively nicked, worn, or has any other damage.
3. Small nicks can be ground out when sharpening.

### **Blade Removal**

### **⚠ WARNING**

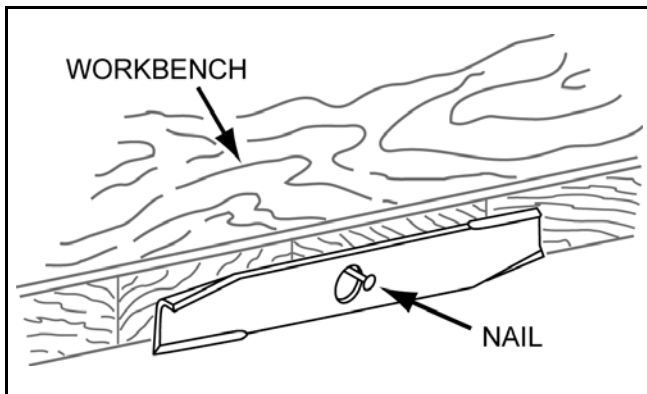
■ **Do not handle blades with bare hands. Careless or improper handling may result in serious injury.**

1. Remove bolt (1) which has right hand threads, Figure 9.
2. Remove washer and blade.

### **Blade Sharpening**

### **NOTICE**

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



**Figure 8.** Blade Balancing

1. Follow original sharpening pattern.

2. Do not sharpen blade to a razor edge, but leave approximately 1/64" blunt edge.
3. Do not sharpen back side of blade.
4. Sharpen both cutting edges equally to keep blade balanced. Balance blade using the method shown in Figure 8.

### **Blade Installation**

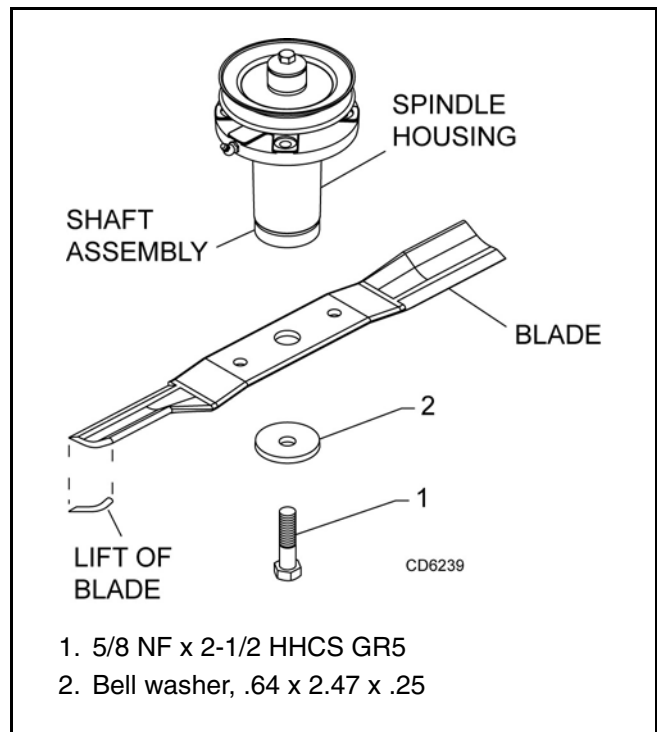
### **⚠ CAUTION**

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

### **NOTICE**

■ **When installing blade, the lift of the blade must be toward the spindle blade housing as shown in Figure 9. Torque bolt (1) into shaft assembly to 100 lbs-ft.**

1. Place blade over blade pilot on the bottom of the shaft assembly.
2. Place bell washer (2) over blade and insert blade bolt (1). Torque blade bolt to 100 lbs-ft.



1. 5/8 NF x 2-1/2 HHCS GR5
2. Bell washer, .64 x 2.47 x .25

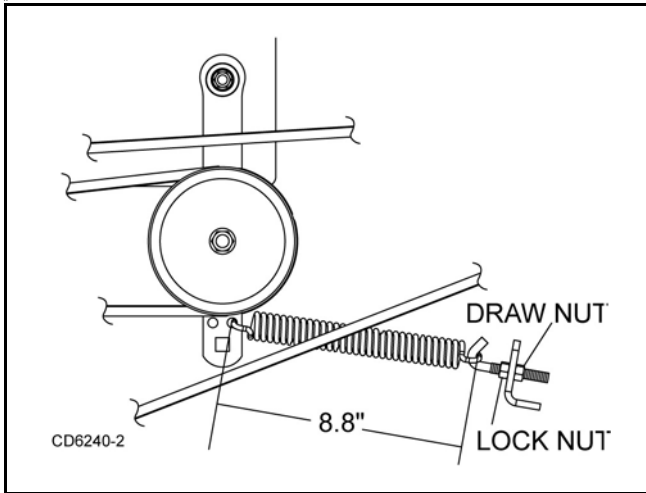
**Figure 9.** Blade and Spindle Assembly

## **BELT SERVICE**

### **⚠ CAUTION**

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

### **Belt Adjustment (Figure 10)**



**Figure 10.** Belt Adjustment

**NOTE:** The belt tension is set at the factory, but may need adjustment after the first hour of initial use. Periodically, the belt should be checked for proper tension following the procedure below.

1. Loosen lock nut.
2. Tighten draw nut until spring has stretched approximately 8.8" as shown in Figure 10. Tighten lock nut.

### **Belt Replacement**

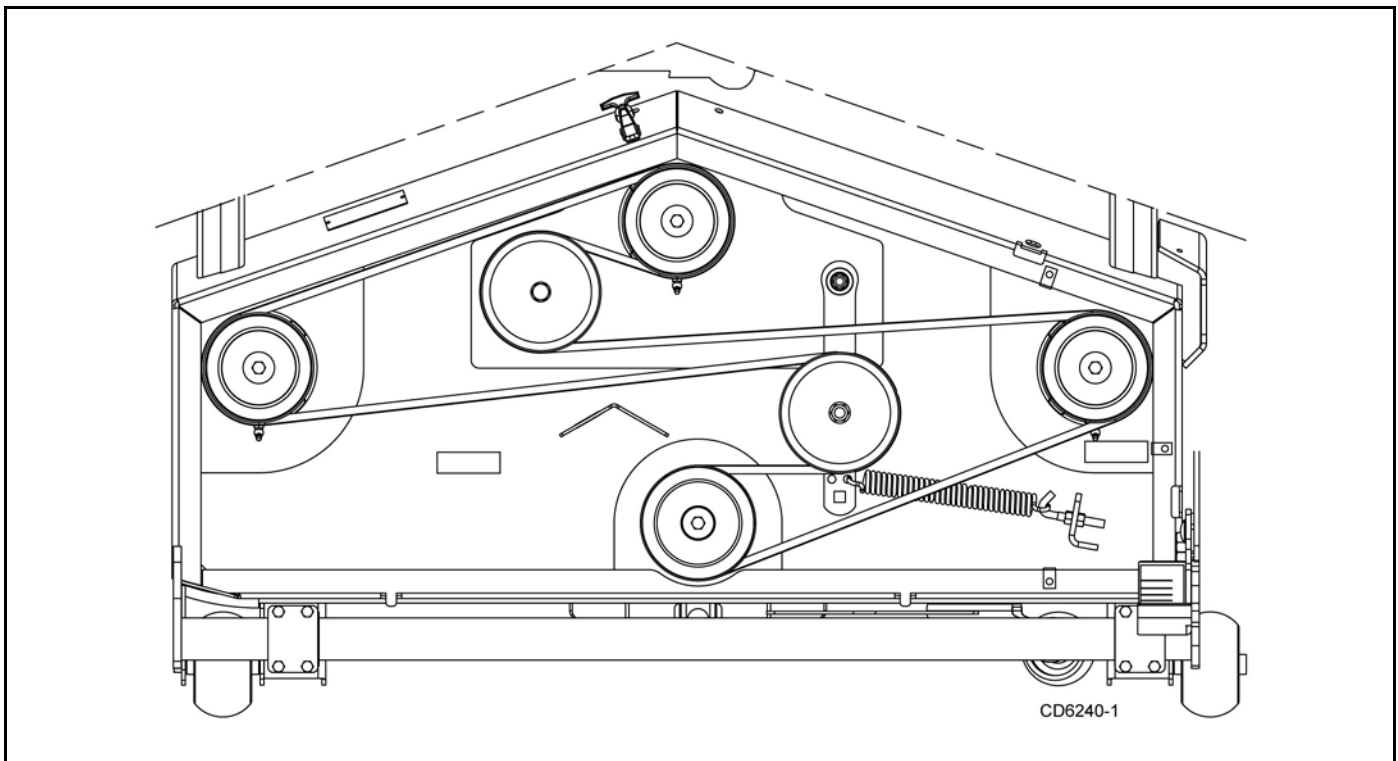
**NOTE:** Major causes of belt failure are improper installation and tension. Before installing a new belt, check spindle shafts and bearings for excessive end play and wear by moving side to side and up and down. Be sure shafts and bearings turn smoothly and freely.

Make sure idler pulleys are still aligned with spindle pulleys.

Check pulley grooves for cleanliness and wear. If grooves require cleaning, use a cloth moistened with a non-flammable, non-toxic, degreasing agent or commercial detergent and water.

When installing belts, follow the belt routing shown in Figure 11.

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



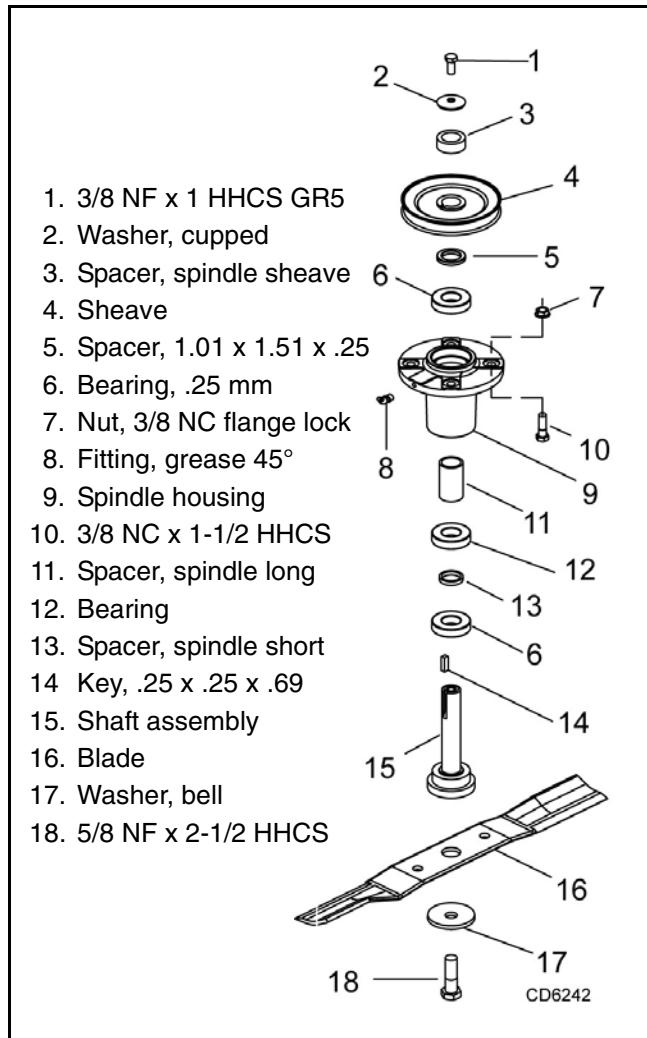
**Figure 11.** Belt Routing



## **SPINDLE REPAIR (Figure 12)**

### **Spindle Removal**

1. Remove belt shields from deck.
2. Remove belt.
3. Remove blade from spindle assembly.
4. Remove nuts (7) and bolts (10) that secure spindle to mower.



**Figure 12.** Blade Spindle Assembly

### **Spindle Disassembly**

1. Remove bolt (1), washer (2), and spacer (3) from the top of the spindle.
2. Remove sheave (4).  
**NOTE:** A wheel puller may be needed if sheave can not be removed by hand. Retain key (14).
3. Slide shaft assembly (15), lower bearing (6), center bearing (12), long spacer (11), and short spacer (13) out the bottom of spindle housing (9).

4. Remove upper bearing (6) and spacer (5) from top of spindle housing.
5. Inspect parts and replace as needed.

### **Spindle Assembly**

1. Slide lower bearing (6) over shaft assembly (15) with seal down.
2. Slide short spacer (13), center bearing (12), and long spacer (11) on shaft assembly.

**NOTE:** Center bearing has no seal and can be placed on shaft with either side facing down.

3. Insert shaft assembly with bearings and spacers into spindle housing from the bottom.
4. Install upper bearing (6) over shaft with the seal facing up.
5. Install spacer (5) and sheave (4) over shaft.
6. Align keyways in shaft and sheave and insert key (14).
7. Install spacer (3), washer (2), and bolt (1). Torque bolt to 35 lbs-ft.
8. Rotate sheave and check for free movement.
9. Lubricate spindle.

### **GEARBOX REMOVAL**

1. Remove mower deck from power unit.
2. Remove center belt shield and belt.
3. Remove driveline from gearbox. Retain key.
4. Remove bolt and sheave from gearbox. A wheel puller may be required. Retain key.
5. Remove the two bolts mounting the gearbox.
6. Lift out gearbox and repair or replace.
7. Follow reverse procedure for reassembly or replacement.

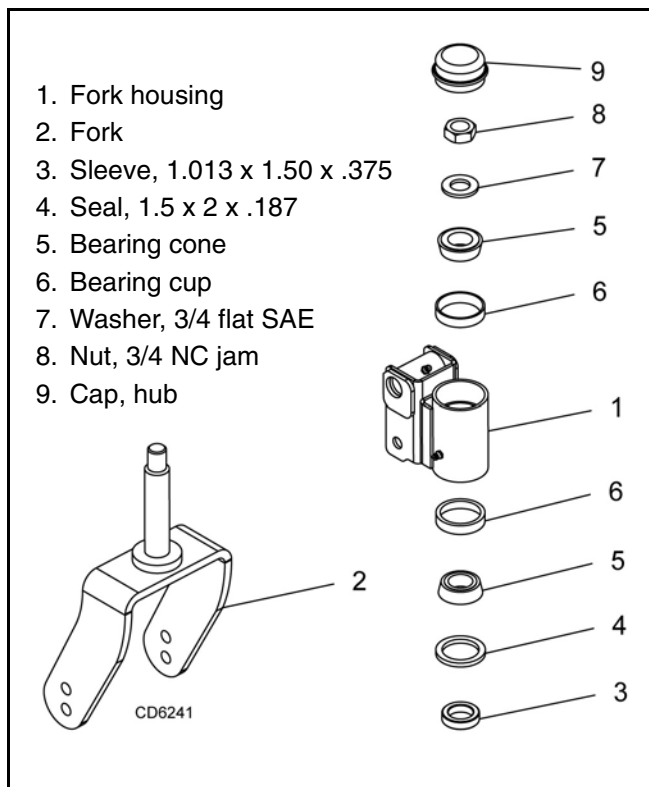
**NOTE:** Torque gearbox mounting bolts to 35 lbs-ft.

### **REAR PIVOT LIFT ARM SERVICE**

1. Remove deck from power unit.
2. Check rear pivot lift for excessive free play.
3. Check the torque on the center hub hardware. Torque to 85 lbs-ft if necessary.
4. Check hardware on both sides of center hub. Replace plastic washers if necessary.

**NOTE:** Do not overtighten hardware. Rear pivot lift arm must be tight but should pivot with effort.

## CASTER WHEEL MAINTENANCE



**Figure 13.** Caster Wheel Assembly

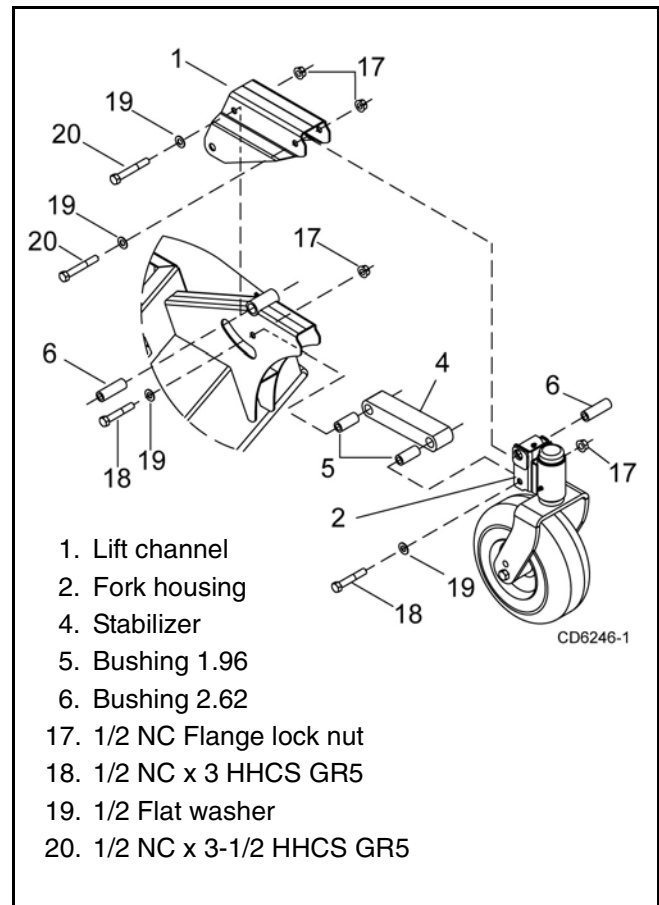
Once a year, disassemble deck caster wheel assembly and inspect roller bearings:

1. Remove dust cap (9) from top of fork housing (1).
2. Remove jam nut (8).
3. Remove wheel fork (2), bearing cones (5), and remaining hardware from assembly.
4. Inspect bearing cones (5) and bearing cups (6) for wear and replace if necessary. Replace seals and washers as necessary.
5. Pack bearing cones (5) with a good grade wheel bearing grease.
6. Install wheel fork (2), bearing cones (5), and remaining hardware into assembly as shown.
7. Clean the threads on both the shaft and jam nut (8) and apply Loctite® to threads before assembly.
8. Set bearings by torquing jam nut to 26 lbs-ft. All bearing free play should be removed.

Proper bearing adjustment is essential to good bearing life. If bearings are loose, caster wheel will wobble and/or slap side to side. If bearings are overtightened, loosen jam nut and rap shaft with a lead hammer to loosen bearings. Readjust bearings until proper setting is obtained.

## LIFT LINKAGE BUSHING REPLACEMENT

1. Remove top two cap screws (20), bushings (6), washers (19), and flange lock nuts (17) from lift channel (1).
2. Rotate lift channel back to reveal hardware underneath.
3. Remove cap screws (18), washers (19), and flange lock nuts (17) from wheel lift frame and fork housing (2).
4. Remove stabilizer (4) and both bushings (5).
5. Replace bushings (5) in stabilizer. Place stabilizer between wheel lift frame and fork housing (2).
6. Secure with cap screws (18), washers (19), and flange lock nuts (17) previously removed.
7. Insert new bushings (6) in lift frame and fork housing.
8. Rotate lift channel (1) back into position and secure with cap screws (20), washers (19), and flange lock nuts (17) previously removed.



**Figure 14.** Lift Linkage Bushing Replacement

## **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.

## **RETURNING TO OPERATION**

When you have completed service and maintenance functions, read and comply with these safety messages before returning unit to operation.

### **WARNING**

- **Be sure either the discharge chute, mulching end cap, or complete vacuum attachment is installed and in good condition. Replace if damaged.**
- **Make sure the driveline spring-activated locking collar slides freely and is seated firmly in power unit PTO groove. Make sure the set screws securely attach driveline to the attachment gearbox shaft.**
- **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**
- **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

### **CAUTION**

- **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.**



# ASSEMBLY INSTRUCTIONS

## DEALER SET-UP INSTRUCTIONS

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

The mower is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are located on page 47.

Select a suitable working area. A smooth, hard, level surface, such as concrete, will make assembly much quicker.

Remove front and rear hardware that secures deck to crate as shown in Figure 15, Figure 16, and Figure 17. Remove deck from crate.

### Mower Assembly (Figure 18)

1. Remove lock nut (7), flat washer (4), and plastic washer (3) from both carriage bolts on the lift arm.
2. Remove cap screw (6), lock washer (5), and flat washer (4) from the center hub on the rear pivot lift arm (1).
3. Attach rear pivot lift arm (1) to the center hub on the lift arm and secure with cap screw (6), lock washer (5), and flat washer (4). Torque to 85 lbs-ft.
4. Secure rear pivot lift arm (1) on both sides of center hub with lock nuts (7), flat washers (4), and plastic washers (3).

**NOTE:** Do not overtighten lock nuts (7). Rear pivot lift arm must be tight but should pivot with effort.

5. On MX54 & MX61 models, remove clevis pin (9) and safety pin (10) from lift handle. Rotate lift handle up into the operating position and secure with clevis pin (9) and safety pin (10).

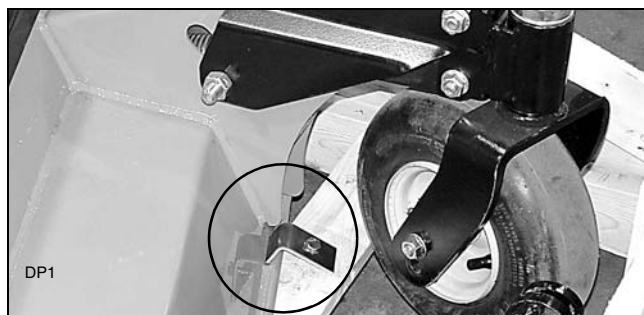


Figure 15. Left Front Corner Clip & Lag Bolt

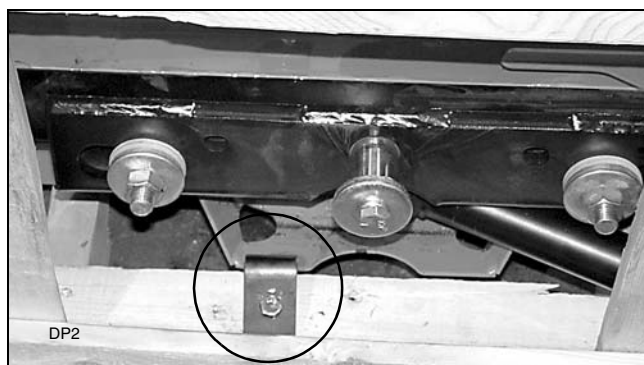


Figure 16. Rear Clip & Lag Bolt

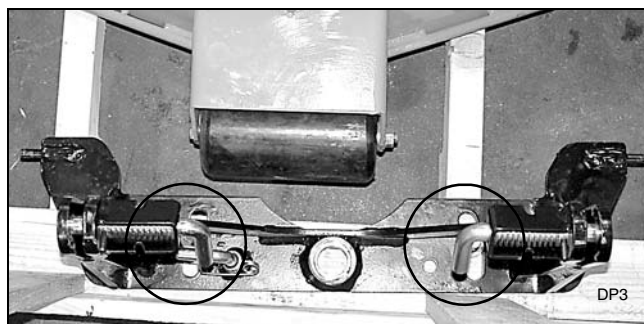


Figure 17. Rear Pivot Lift Arm Lag Bolts

1. Rear pivot lift arm
2. 5/8 NC x 2 Carriage bolt GR5
3. .53 x 2.0 x .125 Plastic washer
4. 5/8 ID x 2.0 OD x 3/8 Thick washer
5. 1/2 Lock washer
6. 1/2 NC x 1-1/2 HHCS GR5
7. 5/8 NC Lock nut
9. .62 x 1.50 Clevis pin
10. .19 x 3.16 Safety pin

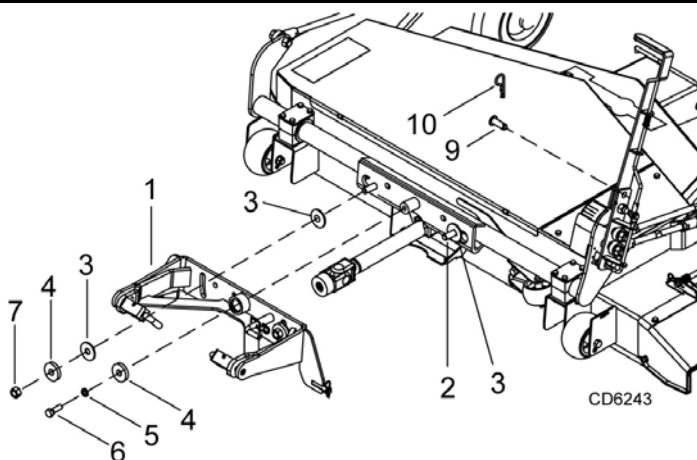


Figure 18. Rear Pivot Lift Arm Assembly

## Install Discharge Chute (Figure 19)

### **WARNING**

■ Be sure either the discharge chute, mulching end cap, or complete vacuum attachment is installed and in good condition. Replace if damaged.

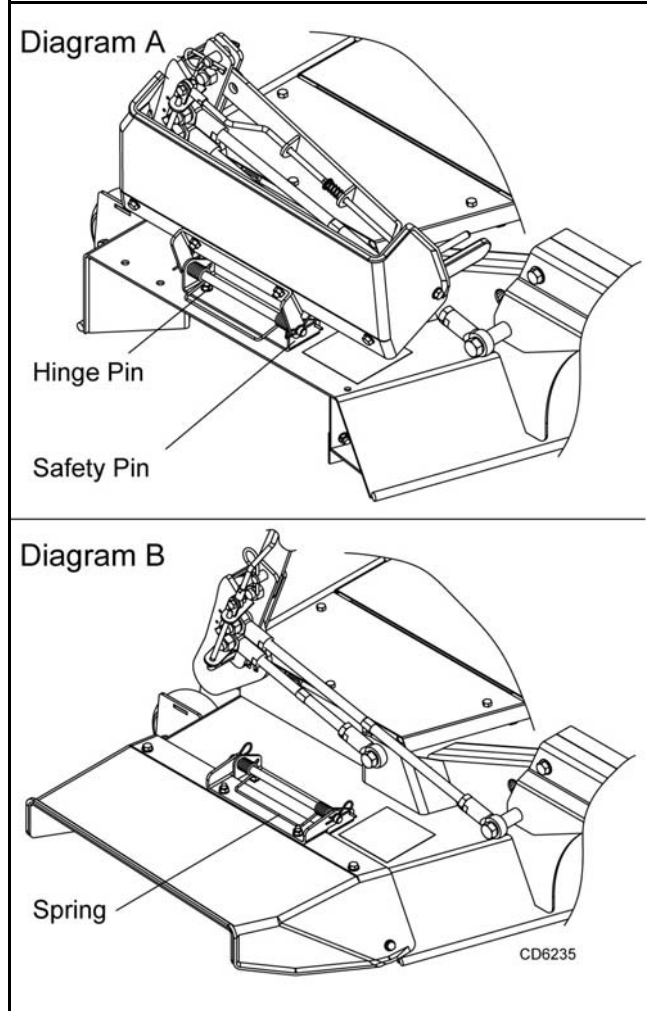


Figure 19. Discharge Chute Installation

**NOTE:** The pre-assembled discharge shield, which includes hinge and hardware, must be installed on mower deck.

1. Remove one safety pin and hinge pin to free discharge chute from the shipping position, (Diagram A).
2. Place the discharge chute in the operating position. Install hinge pin through spring and hinge bracket.

**NOTE:** Make sure spring is installed on top of discharge chute hinge bracket as shown in Diagram B.

3. Reinstall safety pin to secure discharge chute.

## ATTACHING MOWER TO POWER UNIT

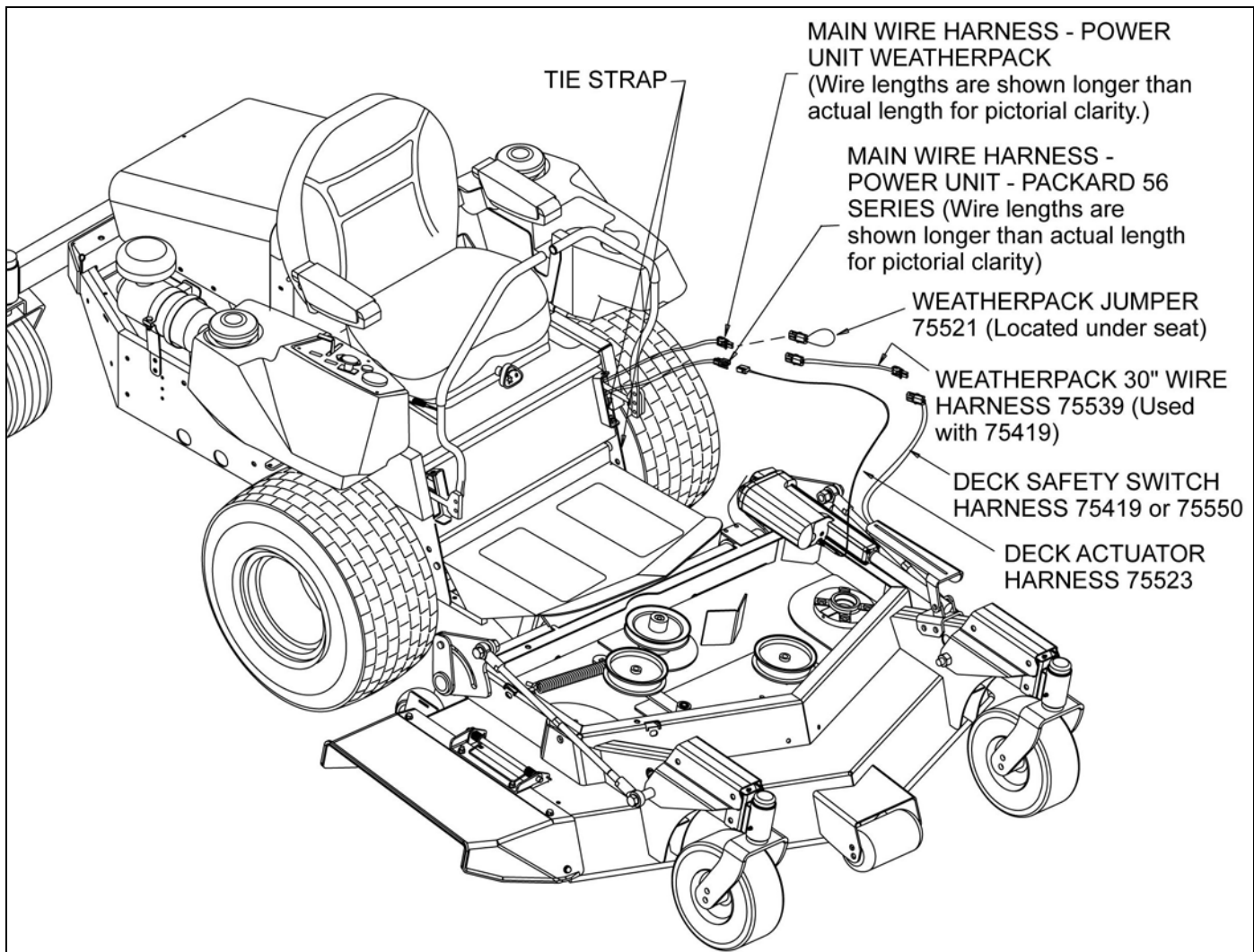
### Preparation - All Models

#### **NOTICE**

■ The power unit must comply with counterweight requirements before attaching to power unit.

1. Place power unit and mower on a level surface.
2. Rotate parking stand to the down position so deck is resting on the parking stand wheel.
3. Center the power unit behind mower as close as possible. Shut off engine.

**NOTE:** For MX54/MX61 Manual Height Adjustment Models, skip to Deck Attachment, page 26.



**Figure 20.** Wiring Connection - MXT Deck (SN 1100886 & above)

## Wiring Connections MXT Deck SN 1100886 and above

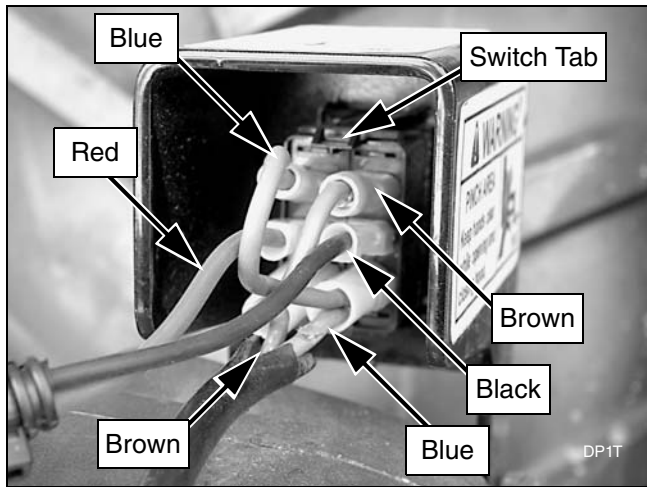
1. Lift seat/hood and remove jumper (75521) from power unit's main wire harness. (Located on front left side by steering pivot.) Keep jumper; power unit will not operate unless jumper or deck is attached.
2. Connect free end of deck safety harness to power unit's main wire harness where jumper was previously attached. Route harness through steering pivot slot (weatherpack connector).
3. Connect free end of deck actuator harness to power unit's main wire harness. Route harness through steering pivot slot. The main wire harness connector is located underneath seat/hood by front left steering pivot. (Packard 56 series connector.)
4. Tie strap harnesses to front of power unit frame. Make sure wires are not pinched by steering link-

age during operation. Wire must also remain clear of tire and not pull tight during tilt operation or deck tilting side to side.

## Connect Wiring Harness - PowerTilt™ Units MXT Deck SN 1100885 and below

**NOTE:** If you plan to use the MXT deck with the actuator switch mounted on the deck, you must determine which wire harness to use. Select harness 75407 for FZ power units. Select harness 75433 for F-series power units. These harnesses are provided with MXT decks having SN 1100885 and below.

1. Attach red and black wires from the power tilt cable (75407 or 75433) to the center terminals of the rocker switch as shown in Figure 21.
2. Insert opposite end of power tilt cable through left steering handle slot as shown in Figure 22.



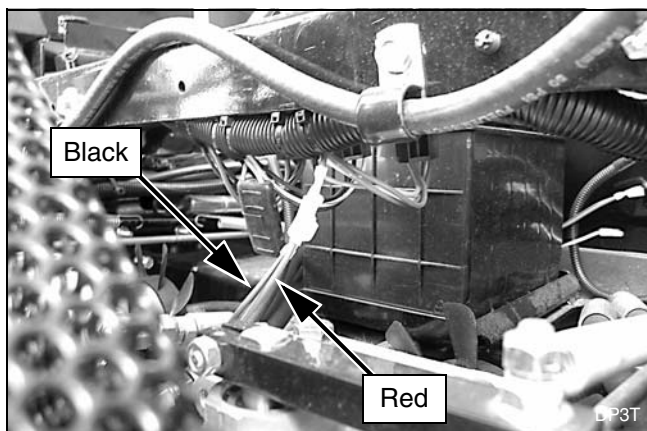
**Figure 21.** PowerTilt Cable Connection



**Figure 22.** PowerTilt Cable Routing

3. Raise and lock seat in the up position. Locate the seat support channel. (This is the channel which the hood prop rod rests in.)
4. Attach red and black wires from the tilt power cable to the auxiliary power connection under the right side of the seat support channel. Red to purple; black to black. See Figure 23.

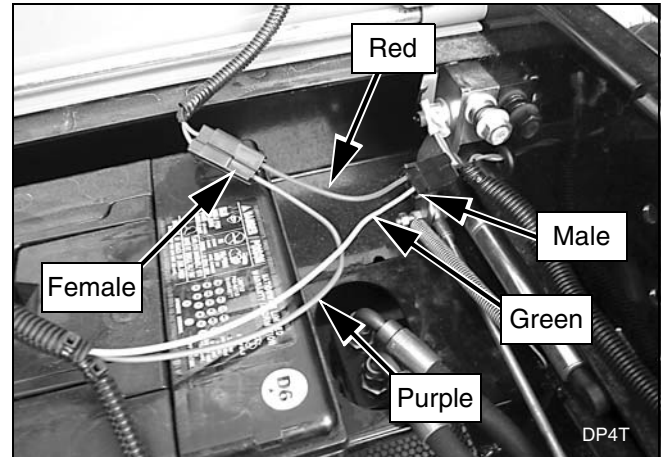
**NOTE:** If your unit is equipped with a seat timer delay, please use the schematic on page 46 to assist in hooking up the power tilt cable to the timer delay.



**Figure 23.** PowerTilt Cable Connection

### FZ Series Power Units (without timer delay) (Figure 24)

1. Disconnect seat switch wire harness from the main wire harness terminal on right side of power unit.
2. Attach tower connector of PowerTilt harness (male) to main wire harness on right front side of power unit.
3. Attach receptacle connector (female) to the seat switch.
4. Attach wires from lever switch to open terminal on the wire harness. Secure wires to actuator using plastic tie.



**Figure 24.** FZ Series Seat Connection

### F Series Power Units (Figure 25)

1. Remove seat from the seat frame and turn upside down. Save hardware for reuse.
2. Disconnect seat switch cable from the bottom of the seat.
3. Attach connector with purple and black wires to the seat switch.
4. Attach black wire of PowerTilt cable to main wire harness connector previously removed from seat switch (black to black).
5. Attach green wire of PowerTilt cable to opposite side of the connector from main wire harness.
6. Attach seat to seat frame using hardware previously removed.
7. Attach wires from lever switch to open terminal on the wire harness. Secure wires to actuator using plastic tie.

**NOTE:** Figure 25 shows the seat switch removed from the bottom of the seat for picture clarification. Seat switch does not have to be removed to make these connections.

**NOTE:** Remove wiring harness when replacing power tilt deck with another attachment or use jumper part #75521 and secure harness wiring away from moving parts. Retaining the harness will



leave the seat safety circuit open and the power unit will not run.

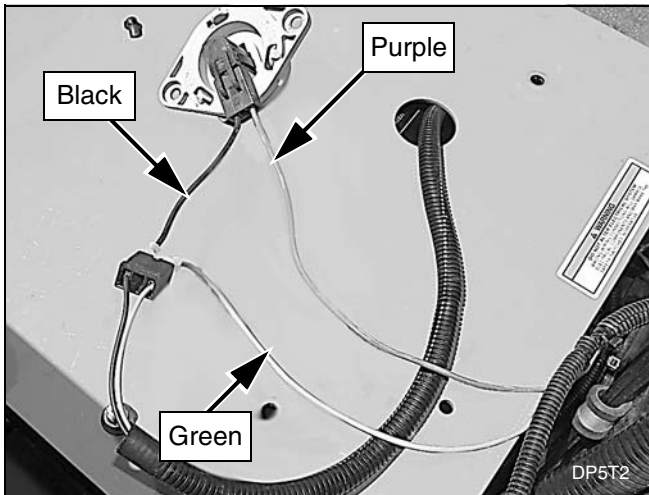


Figure 25. F Series Seat Connection

### Deck Attachment - All Models

1. Use the height adjustment handle (or height adjustment switch on PowerTilt models) to raise or lower rear pivot lift arm and align arm with mounting brackets.
2. Attach rear pivot lift arm in desired power unit mounting bracket holes and connect with spring loaded pins. See Figure 26 for correct hole locations.

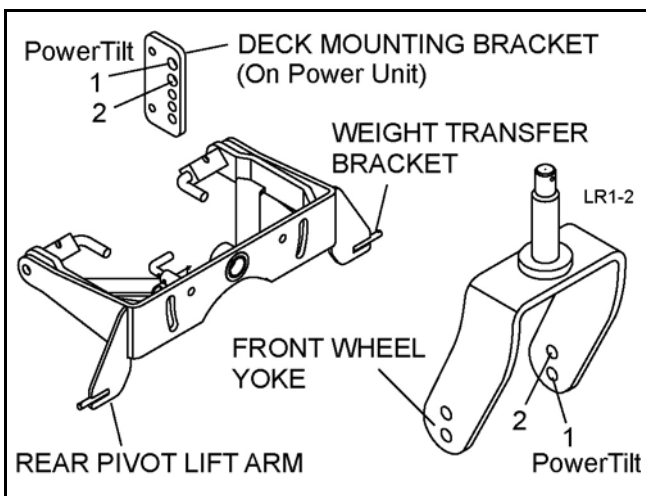


Figure 26. Mounting Hole Location

3. Attach driveline from deck to PTO shaft on power unit.
4. Attach weight transfer chains to right and left weight transfer brackets on rear pivot lift arm.

**NOTE:** Stepping on the weight transfer arms with your foot will make attaching chains easier.

5. Install flat washers and safety pins in right and left weight transfer brackets to secure chains into position.
6. Close power unit hydraulic pump dump valves.
7. After deck is attached to power unit, raise deck and rotate parking stand into the storage position.

**NOTE:** Attach rear pivot lift arm in hole position 1 on deck mounting brackets when front wheels are in hole 1 on front wheel yoke. This will put the deck in the high cut range, (2 to 5 inches - manual, 1-1/4 to 5-1/2 inches - PowerTilt™). Attach weight transfer chains to weight transfer brackets using four links. Use the PowerTilt™ in hole position 1 as shown in Figure 26.

**NOTE:** Attach rear pivot lift arm in hole position 2 on deck mounting brackets when front wheels are in hole 2 on front wheel yoke. This will put the deck in the low cut range, (1 to 4 inches). Attach weight transfer chains to weight transfer brackets using five links.

### Adjust Mower Deck (Figure 27 & Figure 29)

**NOTE:** Adjust side-discharge decks 3/8" higher in the rear than the front using these instructions.

**NOTE:** Make sure adjustment rods are set to dimensions given in Figure 27 prior to adjusting deck.

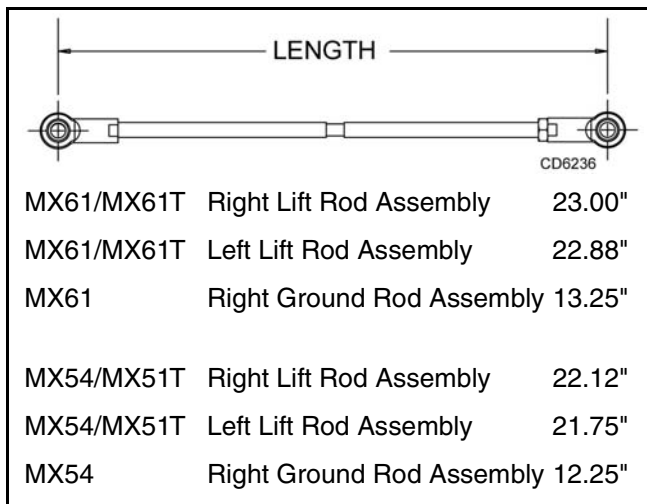
1. Make sure power unit tire pressure is set equally on both sides of power unit.

Standard Front:	12 psi	Drive Tire
Rear:	18 psi	Rear Caster
Front:	45 psi	Deck Caster

2. Place deck in the lowest and highest cutting positions.

**NOTE:** If MX54/MX61 lift handle lever will not lock into position, adjust ground rod by loosening jam nut and turning rod using the flat provided until positions are functional. Tighten jam nut.

3. Place a straightedge on the mower deck, front to rear, and measure from bottom of straightedge to ground. On side discharge mowers, rear measurement should be 3/8" higher than front. On decks with mulching kits, 3/8" to level is acceptable.
4. If the measurement is not 3/8" greater at the rear, check to make sure mower attachment arms are in the correct mounting bracket holes on the power unit, (see Figure 26).
5. Adjust the mower to 3/8" higher in the rear by adjusting the right and left lift rods. Adjust lift rods by loosening jam nuts and turning rods using the flat provided in the center of the rods. Lengthening the rods lowers the front edge of the deck. Shortening the rods raises the front edge of the deck. Tighten jam nuts when deck is 3/8" higher in the rear.



**Figure 27.** Adjustment Rod Length

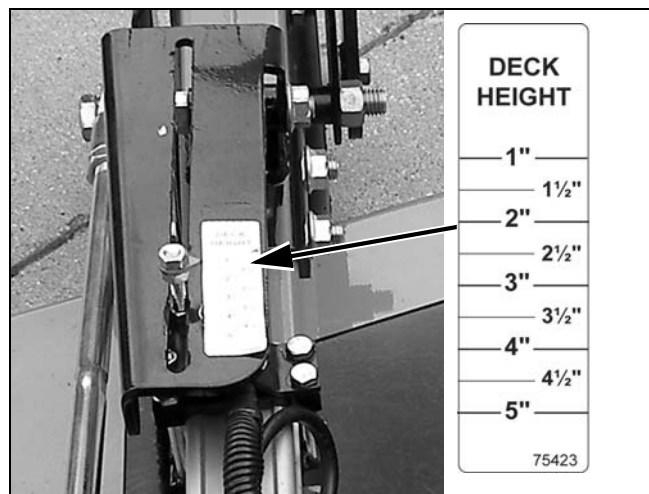
## **ADJUST CUTTING HEIGHT**

1. With power unit and mower on a level surface and power unit tire pressure set equally on both sides, set cutting height on MX54/MX61 by moving the height adjustment handle forward to lower the cutting height and rearward to raise the cutting height. Use the PowerTilt switch on MX54T/MX61T models.
2. In the high cut range, the caster wheel assembly should be bolted through the lower hole in the caster fork. Anti-scalp rollers should be installed in the lower mounting hole. Use the high cut range for the PowerTilt™ decks.
3. In the low cut range, the caster wheel assembly should be bolted through the upper hole in the caster fork. Anti-scalp rollers should be installed in the upper mounting hole.
4. When the caster wheels are moved to a different hole in the fork, it will be necessary to move the rear pivot lift arm to the corresponding hole in the power unit mounting brackets. See Figure 26, page 26.

5. If cut height does not correspond to the respective position for the height adjustment handle on MX54/MX61, the ground rod should be adjusted. See Adjust Mower Deck, page 26. For MX54T and MX61T, the cut height is aligned with the height decal.

## **Apply Deck Height Decal - PowerTilt Units**

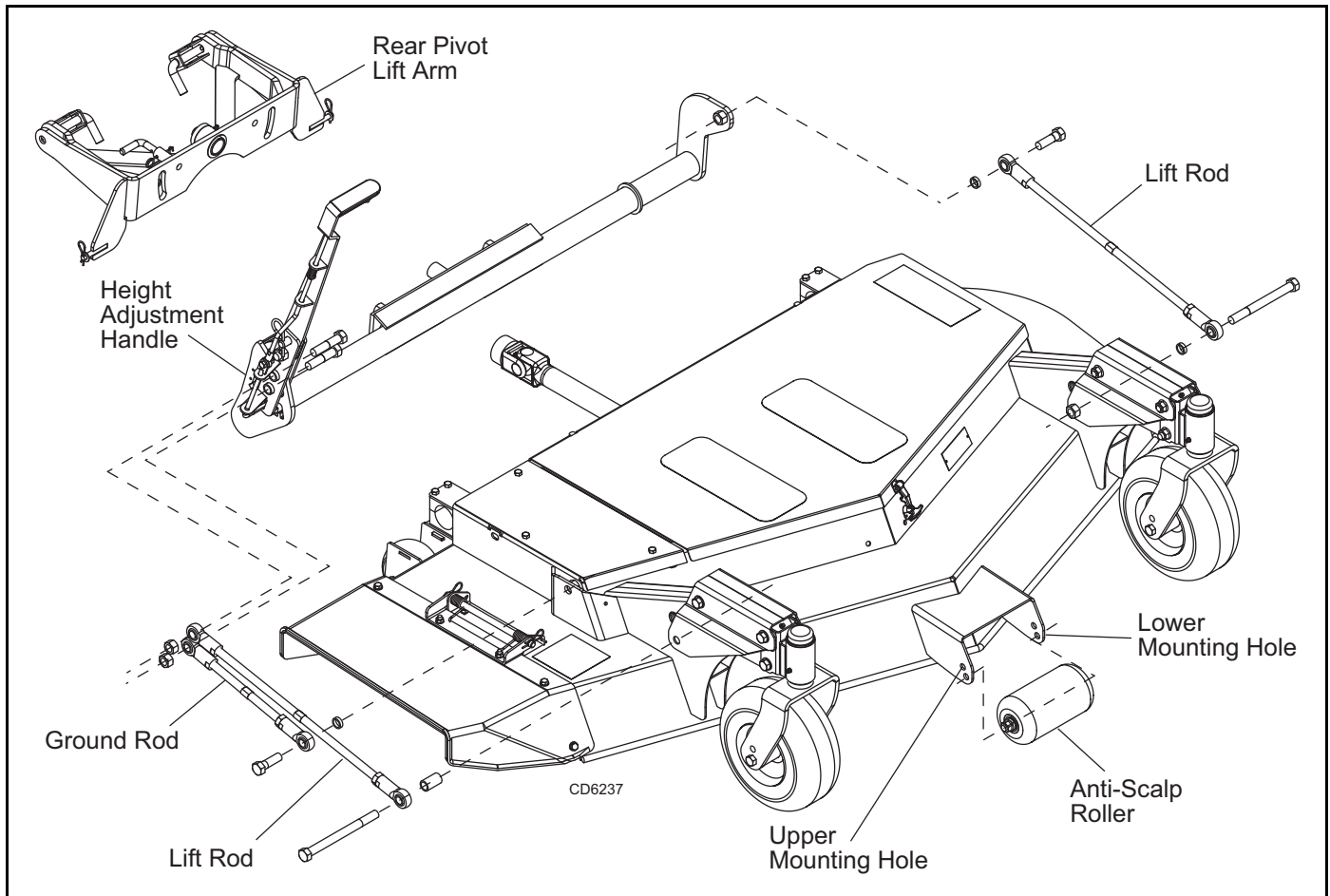
1. Turn power unit key to the ON position.
2. Activate rocker switch following decal instructions on top of rocker switch bracket and set blade cutting edge to 3 inches.
3. With mower deck level, place deck height decal (75423) on top of height gauge bracket to correspond to blade height. See Figure 28.
4. Check height indicator on the top of the actuator. Blade height and indicator should be at the same height.



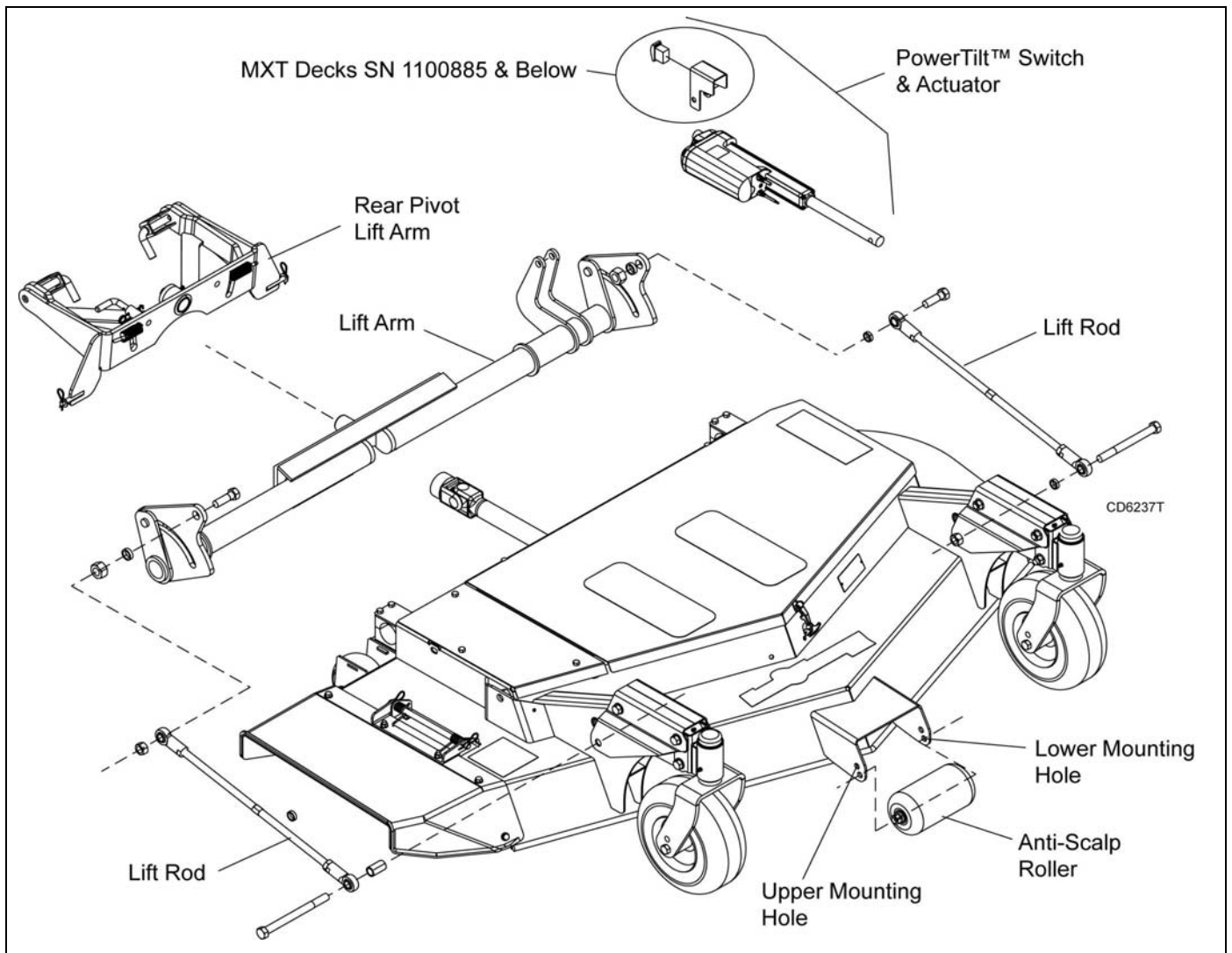
**Figure 28.** Deck Height Indicator Decal Installed

## **ADJUST MOWER SIDE-TO-SIDE**

Measure a similar spot to the ground on each rear corner of the mower deck. If there is more than an 1/8" difference between sides, adjust lift rods until sides are within 1/8".



**Figure 29.** Height Adjustment Linkage - MC54/MX61



**Figure 30.** Height Adjustment Linkage - PowerTilt™ Models

# DEALER CHECK LISTS

## PRE-DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

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

- \_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_ Check that all shields and guards are properly installed and in good condition. Replace if damaged.
- \_\_\_ Properly attach implement to power unit and make all necessary adjustments.
- \_\_\_ 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 as identified in Lubrication, page 16.
- \_\_\_ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.
- \_\_\_ Check mower attitude and belt alignment.
- \_\_\_ Run unit immediately following set-up to double check systems operations.
- \_\_\_ Check that the PowerTilt™ deck safety switch is working properly. While sitting in the seat, with the engine running, raise the deck to a partially tilted position and move a traction arm out of neutral. The engine should shut off. Repeat the same steps with the deck in the cutting height range. The engine should continue to run with the traction arms moved out of neutral.

- \_\_\_ Check the operation of the PowerTilt™ actuator. Raise and lower the deck determining that the actuator moves the deck into all positions.

## DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

- \_\_\_ Show customer how to make adjustments to deck.
- \_\_\_ Instruct customer how to lubricate and explain importance of lubrication.
- \_\_\_ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- \_\_\_ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.
- \_\_\_ 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.
- \_\_\_ Show customer how to make sure driveline is properly installed and that spring-activated locking pin or collar slides freely and is seated in groove on power unit PTO shaft.
- \_\_\_ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- \_\_\_ Make customer aware of optional equipment available so that customer can make proper choices as required.



## MOW'N MACHINE MOWER DECK

### Models:

**MX54 & MX61**

**MX54T & MX61T with PowerTilt™**

MX54 & MX61 Deck Assembly . . . . .	32-33
MX54T & MX61T Deck Assembly with PowerTilt™ . . . . .	34-35
Deck Drive System . . . . .	36-37
Right Angle Gearbox Assembly . . . . .	38
Floating Deck Lift Arm . . . . .	39
PowerTilt™ Assembly . . . . .	40
Height Adjustment Handle Assembly for MX54/MX61 Manually Controlled Cutting Height . . . . .	41
Wheel Lift Assembly . . . . .	42
Blade Spindle Assembly . . . . .	43
Mulch Kit . . . . .	44
PowerTilt™ Wiring Diagram F Series . . . . .	45
PowerTilt™ Wiring Diagram FZ Series . . . . .	45
PowerTilt™ with Timer Delay - FZ Series . . . . .	46





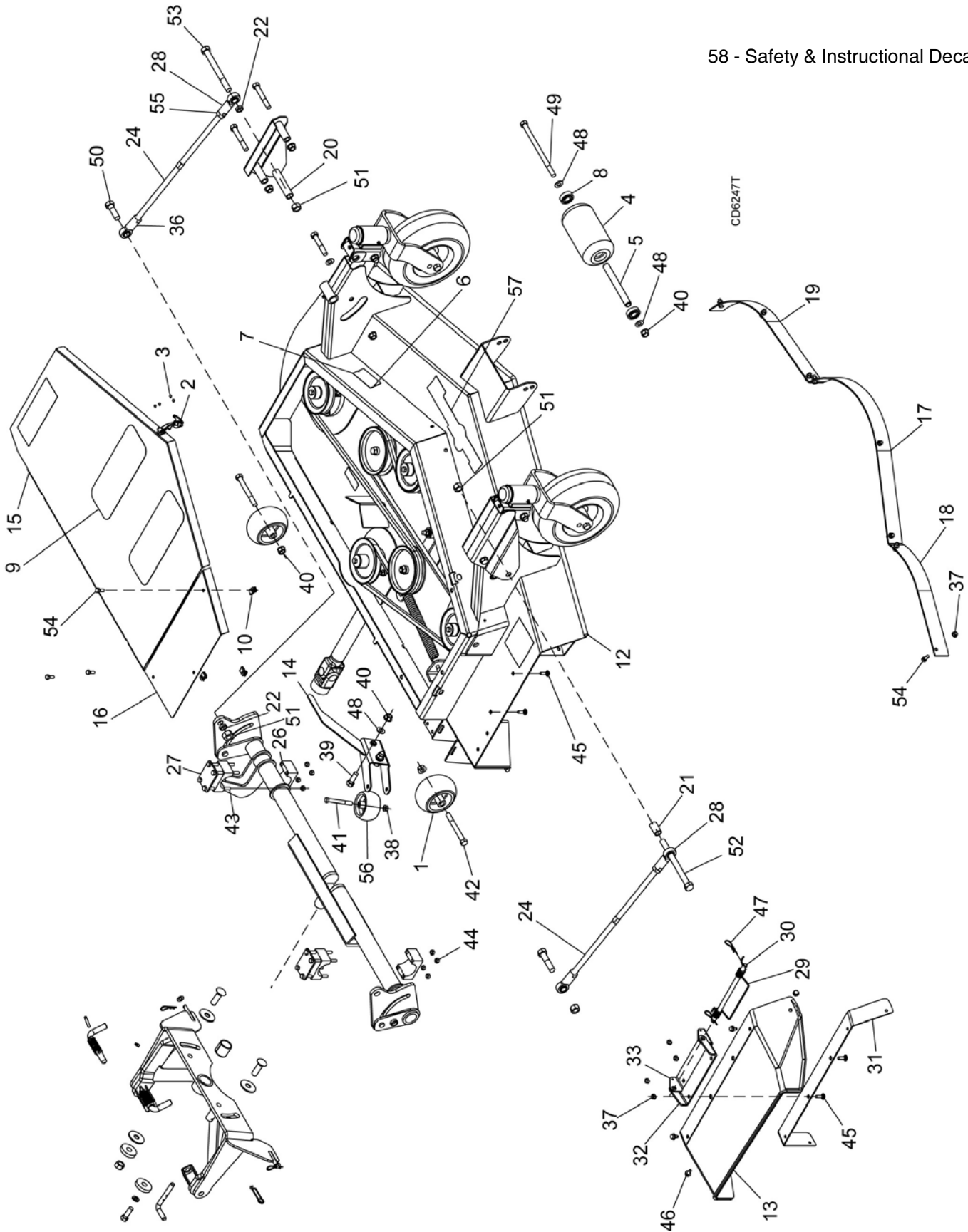
## MX54 & MX61 DECK ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	09253700	2	Wheel 3 X 5 <b>(MX Decks only)</b>	29	78143	1	Discharge chute spring
2	1001975	1	Rubber draw latch	30	78144	1	Discharge chute hinge pin
3	1001994 *	4	Blind rivet 1/8 no. 43	31	78145	1	Discharge chute stiffener
4	1006418	1	Roller 4 X 7.38	32	78146	1	Chute hinge
5	1006420	1	Spacer .75 X 6.62	33	78147	1	Deck hinge
8	35193	2	Bearing	34	78162 *	2	Screw, self-tapping #10-16 type B
9	72411	2	Footrest tread	35	78164	1	Height indicator
10	74047	3	Spring nut 5/16-18 U-tapered	36	78166	3	Rod end 5/8 (left hand thread)
11	75110	2	Spring - Ext 1.30 .187 8.3 39 (61" deck) <b>-or-</b>	37	78173 *	12	5/16 NC Flange lock nut
11	75107	2	Spring - Ext 1.30 .187 7.6 39 (54" deck)	38	78175 *	1	3/8 NC Flange lock nut <b>(MX Decks only)</b>
13	78107	1	Discharge chute	39	78176 *	2	1/2 NC x 1-1/2 HHCS GR5
14	78109	1	Parking stand <b>(MX Decks only)</b>	40	78177 *	5	1/2 NC Flange lock nut
15	78211	1	Belt cover, removable (61" deck) <b>-or-</b>	41	78178 *	1	3/8 NC x 3-1/4 HHCS GR5
15	78212	1	Belt cover, removable (54" deck)	42	78179 *	2	1/2 NC x 4-1/2 HHCS GR5
16	78116	1	Belt cover, (61" deck) <b>-or-</b>	43	78180 *	8	5/16 NC x 3-1/2 HHCS GR5
16	78153	1	Belt cover, (54" deck)	44	78181 *	8	5/16 NC Lock nut
17	78117	1	Baffle extension, center (61" deck) <b>-or-</b>	45	78182 *	4	5/16 NC x 1 Carriage bolt
17	78155	1	Baffle extension, center (54" deck)	46	78183 *	4	Screw, self-tapping 5/16-12 type B
18	78118	1	Baffle extension, right (61" deck) <b>-or-</b>	47	78184 *	2	Safety pin .09 X 2.31
18	78156	1	Baffle extension, right (54" deck)	48	78186 *	4	1/2 Flat washer SAE
19	78119	1	Baffle extension, left (61" deck) <b>-or-</b>	49	78189	1	1/2 NC x 8-1/2 HHCS GR5
19	78157	1	Baffle extension, left (54" deck)	50	78190 *	2	5/8 NC x 2 HHCS GR5
20	78120	2	Channel tube, inner	51	78191	6	5/8 NC Center lock nut
21	78121	1	Channel tube, outer	52	78192	1	5/8 NC x 7-1/2 HHCS GR5
22	78122	3	Spacer, tube rod	53	78193	1	5/8 NC x 6-1/2 HHCS GR5
23	78123	1	Ground rod, 10.00" (61" deck) <b>-or-</b>	54	78205 *	11	5/16 NC x 3/4 HHCS GR5
23	78158	1	Ground rod, 8.75" (54" deck)	55	78208 *	3	5/8 NF Jam nut
24	78124	1	Lift rod, 19.75" (61" deck) <b>-or-</b>	56	73256	1	Roller .38 X 2.25 X 3.50 <b>(MX Decks only)</b>
24	78159	1	Lift rod, 18.38" (54" deck)	57	75376	1	MX Deck decal, 61" <b>-or-</b>
25	78125	2	Stabilizer	57	75375	1	MX Deck decal, 54"
26	78128	4	Deck lift arm bushing	58	78132	1	Height decal
27	78129	2	Bushing, retaining plate	59	78209	1	Complete safety decal set (see page 7 for individual decals)
28	78133	3	Rod end 5/8" (right hand threads)	60	75371	1	Decal, Mow'n Machine FZ

\* Standard hardware, obtain locally

# MX54T & MX61T DECK ASSEMBLY WITH POWERTILT™

58 - Safety & Instructional Decals



**34 Parts**

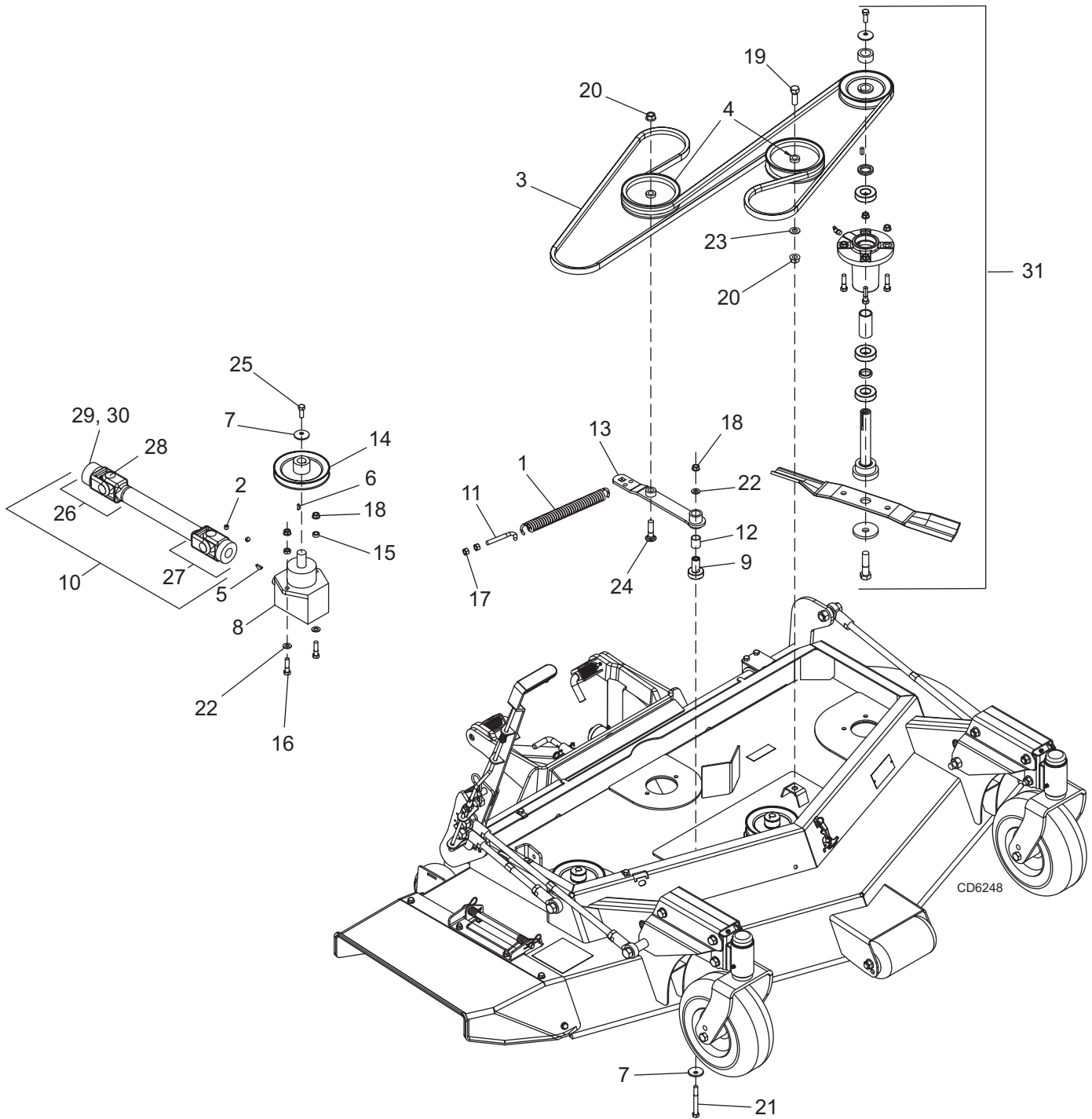
MAN0253 (Rev. 12/22/2007)

## MX54T & MX61T DECK ASSEMBLY WITH POWERTILT™

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	09253700	2	Wheel 3 x 5	29	78143	1	Discharge chute spring
2	1001975	1	Rubber draw latch	30	78144	1	Discharge chute hinge pin
3	1001994 *	4	Blind rivet 1/8 no. 43	31	78145	1	Discharge chute stiffener
4	1006418	1	Roller 4 x 7.38	32	78146	1	Chute hinge
5	1006420	1	Spacer .75 x 6.62	33	78147	1	Deck hinge
8	35193	2	Bearing	34	78162 *	2	Screw, self-tapping #10-16 type B
9	72411	2	Footrest tread	35	78164	1	Height indicator
10	74047	3	Spring nut 5/16-18 U-tapered	36	78166	3	Rod end 5/8 (left hand thread)
11	75110	2	Spring - Ext 1.30 .187 8.3 39 (61" deck) <b>-or-</b>	37	78173 *	12	5/16 NC Flange lock nut
11	75107	2	Spring - Ext 1.30 .187 7.6 39 (54" deck)	38	78175 *	1	3/8 NC Flange lock nut
13	78107	1	Discharge chute	39	78176 *	2	1/2 NC x 1-1/2 HHCS GR5
14	78109	1	Parking stand	40	78177 *	5	1/2 NC Flange lock nut
15	78211	1	Belt cover, removable (61" deck) <b>-or-</b>	41	78178 *	1	3/8 NC x 3-1/4 HHCS GR5
15	78212	1	Belt cover, removable (54" deck)	42	78179 *	2	1/2 NC x 4-1/2 HHCS GR5
16	78116	1	Belt cover, (61" deck) <b>-or-</b>	43	78180 *	8	5/16 NC x 3-1/2 HHCS GR5
16	78153	1	Belt cover, (54" deck)	44	78181 *	8	5/16 NC Lock nut
17	78117	1	Baffle extension, center (61" deck) <b>-or-</b>	45	78182 *	4	5/16 NC x 1 Carriage bolt
17	78155	1	Baffle extension, center (54" deck)	46	78183 *	4	Screw, self-tapping 5/16-12 type B
18	78118	1	Baffle extension, right (61" deck) <b>-or-</b>	47	78184 *	2	Safety pin .09 X 2.31
18	78156	1	Baffle extension, right (54" deck)	48	78186 *	4	1/2 Flat washer SAE
19	78119	1	Baffle extension, left (61" deck) <b>-or-</b>	49	78189	1	1/2 NC x 8-1/2 HHCS GR5
19	78157	1	Baffle extension, left (54" deck)	50	78190 *	2	5/8 NC x 2 HHCS GR5
20	78120	2	Channel tube, inner	51	78191	4	5/8 NC Center lock nut
21	78121	1	Channel tube, outer	52	78192	1	5/8 NC x 7-1/2 HHCS GR5
22	78122	3	Spacer, tube rod	53	78193	1	5/8 NC x 6-1/2 HHCS GR5
24	78124	2	Lift rod, 19.75" (61" deck) <b>-or-</b>	54	78205 *	11	5/16 NC x 3/4 HHCS GR5
24	78159	2	Lift rod, 18.38" (54" deck)	55	78208 *	3	5/8 NF Jam nut
25	78125	2	Stabilizer	56	73256	1	Roller .38 x 2.25 x 3.50
26	78128	4	Deck lift arm bushing	57	09433400	1	Decal, Mow'n Machine w/logo
27	78129	2	Bushing, retaining plate	58	78209	1	Deck basic safety decal set (Additional PowerTilt™ safety & instructional decals are listed in the PowerTilt parts list, page40.) See page 7 - 8 for decal illustrations.
28	78133	3	Rod end 5/8" (right hand threads)				

\* Standard hardware, obtain locally

# DECK DRIVE SYSTEM



MX54/MX61 SHOWN;  
MX54T/MX61T SIMILAR

**36 Parts**

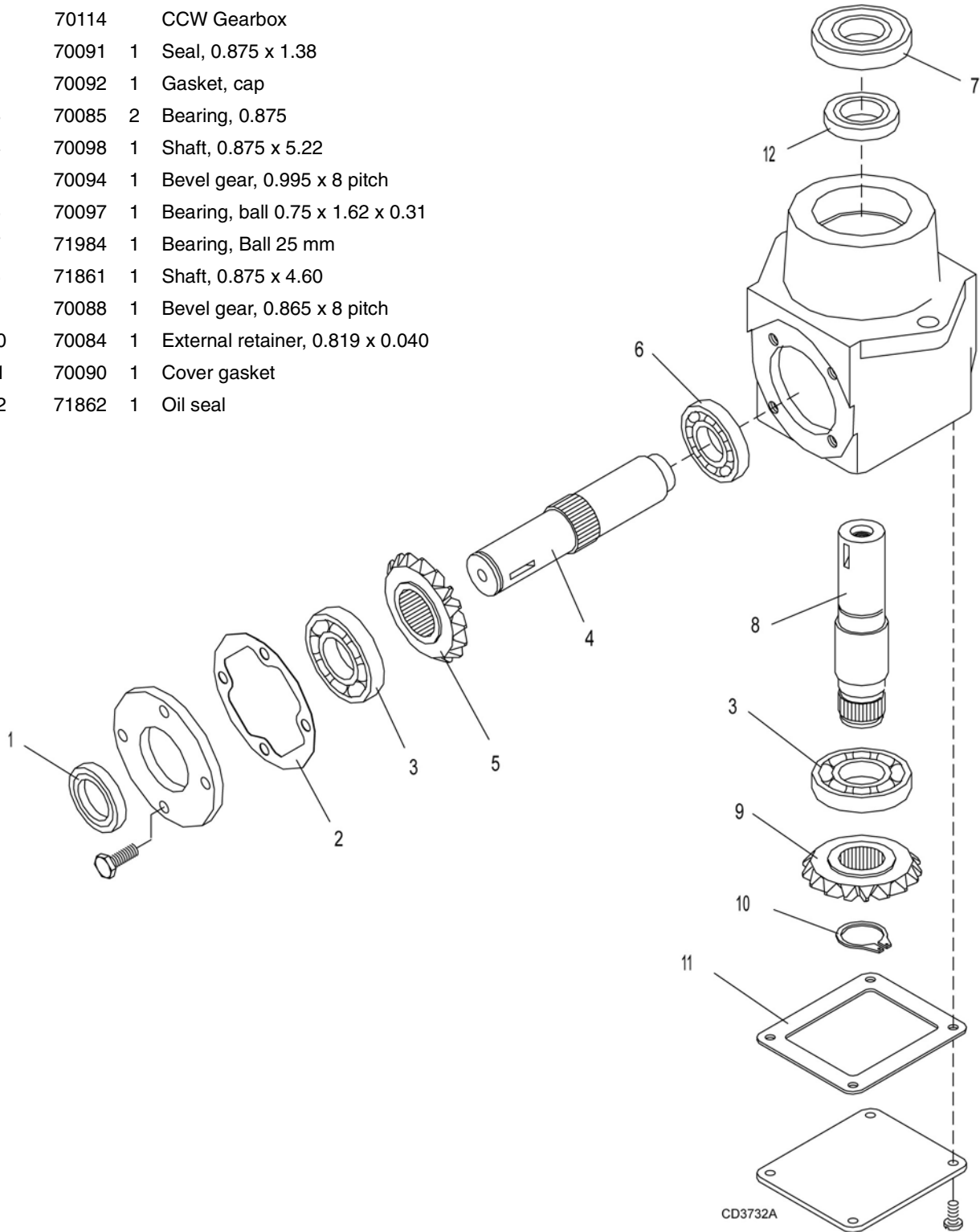
MAN0253 (Rev. 12/22/2007)

## DECK DRIVE SYSTEM PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	28928	1	Spring, extension 1.30 .19 8.2 35	16	78169 *	2	3/8 NC X 1-1/2 HHCS GR5
2	4544	2	3/8 NC X 3/8 Set screw	17	78171 *	2	3/8 NC Hex nut
3	74096	1	V-belt B 157 MX61/MX61T Deck	18	78175 *	3	3/8 NC Flange lock nut
			<b>-or-</b>	19	78176 *	1	1/2 NC X 1-1/2 HHCS GR5
3	74098	1	V-belt B 147 MX54/MX54T Deck	20	78177 *	2	1/2 NC Flange lock nut
4	53595	2	Sheave, flat with bearing 5.00 X .51	21	78178 *	1	3/8 NC X 3-1/4 HHCS GR5
5	62233	1	Key, woodruff .187 X .75	22	78185 *	3	3/8 Flat washer
6	64051	1	Key, woodruff 5/32 X 5/8	23	78186 *	1	1/2 Flat washer SAE
7	70005	2	Washer, cupped	24	78187 *	1	1/2 NC X 2 Carriage bolt
8	70114	1	Gearbox	25	78188 *	1	3/8 NF X 1 HHCS GR5
9	71430	1	Bearing-pedestal	26	74026	1	Drive half, male
10	73708	1	Drive assembly 6R, 6.3 X 14.8	27	74025	1	Drive half, female
11	74064	1	J-bolt .375 X 2.70	28	65689	-	U-Joint repair kit
12	74068	1	Idler arm bushing	29	34508	-	QD yoke
13	78101	1	Idler arm	30	65690	-	Slide lock repair kit
14	78141	1	Sheave, 5.50 1 B 0.8765 (61" deck)	31			Spindle assembly (see page 43)
			<b>-or-</b>				
14	78163	1	Sheave, 6.00 1 B 0.8765 (54" deck)				* Standard hardware, obtain locally
15	78168	1	Spacer, gearbox bolt				

## RIGHT ANGLE GEARBOX ASSEMBLY

REF	PART	QTY	DESCRIPTION
	70114		CCW Gearbox
1	70091	1	Seal, 0.875 x 1.38
2	70092	1	Gasket, cap
3	70085	2	Bearing, 0.875
4	70098	1	Shaft, 0.875 x 5.22
5	70094	1	Bevel gear, 0.995 x 8 pitch
6	70097	1	Bearing, ball 0.75 x 1.62 x 0.31
7	71984	1	Bearing, Ball 25 mm
8	71861	1	Shaft, 0.875 x 4.60
9	70088	1	Bevel gear, 0.865 x 8 pitch
10	70084	1	External retainer, 0.819 x 0.040
11	70090	1	Cover gasket
12	71862	1	Oil seal

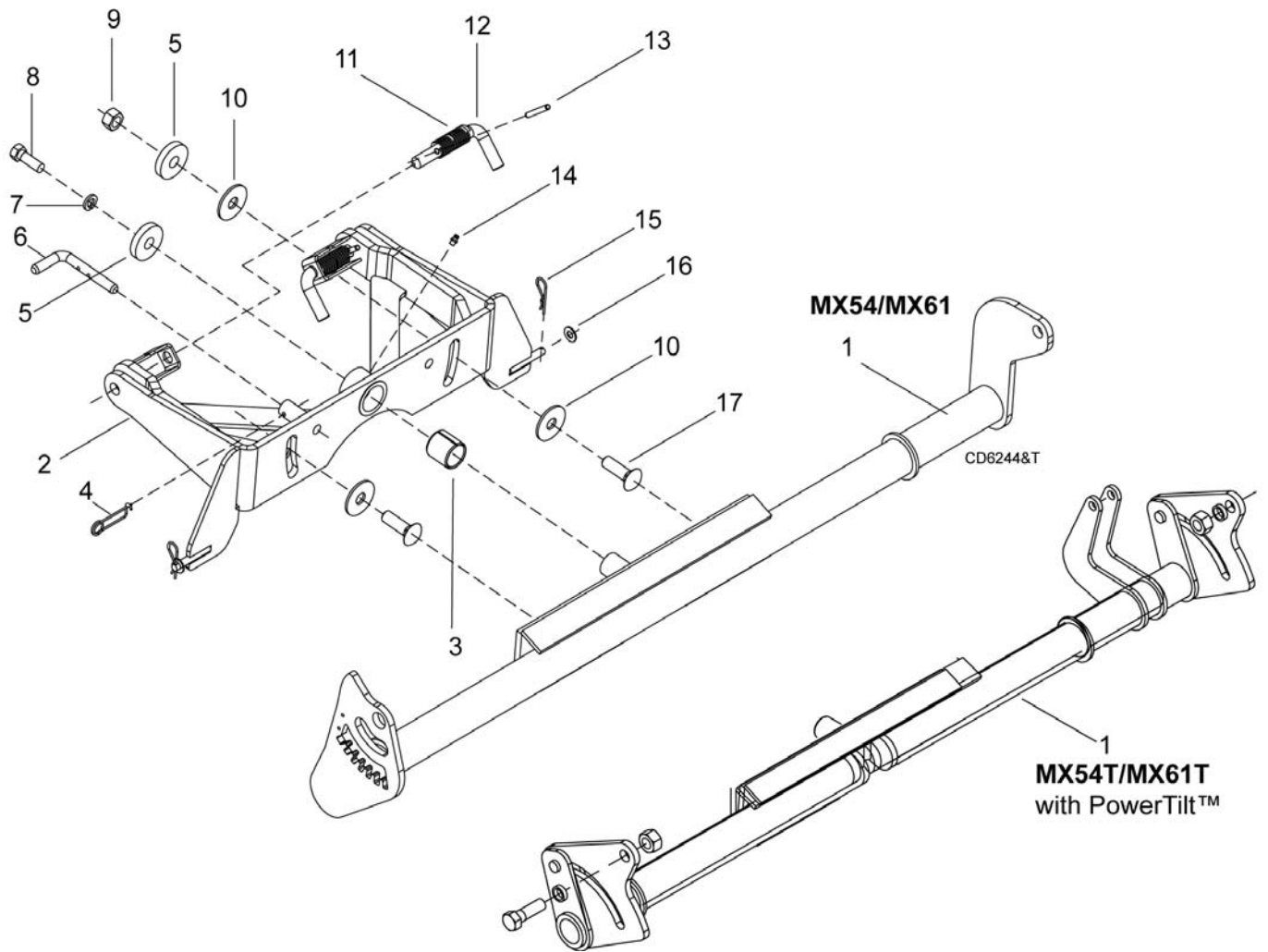


**38 Parts**

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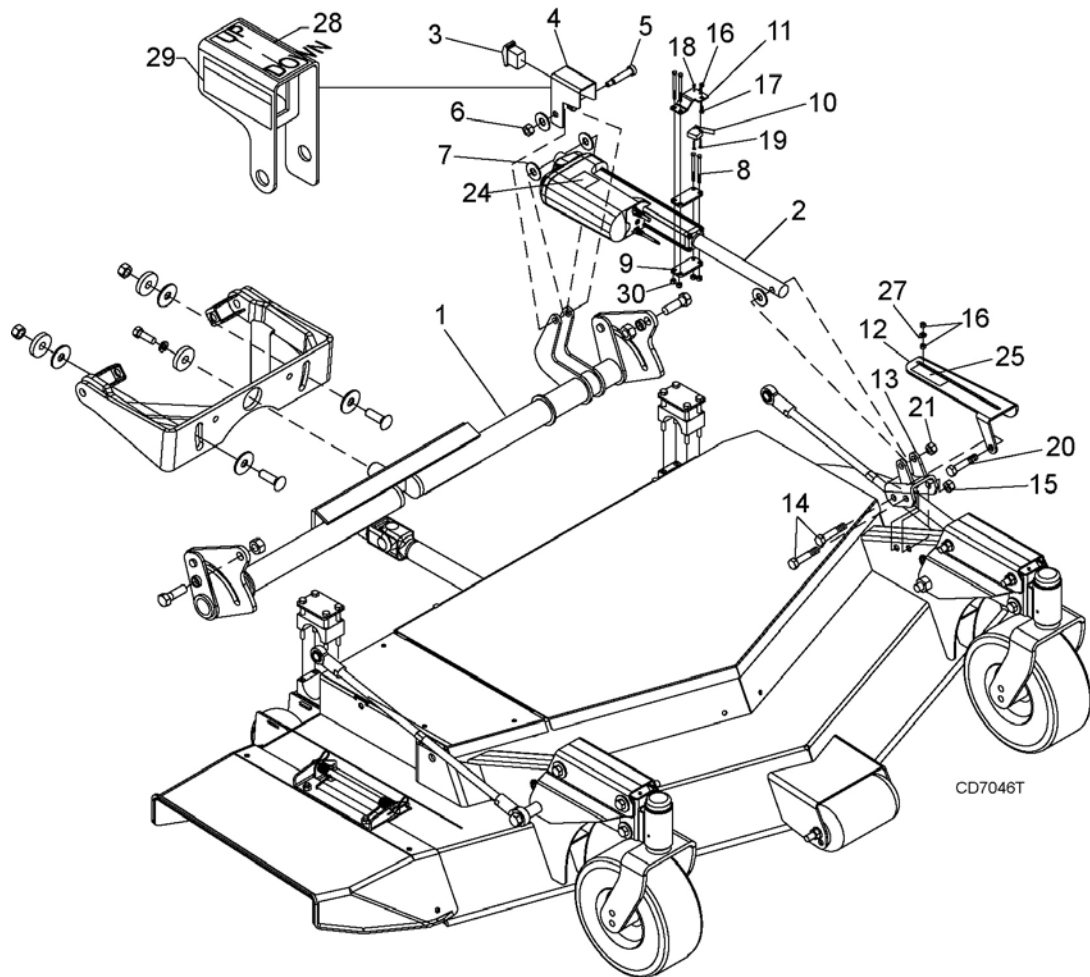
## FLOATING DECK LIFT ARM



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	78110	1	Lift arm, (MX61 Deck)	7	855 *	1	1/2 Heavy lock washer
	<b>or</b>			8	78176 *	1	1/2 NC x 1-1/2 HHCS - GR5
1	78161	1	Lift arm, (MX54 Deck)	9	78191	2	5/8 NC Hex lock nut
	<b>or</b>			10	72722	4	5/8 x 2.0 x 1/8 Plastic washer
1	75410	1	Lift arm, (MX61T Deck w/ PowerTilt)	11	67195	2	Spring 0.91 x 4.3
	<b>or</b>			12	67156	2	Pin, bent 5/8 x 4.62
1	75409	1	Lift arm, (MX54T Deck w/ PowerTilt)	13	21022	2	1/4 x 2 Spring pin
2	74034	1	Rear pivot lift arm (includes item 3)	14	1972	1	1/4-28 Tapered thread grease fitting
3	34014	1	Tension bushing 1-1/4 x 1-1/2 x 1-1/2	15	21363 *	2	1/16 x 19/32 Hair pin cotter
4	70056	1	3/32 Safety pin	16	78185 *	2	3/8 Flat washer
5	34467	3	5/8 x 2.0 x 3/8 Flat washer	17	2855 *	2	5/8 NC x 2 Carriage bolt - GR5
6	72709	1	Pin, bent 1/2 x 1.82				

\* Standard Hardware - Obtain Locally

## POWERTILT™ ASSEMBLY

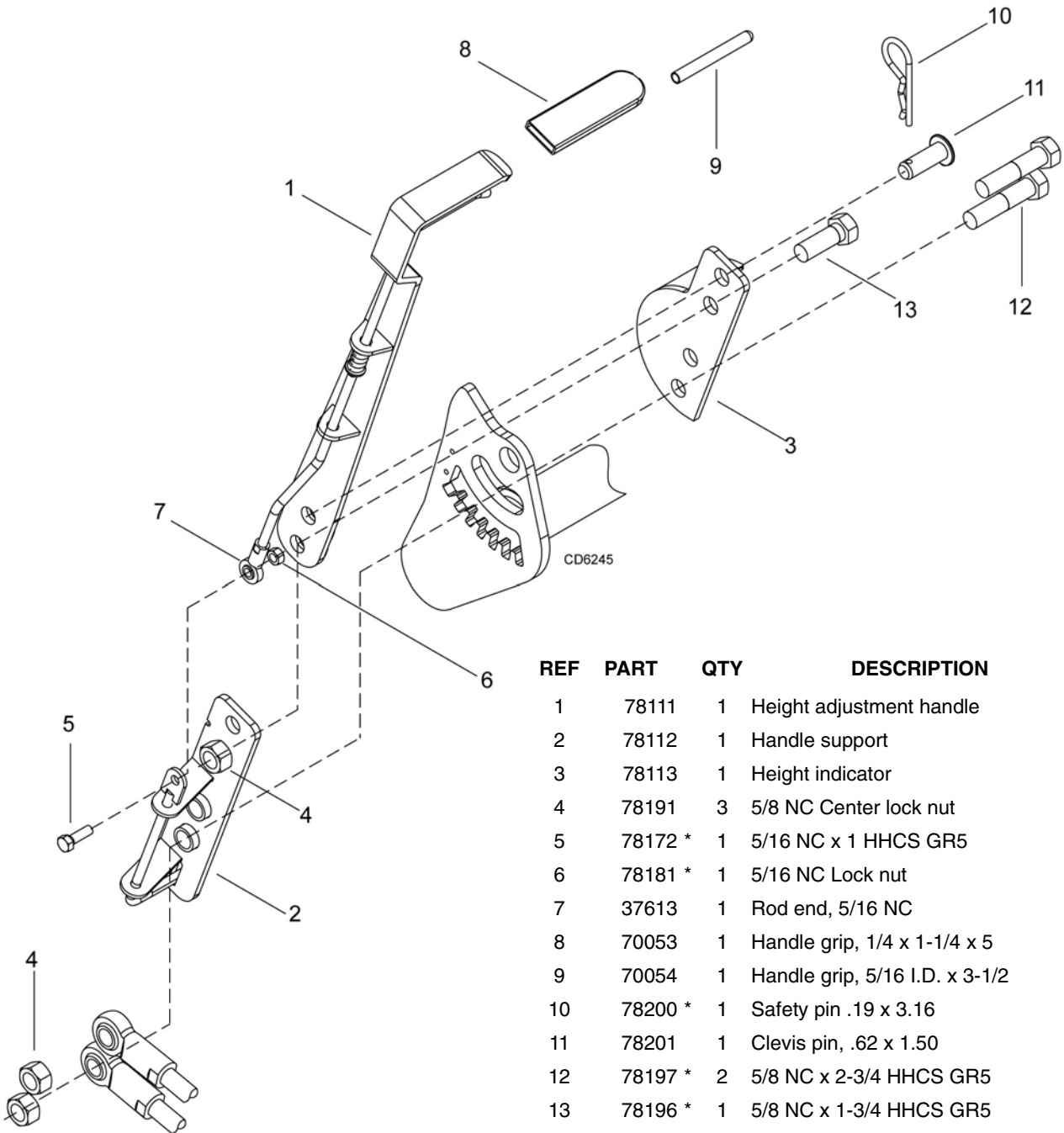


REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	75409	1	54" Split lift arm	16	5288 *	3	1/4 NC Hex nut
1	75410	1	61" Split lift arm	17	75439 *	1	1/4 NC x 1-1/2 Tap bolt GR2
2	75417	1	Actuator, 12v, 1500 lbs (includes cable 75548) SN 1100885 & below	18	75441 *	2	#6-32 Nut
2	75547	1	Actuator, 12v, 1500 lbs (includes cable 75523) SN 1100886 & above	19	75440 *	2	#6-32 x 3/4 Slotted screw
3	75418	1	Rocker switch SN1100885 & below	20	639 *	1	1/2 NC x 2-1/2 HHCS GR5 (SN 1151276 & Lower)
4	75415	1	Rocker switch bracket SN 1100885 & below	21	11900 *	1	1/2 NC Flange lock nut (SN 1151276 & Lower)
5	65949	1	3/8 NC x 2-1/2 Shoulder screw	22	75407	1	FZ-Series Power tilt harness (not shown)
6	835 *	1	3/8 NC Hex nut	23	75433	1	F-Series Power tilt harness (not shown)
7	2210 *	2	7/16 Flat washer	24	75424	1	Decal, instructional, actuator
8	53 *	4	1/4 NC x 2-1/2 HHCS GR5	25	75423	1	Decal, instructional, deck height
9	75412	2	Link.105 x 1.18 x 2.61	27	75435	1	Height indicator
10	75419	1	Lever switch & 9" wire	28	75422	1	Decal, instructional, switch
10	75550	1	Lever switch & 39" wire	29	75430	1	Decal, warning, pinch area
10A	75539	1	Weatherpack harness 30" (if needed)	30	6128	4	Nut, lock
11	75414	1	Lug offset .105 x 1.68 x 2.56 x .73	-	75523	1	Harness, tilt switch on power unit
12	75413	1	Height gauge	-	75548	1	Harness, tilt switch on deck
13	75411	1	54" Bolt-on bracket (SN 1151276 & Lower)				* Standard hardware, obtain locally
13	75416	1	61" Bolt-on bracket (SN 1151276 & Lower)				HHCS Hex Head Cap Screw
14	1637 *	2	1/2 NC x 3-1/2 HHCS GR5				
15	1093 *	2	1/2 NC Hex nut				

# 40 Parts

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MAN0253 (Rev. 12/22/2007)

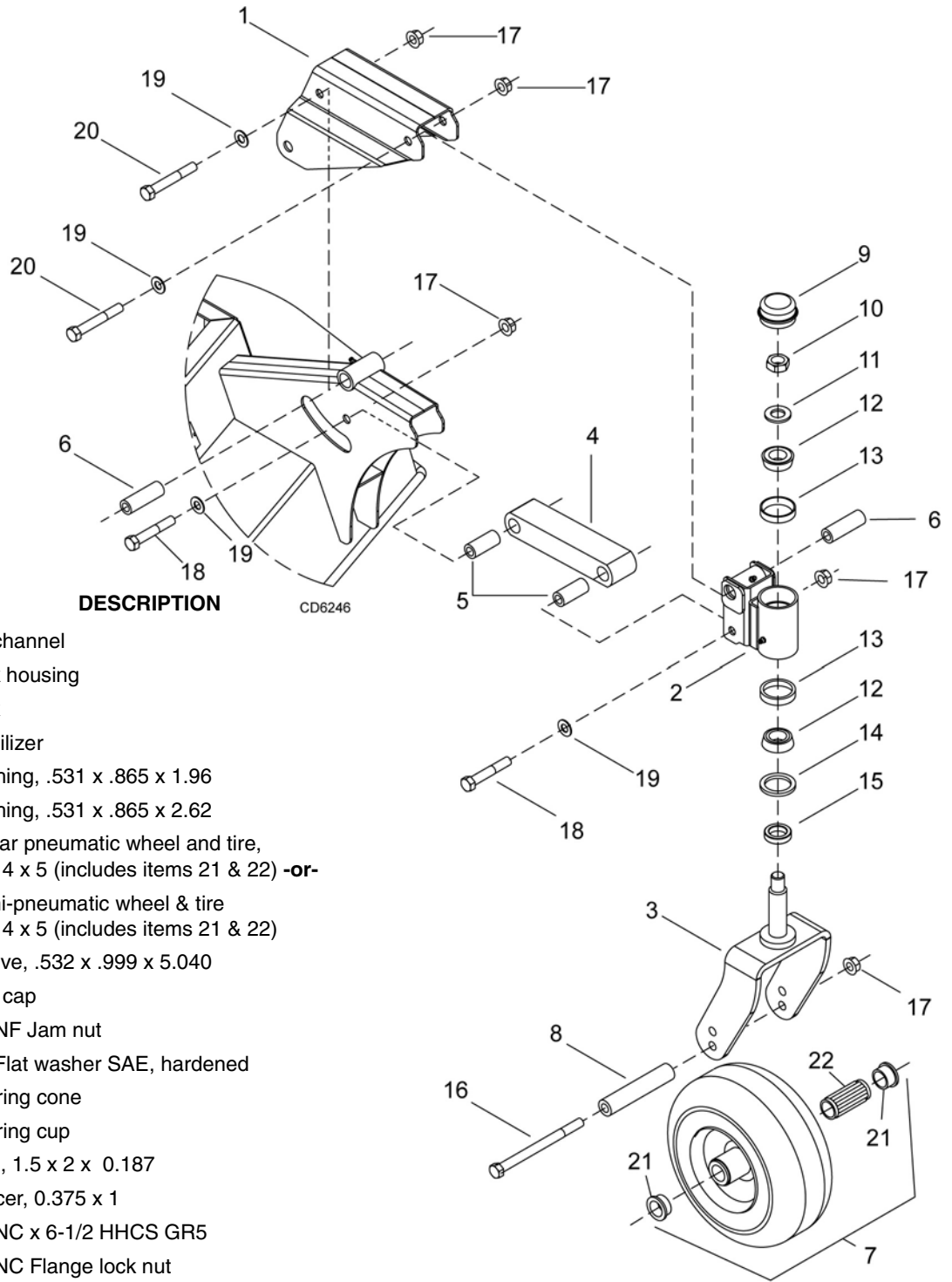
**HEIGHT ADJUSTMENT HANDLE ASSEMBLY**  
 FOR MX54/MX61 MANUALLY CONTROLLED CUTTING HEIGHT



REF	PART	QTY	DESCRIPTION
1	78111	1	Height adjustment handle
2	78112	1	Handle support
3	78113	1	Height indicator
4	78191	3	5/8 NC Center lock nut
5	78172 *	1	5/16 NC x 1 HHCS GR5
6	78181 *	1	5/16 NC Lock nut
7	37613	1	Rod end, 5/16 NC
8	70053	1	Handle grip, 1/4 x 1-1/4 x 5
9	70054	1	Handle grip, 5/16 I.D. x 3-1/2
10	78200 *	1	Safety pin .19 x 3.16
11	78201	1	Clevis pin, .62 x 1.50
12	78197 *	2	5/8 NC x 2-3/4 HHCS GR5
13	78196 *	1	5/8 NC x 1-3/4 HHCS GR5

\* Standard Hardware - Obtain Locally

## WHEEL LIFT ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	78102	2	Lift channel
2	78105	2	Fork housing
3	78106	2	Fork
4	78125	2	Stabilizer
5	78103	4	Bushing, .531 x .865 x 1.96
6	78104	4	Bushing, .531 x .865 x 2.62
7	74035	2	Kevlar pneumatic wheel and tire, 11 x 4 x 5 (includes items 21 & 22) <b>-or-</b>
7	73968	2	Semi-pneumatic wheel & tire 11 x 4 x 5 (includes items 21 & 22)
8	73482	2	Sleeve, .532 x .999 x 5.040
9	6248	2	Hub cap
10	78148	2	3/4 NF Jam nut
11	57798	2	3/4 Flat washer SAE, hardened
12	3586	4	Bearing cone
13	3585	4	Bearing cup
14	70328	2	Seal, 1.5 x 2 x 0.187
15	70086	2	Spacer, 0.375 x 1
16	78206	2	1/2 NC x 6-1/2 HHCS GR5
17	78177 *	10	1/2 NC Flange lock nut
18	78194 *	4	1/2 NC x 3 HHCS GR5
19	78186 *	8	1/2 Flat washer SAE
20	78195 *	4	1/2 NC x 3-1/2 HHCS GR5
21	73487	2	Wheel bearing spacer
22	73716	2	Wheel bearing 1.75 (2 per wheel)

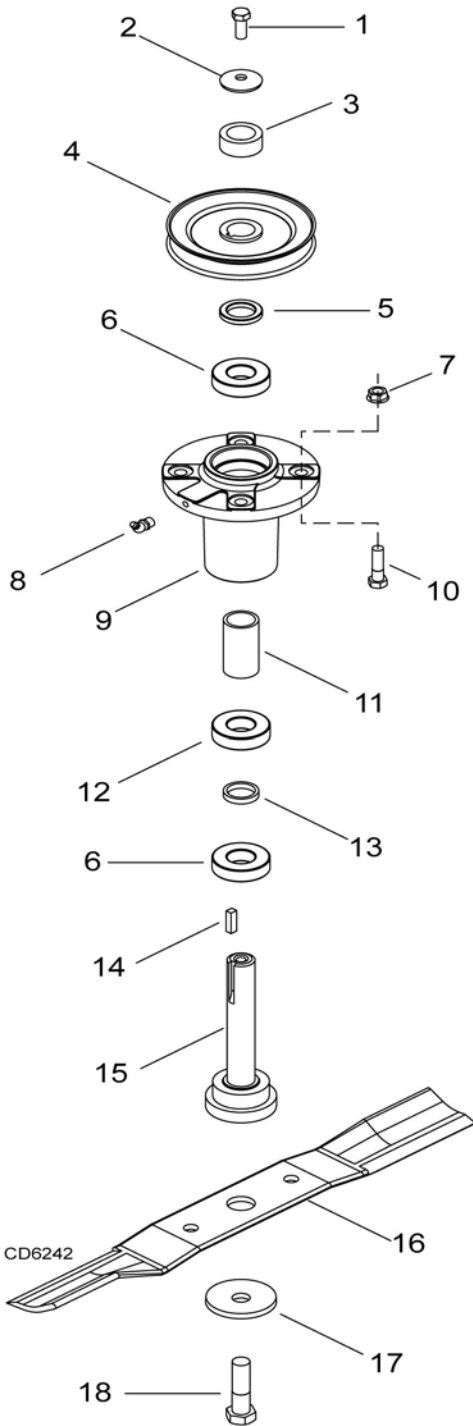
\* Standard Hardware - Obtain Locally

HHCS Hex Head Cap Screw

# 42 Parts

(Rev. 12/12/2008)  
MAN0253 (Rev. 12/22/2007)

## BLADE SPINDLE ASSEMBLY

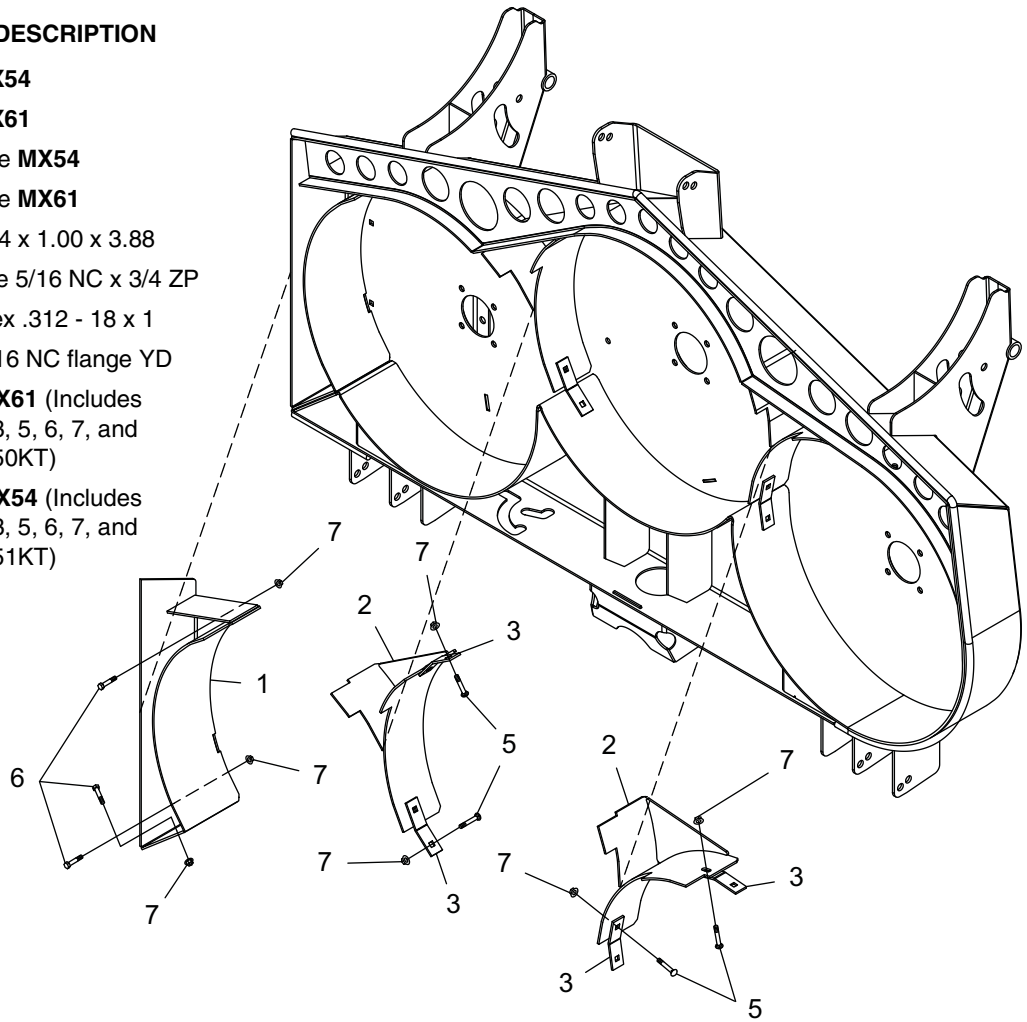


REF	PART	QTY	DESCRIPTION
A	78248		Complete spindle assembly
1	78188 *	1	3/8 NF x 1 HHCS GR5
2	70005	1	Cup washer
3	78138	1	Spindle spacer, sheave
4	1008040	1	Sheave
5	71988	1	.25 x 1 Spacer
6	72933	2	Spindle bearing, 25 mm
7	15030 *	4	3/8 NC Flange lock nut
8	71525	1	1/8 Tapered grease fitting 45°
9	78167	1	Spindle housing
10	78169 *	4	3/8 NC x 1-1/2 HHCS GR5
11	78136	1	Spindle spacer, long
12	78249	1	Spindle bearing, 25 mm (no seal)
13	78137	1	Spindle spacer, short
14	70072	1	Square key, 0.25 x .690
15	78135	1	Shaft assembly
16	1001513KT	1	Blade kit, 21" high-suction for 61" deck (includes 3 blades)
			<b>- or -</b>
16	55319KT	1	Blade kit, 21" medium-suction for 61" deck (includes 3 blades)
16	78127KT	1	Blade kit, 18" for 54" deck (includes 3 blades)
16	75150KT	1	Blade kit, 21" mulch for MX61 (includes 3 blades)
16	75151KT	1	Blade kit, 18" mulch for MX54 (includes 3 blades)
17	53584	1	Bellville washer, .64 x 2.47 x .25
18	78142	1	5/8 NF x 2-1/2 HHCS GR5

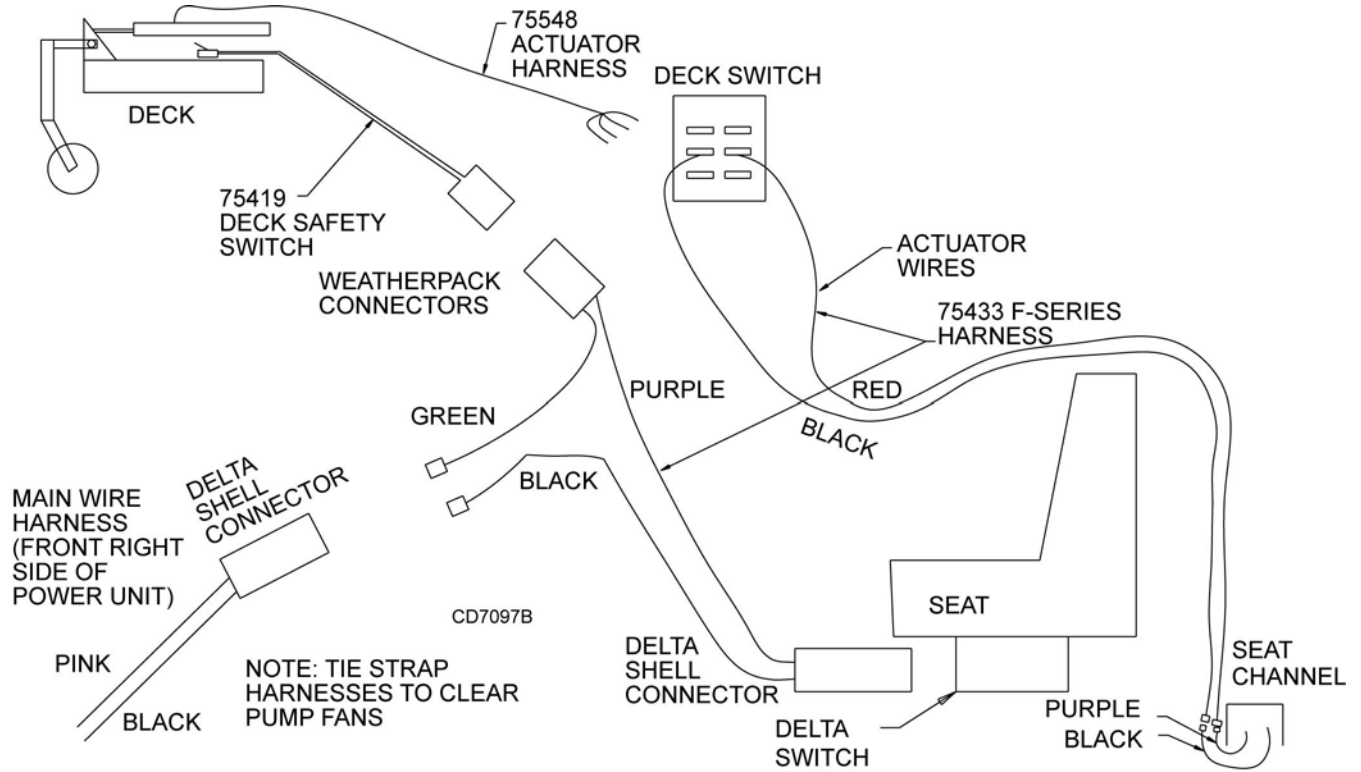
\* Standard Hardware - Obtain Locally

## MULCH KIT

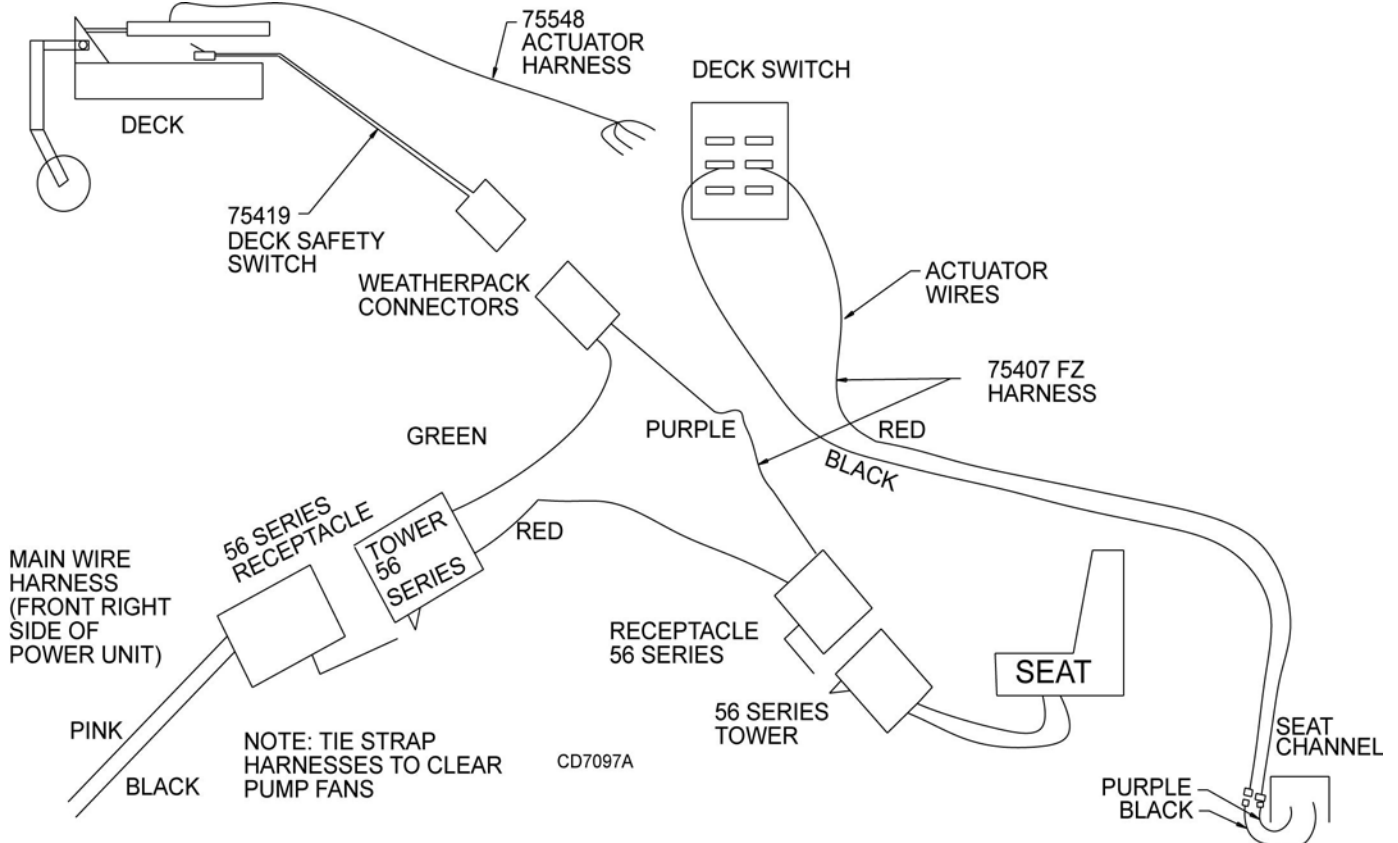
REF	PART	QTY	DESCRIPTION
1	75145	1	End cap <b>MX54</b>
1	74095	1	End cap <b>MX61</b>
2	75141	2	Center baffle <b>MX54</b>
2	74094	2	Center baffle <b>MX61</b>
3	75106	4	Link bent .14 x 1.00 x 3.88
5	16148	8	Bolt carriage 5/16 NC x 3/4 ZP
6	71632	3	Bolt whiz hex .312 - 18 x 1
7	73163	11	Nut whiz 5/16 NC flange YD
74099	1	1	Mulch kit <b>MX61</b> (Includes items 1, 2, 3, 5, 6, 7, and blades 75150KT)
75139	1	1	Mulch kit <b>MX54</b> (Includes items 1, 2, 3, 5, 6, 7, and blades 75151KT)



**POWERTILT™ F SERIES WIRING DIAGRAM  
DECK SN 1100885 & BELOW (NO TIMER DELAY)**

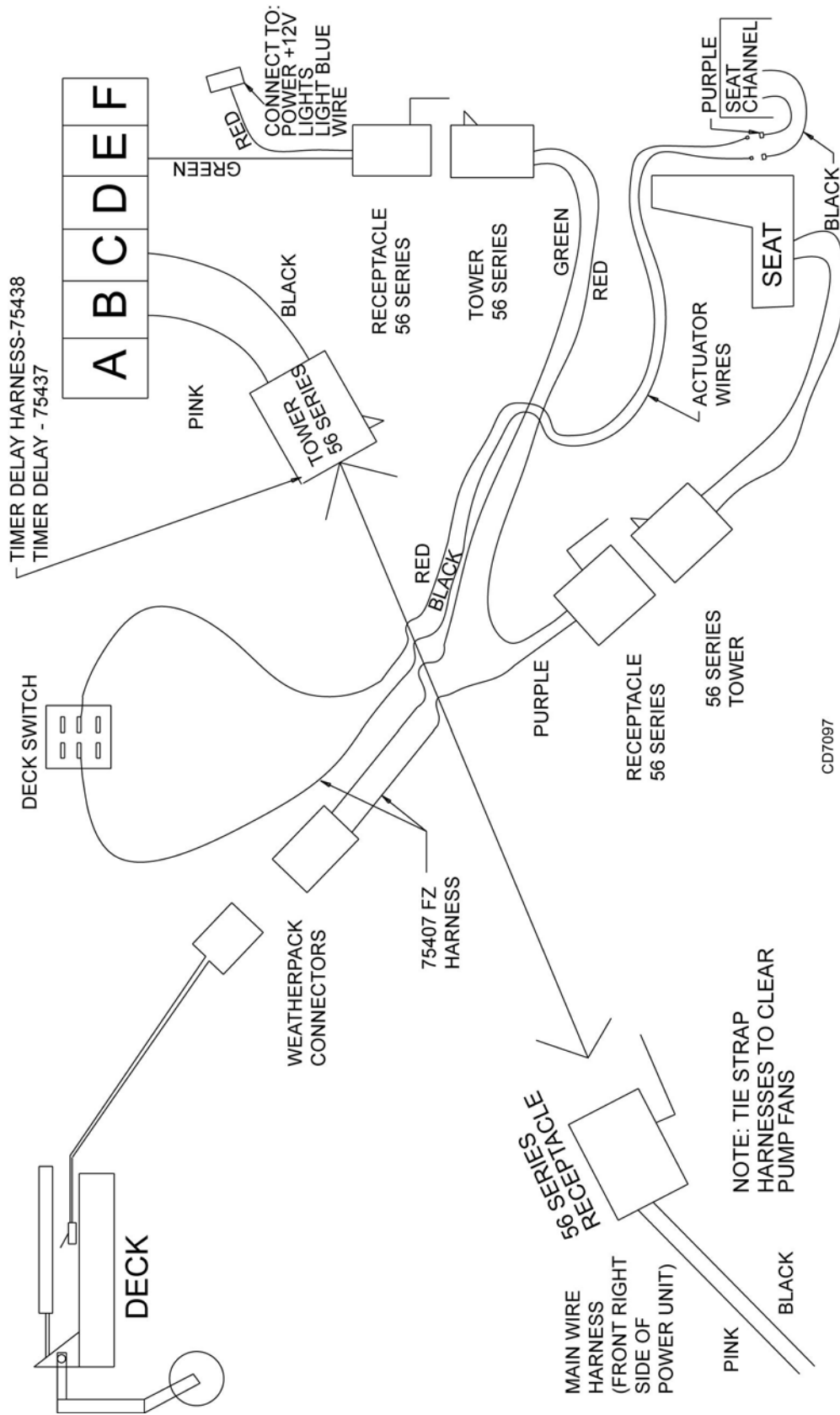


**POWERTILT™ FZ SERIES WIRING DIAGRAM  
DECK SN 1100885 & BELOW (NO TIMER DELAY)**





# POWERTILT™ WITH TIMER DELAY FZ SERIES



# BOLT TORQUE CHART

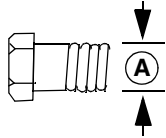
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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 Grade 2  
(No Dashes)

SAE Bolt Head Identification

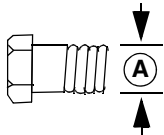


SAE Grade 5  
(3 Radial Dashes)



SAE Grade 8  
(6 Radial Dashes)

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



## METRIC SERIES TORQUE CHART



8.8  
Metric  
Grade 8.8

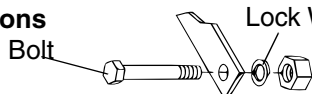
Metric Bolt Head Identification



10.9  
Metric  
Grade 10.9

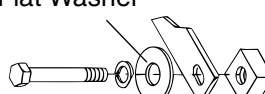
Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD								
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13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

### Typical Washer Installations



Lock Washer

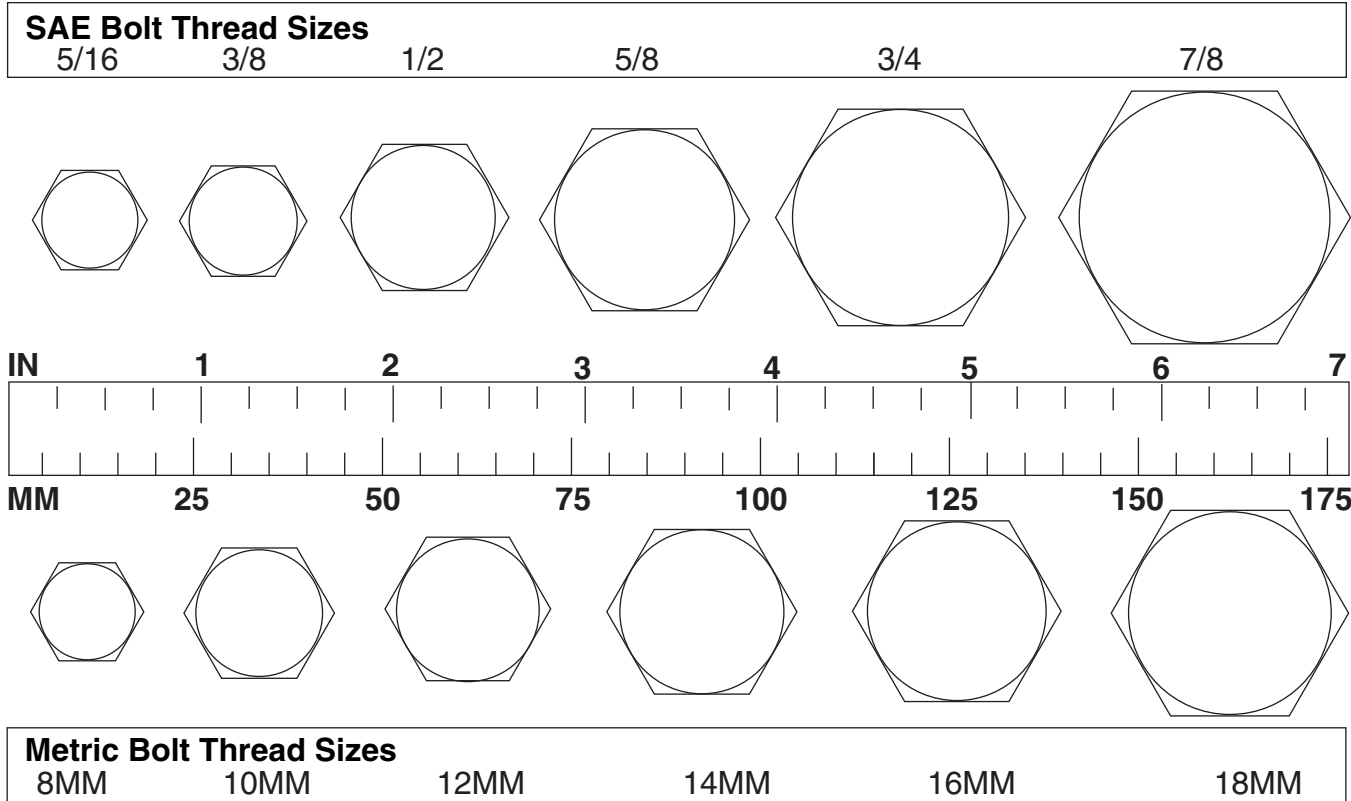
Flat Washer



8/9/00

# BOLT SIZE CHART

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



## ABBREVIATIONS

AG ..... Agriculture  
 ASABE ..... American Society of Agricultural & Biological Engineers (formerly ASAE)  
 ASAE..... American Society of Agricultural Engineers  
 ATF.....Automatic Transmission Fluid  
 BSPP..... British Standard Pipe Parallel  
 BSPTM..... British Standard Pipe Tapered Male  
 CV ..... Constant Velocity  
 CCW..... Counter-Clockwise  
 CW ..... Clockwise  
 F ..... Female  
 FT..... Full Thread  
 GA ..... Gauge  
 GR (5, etc.)..... Grade (5, etc.)  
 HHCS ..... Hex Head Cap Screw  
 HT ..... Heat-Treated  
 JIC..... Joint Industry Council 37° Degree Flare  
 LH..... Left Hand  
 LT ..... Left  
 m ..... Meter  
 mm ..... Millimeter  
 M ..... Male

MPa ..... Mega Pascal  
 N ..... Newton  
 NC..... National Coarse  
 NF ..... National Fine  
 NPSM ..... National Pipe Straight Mechanical  
 NPT.....National Pipe Tapered  
 NPT SWF..... National Pipe Tapered Swivel Female  
 ORBM ..... O-Ring Boss - Male  
 P ..... Pitch  
 PBY.....Power-Beyond  
 psi ..... Pounds per Square Inch  
 PTO.....Power Take Off  
 QD ..... Quick Disconnect  
 RH..... Right Hand  
 ROPS..... Roll-Over Protective Structure  
 RPM.....Revolutions Per Minute  
 RT ..... Right  
 SAE..... Society of Automotive Engineers  
 UNC ..... Unified Coarse  
 UNF ..... Unified Fine  
 UNS ..... Unified Special

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# LIMITED WARRANTY

## Mow'n Machine™ Zero-Turn Mowers

Please Enter Information Below and Save For Future Reference.

Date Purchased: \_\_\_\_\_ From (Dealer): \_\_\_\_\_

Model Number: \_\_\_\_\_ Serial Number: \_\_\_\_\_

### WHAT IS COVERED:

Woods Equipment Company ("WOODS") warrants Mow'n Machine™ zero-turn mowers, attachments and accessories to be free from defect in material and workmanship for the warranty periods listed below.

### FOR HOW LONG:

Mow'n Machine Model #CZ1736K, CZ1948K, CZ1952K, CZ2361, ME1952K, ME2661B, MZ2552K, MZ2561K, MZ2761, MZ3761K, MZ3772K, MZ2661KL & attachments are warranted for two (2) years from the date of delivery to the original purchaser or 2000 hours of operation, whichever occurs first. Purchaser may opt for a warranty of five (5) years from the date of delivery to the original purchaser or 500 hours of operation, whichever occurs first. The dealer must specify the special warranty term on the original, dated bill of sale and a copy must be provided with all warranty claims. Mow'n Machine model numbers CZR2242B and CZR2652B are warranted for residential use for three (3) years from the date of delivery to the original purchaser or for commercial use for 90 days from the date of delivery to the original purchaser.

Mow'n Machine Model #FE21B, FZ21D, FZ23B, FZ25D, FZ28K & attachments are warranted for two (2) years from the date of delivery to the original purchaser or 2000 hours of operation, whichever occurs first.

In addition, Mow'n Machine ME and MZ Series Models, serial number XXXXXXXX300 and above, have a Limited Lifetime Warranty on deck, deck cradle, and engine deck for the life of the machine to the original retail purchaser.

IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN WARRANTY PERIODS LISTED ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

### WHO IS COVERED:

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer the product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

### WHAT IS NOT COVERED:

This Warranty does not cover normal wear or tear, or normal maintenance items, or any damage, failure or loss caused by:

1. Improper operation, improper maintenance, misuse, or an accident;
2. Any modification or repair by someone other than WOODS, a WOODS' authorized dealer or distributor, and/or a WOODS' authorized service center; or
3. Repairs made with parts other than those obtained through WOODS.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories with respect to which the manufacturer provides a separate warranty.

### WHAT WOODS WILL DO TO CORRECT PROBLEMS:

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if the product is defective or in noncompliance with this Warranty. The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product.

### OTHER LIMITATIONS:

WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the foregoing, WOODS shall not be liable for any damages relating to (i) lost profits, business, revenues or goodwill; (ii) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (iii) any other type of damage to property or economic loss. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

No agent, representative, dealer, distributor, service person, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

### HOW STATE LAW APPLIES:

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### QUESTIONS:

Answers to any questions regarding warranty service and locations may be obtained by contacting:

**ALITEC™**  
**BMP®**  
**CENTRAL FABRICATORS®**  
**GANNON®**  
**GILL®**  
**WAIN-ROY®**  
**WOODS®**



### Woods Equipment Company

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

800-319-6637 tel  
800-399-6637 fax  
www.WoodsEquipment.com



## WARRANTY

(Replacement Parts For All Models Except Mow'n Machine™  
Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

**WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory.** Without limiting the generality of the foregoing, Woods specifically disclaims any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, service person, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

Answers to any questions regarding warranty service and locations may be obtained by contacting:

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