

**WOODS**  
MOW'N MACHINE™  
VACUUM

**For Mower Models  
MX54, MX61  
on F-Series  
Power Units**

**MAN0258**  
(Rev. 12/14/2007)

**WOODS®**  
Tested. Proven. Unbeatable.

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 Product Registration included with the Operator's Manual. The customer must sign the registration which certifies that all Dealer Check List items have been completed. The dealer is to return the prepaid postage portion to Woods, give one copy to the customer, and retain one copy. **Failure to complete and return this card 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'1 (Rev. 7/20/2007)

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## GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your vacuum system. 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.


### **WARNING**

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

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.



**¡LEA EL INSTRUCTIVO!**  
Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.



**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.**

# 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.



## ¡LEA EL INSTRUCTIVO!

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

## 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.

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

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

■ 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 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.

■ Watch for hidden hazards on the terrain during operation.

■ Before making any adjustments on attachment, stop engine and engage parking brake. Never adjust or work on attachment while the power unit or attachment is running.

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

# SAFETY RULES



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



- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the mowing area.
- Before attempting to unplug vacuum hoses, disengage PTO, stop power unit, and remove key.
- Before performing any service or maintenance, lower attachment to ground, turn off power unit engine, remove key, and disconnect battery ground cable (negative -).
- Be sure either the discharge chute, mulching end cap, or complete vacuum attachment is installed and in good condition. Replace if damaged.

## TRANSPORTATION

- Use extra care when loading or unloading the machine onto a trailer or truck.
- Never allow riders on power unit or attachment.
- Do not operate or transport on steep slopes.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

## MAINTENANCE

- Before attempting to unplug vacuum hoses, disengage PTO, stop power unit, and remove key.
- 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 modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Tighten all bolts, nuts and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.

## STORAGE

- Keep children and bystanders away from storage area.





# SAFETY & INSTRUCTIONAL DECALS

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

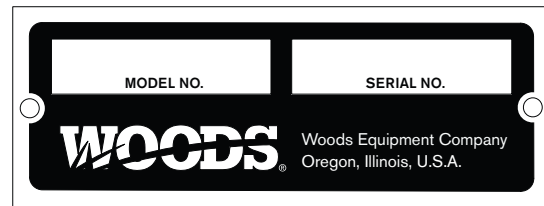


## BE CAREFUL!

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.



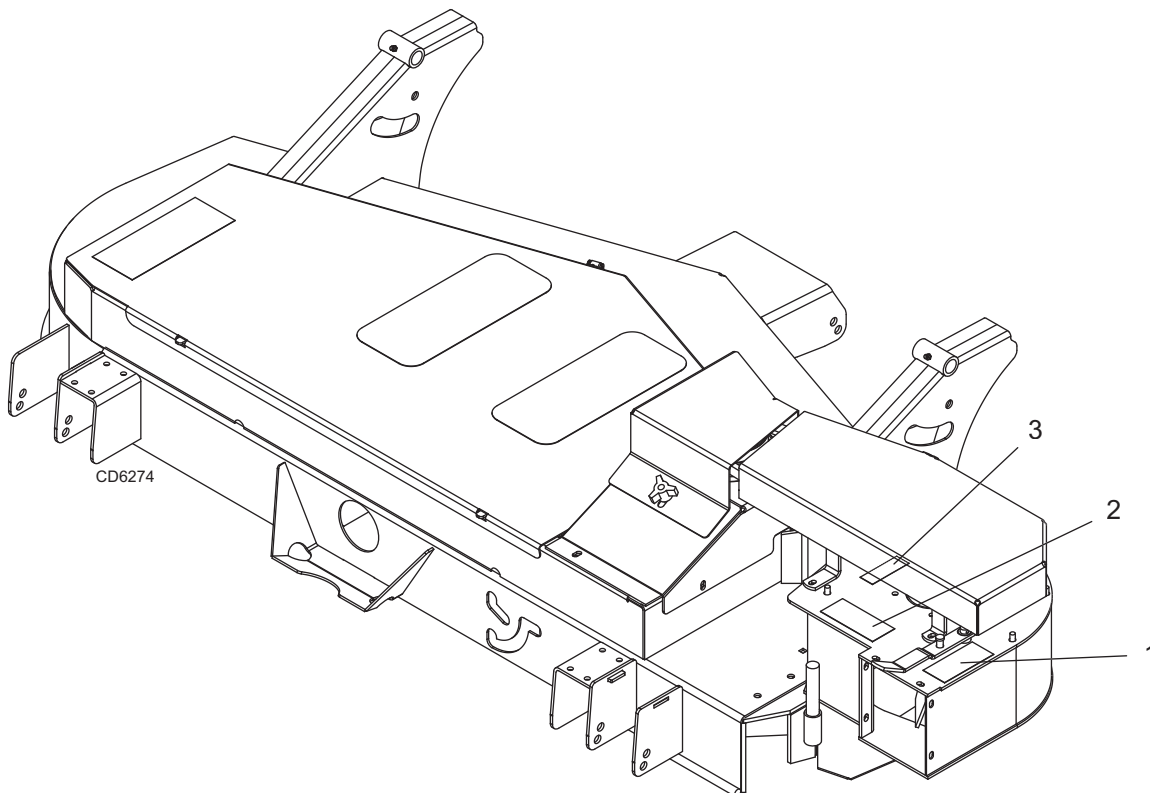
**2 - SERIAL NUMBER PLATE**  
**(Located on back side of blower housing)**



**1 - PN 72672**



**3 - PN 18869**



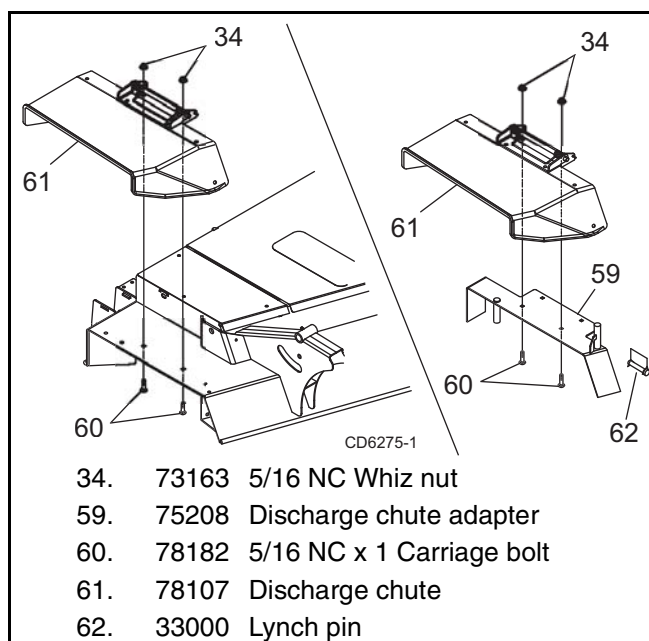
# VACUUM INSTALLATION

## REMOVE DISCHARGE CHUTE

1. Remove mower deck discharge chute and hinge by removing two carriage bolts (2) and nuts (3) and lifting the chute (1) away from the deck.
2. Place the discharge chute and hinge on the chute adapter (4) and secure with carriage bolts (2) and nuts (3) previously removed.

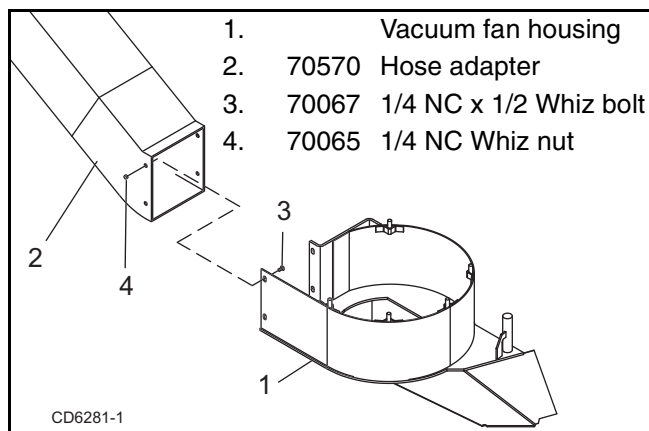
**NOTE:** The discharge chute must be installed whenever the vacuum housing assembly is removed.

3. Install discharge chute and adapter to deck using pivot mount, clevis shaft bracket, and lynch pin as described in 'Attach Discharge Chute' on page 8.



**Figure 1.** Discharge Removal

## ATTACH HOSE ADAPTER

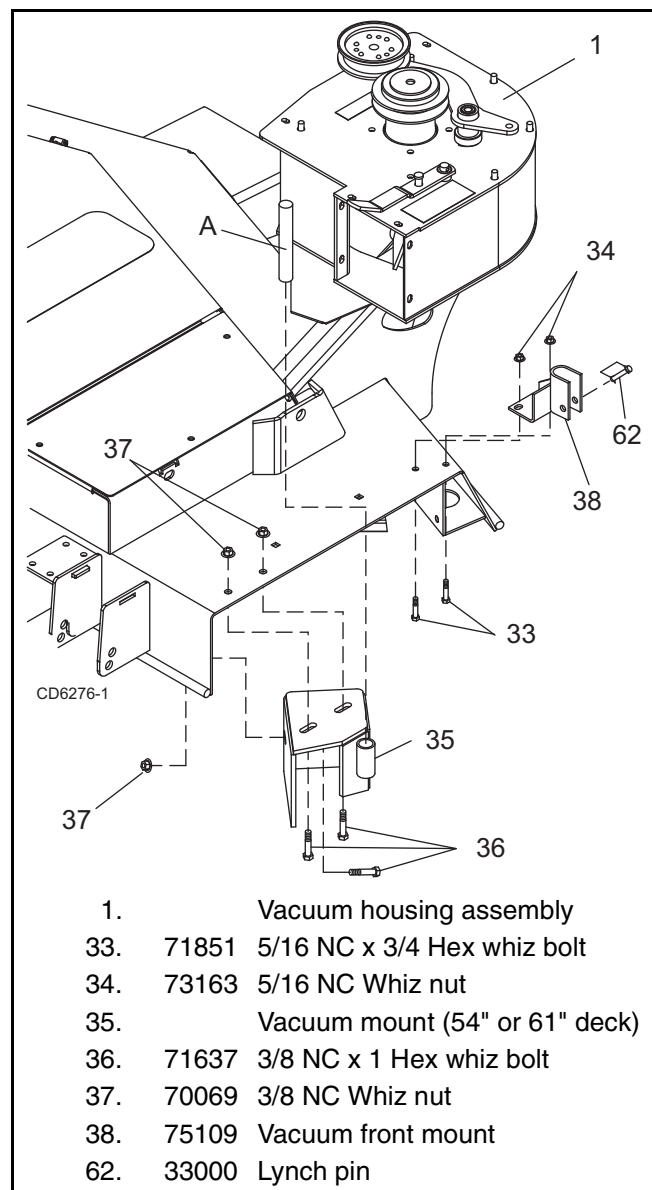


**Figure 2.** Hose Adapter Installation

1. Attach hose adapter (2) to vacuum housing (1) using six whiz bolts (3) and whiz nuts (4).

**NOTE:** To prevent grass buildup inside the adapter, install bolts with nuts (4) on the outside as shown in Figure 2.

## INSTALL VACUUM HOUSING



**Figure 3.** Vacuum Housing Installation

1. Install vacuum mount bracket (35) using three whiz bolts (36) and whiz nuts (37).
2. Install vacuum front mount (38) using whiz bolts (33) and whiz nuts (34).
3. Insert the pivot shaft (A) on the vacuum housing assembly (1) into sleeve of vacuum mount (35).

4. Rotate vacuum housing assembly into place so that the clevis shaft on vacuum housing assembly slips inside vacuum front mount (38).
5. Install lynch pin (62) to lock the housing into place.  
**NOTE:** If necessary, adjust the position of the vacuum front mount to allow for easy installation of lynch pin.
6. Tighten hardware.

### Remove Vacuum Housing

1. Remove lynch pin (62).
2. Rotate vacuum housing assembly away from vacuum front mount (38).
3. Lift vacuum housing assembly from vacuum mount (35).

### ATTACH DISCHARGE CHUTE


**WARNING**

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

1. Remove vacuum housing from deck.
2. Install chute adapter with discharge chute attached.
3. Insert the pivot shaft of chute adapter (59) into sleeve of vacuum mount (35).
4. Rotate the chute adapter in place so that the clevis shaft on chute adapter slips inside vacuum front mount (38).
5. Install the lynch pin (62), to lock the chute adapter into place.



Figure 4. Discharge Chute with Adapter Installed

### INSTALL BEARING MOUNT ASSEMBLY

#### Remove Hardware

1. Remove center and right belt shield.
2. Remove top bolt (A), cupped washer (B), and spacer from the right spindle assembly.

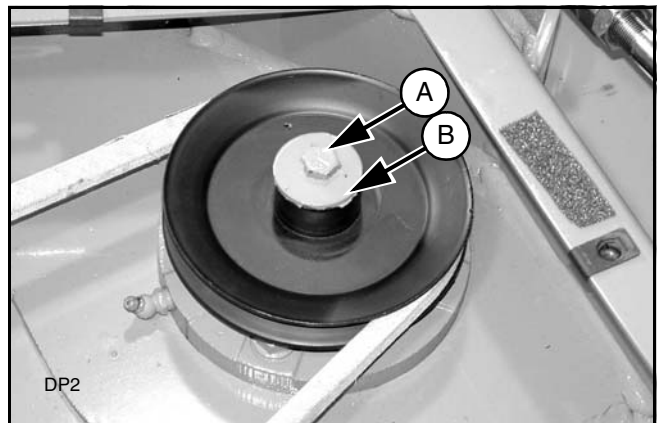


Figure 5. Right Spindle and Sheave Assembly

#### Install Bearing Mount

Refer to Figure 6.

1. Install washer (49) and lower coupler drive (39) over right spindle sheave.
2. Align keyway of sheave and flex coupler and install .25 x .069" square key (40) that comes with kit.
3. Secure sheave and flex coupler to spindle shaft using sheave bolt (41) and flat washer (9).
4. Place nylon flex coupler sleeve (42) over lower flex coupler drive (39) and align grooves.
5. Install vacuum drive mount (43) by positioning the drive spindle assembly into the nylon flex coupler sleeve (42).



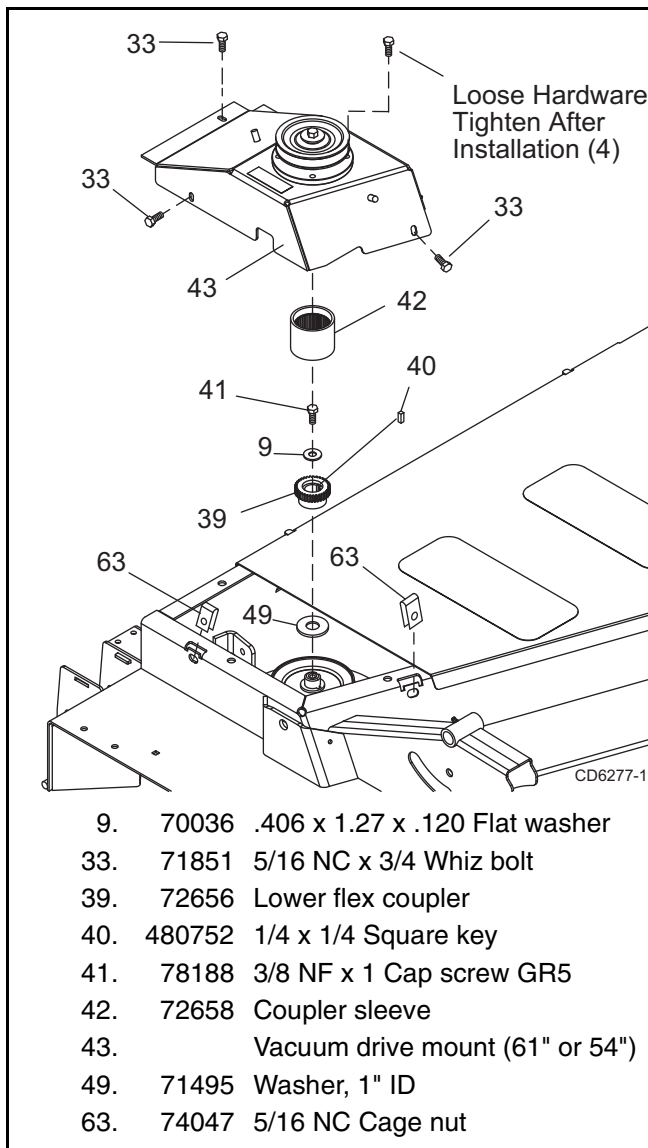
6. Install two cage nuts (63) into slots on deck.
7. Install three new 5/16 x 3/4 whiz bolts (33) into the 5/16 cage.

**NOTE:** The nylon flex coupler should move freely up and down between the two flex coupler hubs.

8. Maintain alignment between the two flex coupler hubs and tighten the three 5/16 whiz bolts.

**NOTE:** The four bolts holding the drive spindle on the bearing mount have been left loose to help align the two flex coupler hubs. The nylon flex coupler should move freely up and down approximately 1/16" between the two flex coupler hubs.

9. Maintain alignment between the two flex coupler hubs and tighten the four bolts to the drive spindle.



- |     |        |                                 |
|-----|--------|---------------------------------|
| 9.  | 70036  | .406 x 1.27 x .120 Flat washer  |
| 33. | 71851  | 5/16 NC x 3/4 Whiz bolt         |
| 39. | 72656  | Lower flex coupler              |
| 40. | 480752 | 1/4 x 1/4 Square key            |
| 41. | 78188  | 3/8 NF x 1 Cap screw GR5        |
| 42. | 72658  | Coupler sleeve                  |
| 43. |        | Vacuum drive mount (61" or 54") |
| 49. | 71495  | Washer, 1" ID                   |
| 63. | 74047  | 5/16 NC Cage nut                |

**Figure 6.** Vacuum Drive Mount Installation

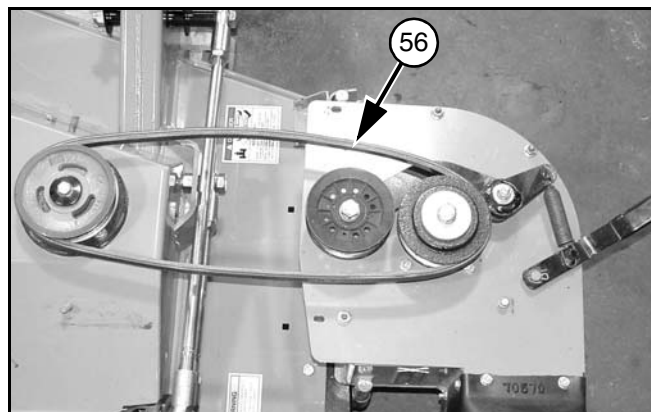
## **INSTALL VACUUM DRIVE BELT**

1. Install belt (56) over sheaves and idler as shown in Figure 7.
2. Engage belt tension lever (25) as shown in Figure 8.

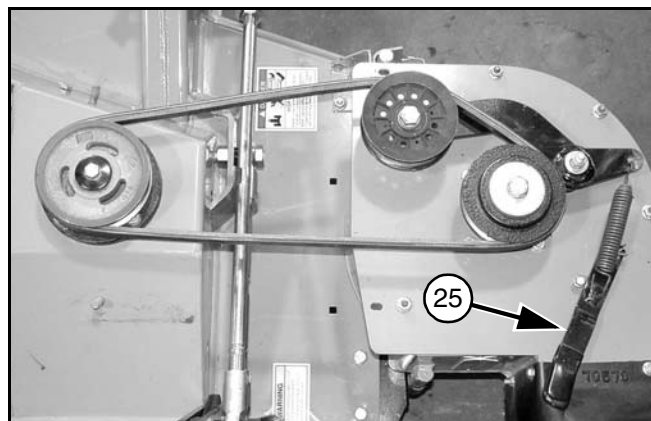
**NOTE:** Check that belt is alignment and parts are installed properly. Test run vacuum housing and bearing mount for proper operation.

## **Remove Vacuum Drive Belt**

1. Disengage belt tension lever (25).
2. Remove two 3-prong knobs (58) and vacuum drive shield (57) from vacuum drive mount.
3. Remove belt (56) from sheaves and idler.



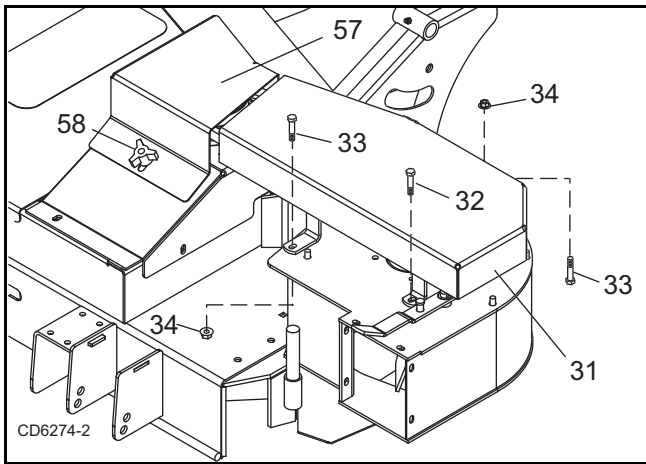
**Figure 7.** Vacuum Drive Belt Layout



**Figure 8.** Belt Tension lever Engaged

## **INSTALL BELT SHIELD**

1. Place belt shield (31) over vacuum housing. Secure using two whiz bolts (33), whiz nuts (34), and one whiz bolt (32) as shown in Figure 9.
2. Install drive shield (57) and secure with two knobs (58).
3. Engaged belt tension lever.



**Figure 9. Belt Shield Installation**

## DEALER CHECK LIST

### PRE-DELIVER CHECK LIST

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

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

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

### DELIVERY CHECK LIST

- \_\_\_ Show customer how to make adjustments and select proper PTO speed.
- \_\_\_ Instruct customer how to lubricate and explain importance of lubrication.
- \_\_\_ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- \_\_\_ Make customer aware of optional equipment available so that customer can make proper choices as required.

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

### **NOTICE**

■ **Operating vacuum attachment with ROPS/ enclosure requires that the deck height adjustment handle be folded down whenever possible. Failure to fold down handle may result in damage to the handle.**

# SERVICE

## REPLACE VACUUM HOUSING BEARINGS

1. Remove vacuum housing (1) from deck.
2. Remove hose adapter (2) from vacuum housing.
3. Remove belt sheave and hardware shown in position (A) from assembly.
4. Remove housing top (5) from vacuum housing.
5. Remove spindle housing (12) by removing hardware (B) from housing top (5).
6. Remove cap screw (7), lock washer (8), and flat washer (9) from bottom of shaft and fan assembly (C). Remove vacuum fan (6).
7. Press spindle shaft (15) through bearings (13) and out of spindle housing (12).
8. Press bearings (13) from spindle housing.

## Install New Bearings

1. Press new bearings (13) in spindle housing. Make sure spacer (14) is installed between bearings.
2. To reassemble vacuum housing, reverse steps 1 through 7. Make sure all hardware is installed correctly. See page 13 for complete parts list.

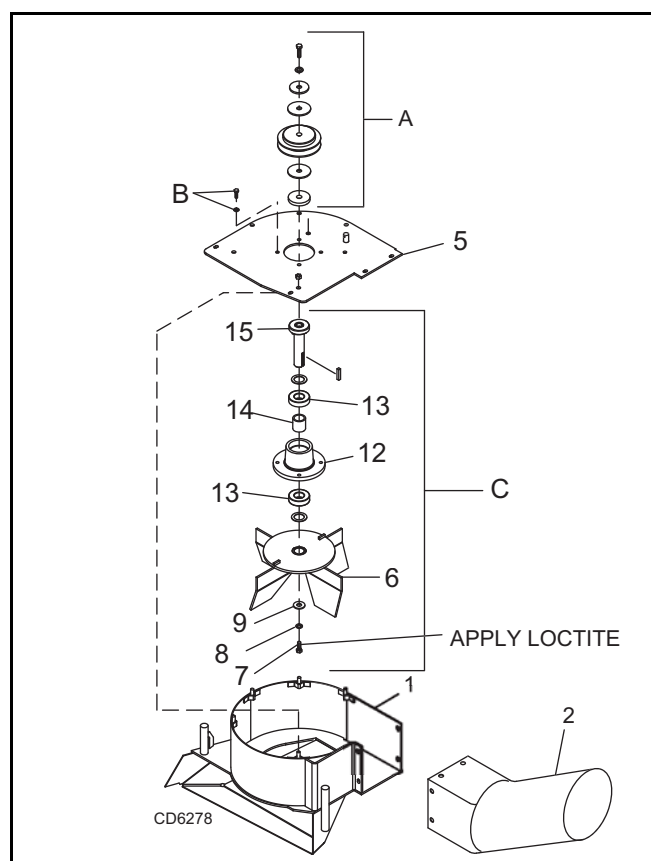


Figure 10. Vacuum Housing Assembly

## REPLACE VACUUM SPINDLE BEARINGS

1. Remove vacuum drive housing (43) from deck.
2. Leave plastic coupler sleeve attached to right deck spindle.
3. Remove spindle assembly (B) from bearing mount.
4. Remove cap screw (41) and cup washer (54) from top of spindle.
5. Remove sheave (52) from spindle shaft (45). A puller maybe required to remove sheave.
6. Press spindle shaft (45) through bearings (13) and out of spindle housing (50).
7. Press bearings (13) from spindle housing.

## Install New Bearings

1. Press new bearings (13) in spindle housing. Make sure spacer (14) is installed between bearings.
2. Reverse steps 1 - 6 and reassemble spindle housing. Make sure all hardware is installed correctly. See page 13 for complete parts list.
3. Install bearing mount to deck. See Install Bearing Mount Assembly on page 8.
4. Attach vacuum housing to deck and secure.

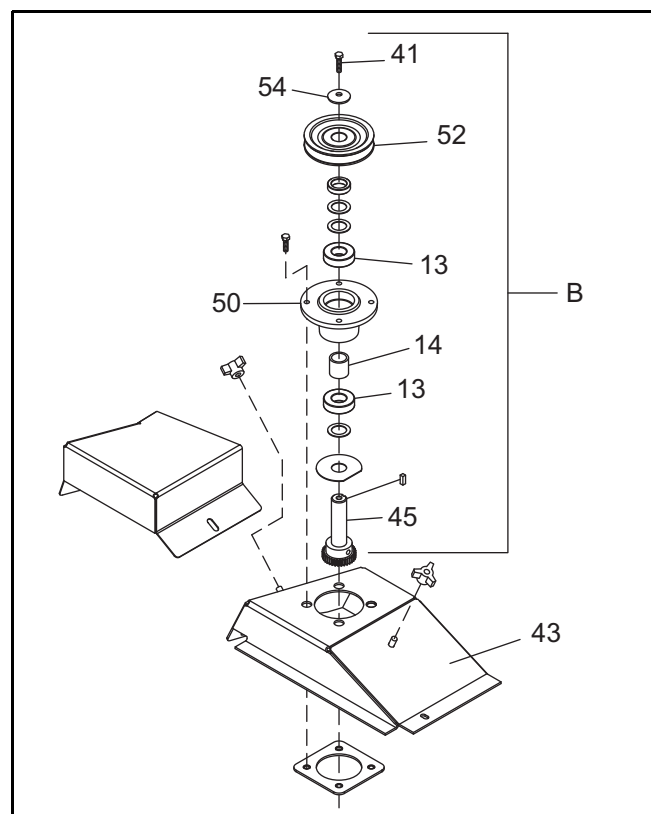
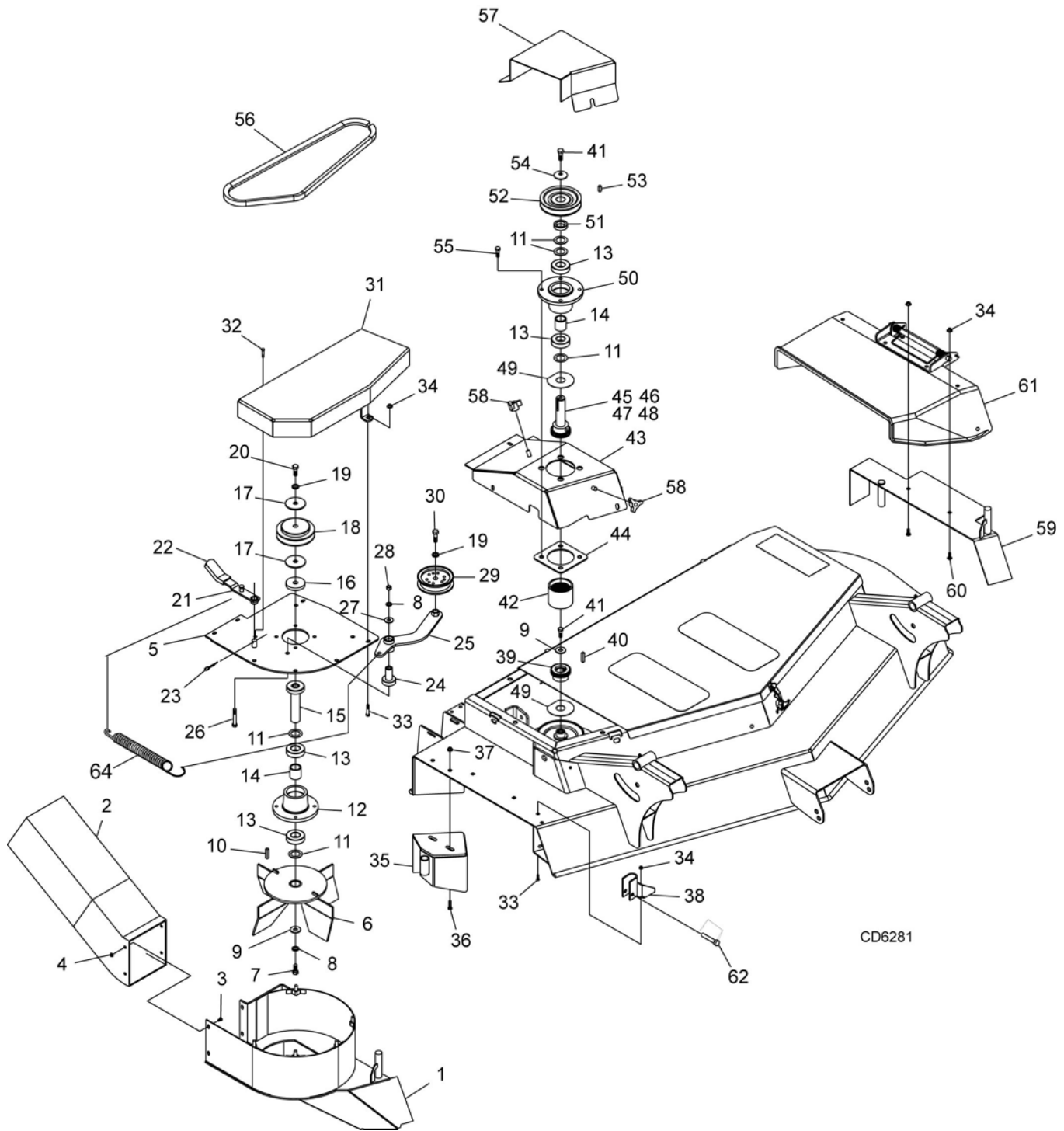


Figure 11. Vacuum Drive Spindle Assembly

# VACUUM & DRIVE ASSEMBLY



CD6281

**12 Parts**

MAN0258 (Rev. 12/14/2007)

# VACUUM & DRIVE ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	75112	1	Vacuum fan housing	34	73163	6	5/16 NC Whiz nut
2	70570	1	Hose adapter	35	1000656	1	Vacuum mount 61"
3	70067	6	1/4 NC x 1/2 Whiz bolt, truss head		75155	1	Vacuum mount 54"
4	70065	6	1/4 NC Whiz nut	36	62153	3	3/8 NC x 1 Hex whiz bolt
5	75123	1	Vacuum top	37	70069	3	3/8 NC Whiz nut
6	75154	1	Vacuum fan	38	75109	1	Vacuum front mount
7	64518 *	1	3/8 NF x 1 Hex head cap screw GR5	39	72656	1	Lower flex coupler, 25 mm
8	838 *	2	3/8 Lock washer	40	70072	1	.25 x .25 x .69 Square key
9	70036	1	.406 x 1.27 x .120 Flat washer	41	78188 *	2	3/8 NF x 1 Hex head cap screw GR5
10	3886	1	1/4 x 1/4 x 1-1/4 Square key	42	72658	1	Coupler sleeve
11	70601	3	1.00 x 1.50 x .048 Shim washer	43	75111	1	Vacuum drive mount 61"
12	70608	1	Vacuum spindle housing		75138	1	Vacuum drive mount 54"
13	71984	2	25 mm Bearing	44	75172	1	Spindle plate
14	72099	2	Spacer	45	72702	1	Drive spindle shaft assembly (incl. items 46, 47, 48)
15	72081	1	Blower spindle shaft, 25 mm	46		1	Shaft assembly, 25 mm
16	75149	1	Sheave spacer	47	72607	1	Upper flex coupler
17	70010	1	1/2 x 2-1/2 Fiber washer	48	11880 *	1	5/16 x 1-3/4 Spirol roll pin
18	70575	1	Vacuum sheave	49	71495	2	Washer 1 x 3 x 18 ga.
19	855 *	1	1/2 Lock washer	50	70590	1	Drive spindle housing
20	70012 *	1	1/2 NF x 2 Hex head cap screw GR5	51	70086	1	3/8 Spacer
21	75153	1	Belt tensioner arm (incl. item 22)	52	71999	1	Sheave 4.60", 25 mm
22	70165	1	Handle grip	53	70072	1	1/4 x 1/4 x 11/16 Square key
23	3597 *	1	1/8 x 1 Cotter pin	54	70005	1	3/8 Cupped washer
24	71430	1	Pedestal bearing	55	14562 *	4	5/16 NC x 1 Hex head cap screw GR5
25	75152	1	Vacuum idler arm	56	75166	1	Vacuum belt 61"
26	7747 *	1	3/8 NC x 3 Hex head cap screw GR5		71506	1	Vacuum belt 54"
27	565 *	1	3/8 Flat washer	57	75115	1	Vacuum drive shield
28	835 *	1	3/8 NC Hex nut	58	66840	2	3/8 NC 3-prong knob
29	75164	1	Idler	59	75208	1	Discharge chute adapter
30	6100 *	1	1/2 NC x 1-1/4 Hex head cap screw GR5	60	78182 *	2	5/16 NC x 1 Carriage bolt
31	75125	1	Vacuum belt shield 61"	61	78107	1	Discharge chute
	75169	1	Vacuum belt shield 54"	62	33000	1	3/8 x 2-1/4 Lynch pin
32	72169	1	1/4 NC x 1/2 Hex whiz bolt	63	74047	2	5/ NC Cage nut
33	71851	7	5/16 NC x 3/4 Hex whiz bolt	64	70107	1	Spring

\* Standard Hardware, Obtain Locally

# BOLT TORQUE CHART

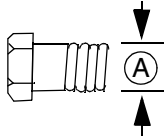
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

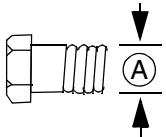


SAE Grade 5  
(3 Radial Dashes)



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



Metric  
Grade 8.8

Metric Bolt Head Identification

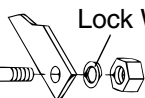


Metric  
Grade 10.9

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

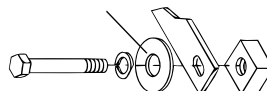
### Typical Washer Installations

Bolt



Lock Washer

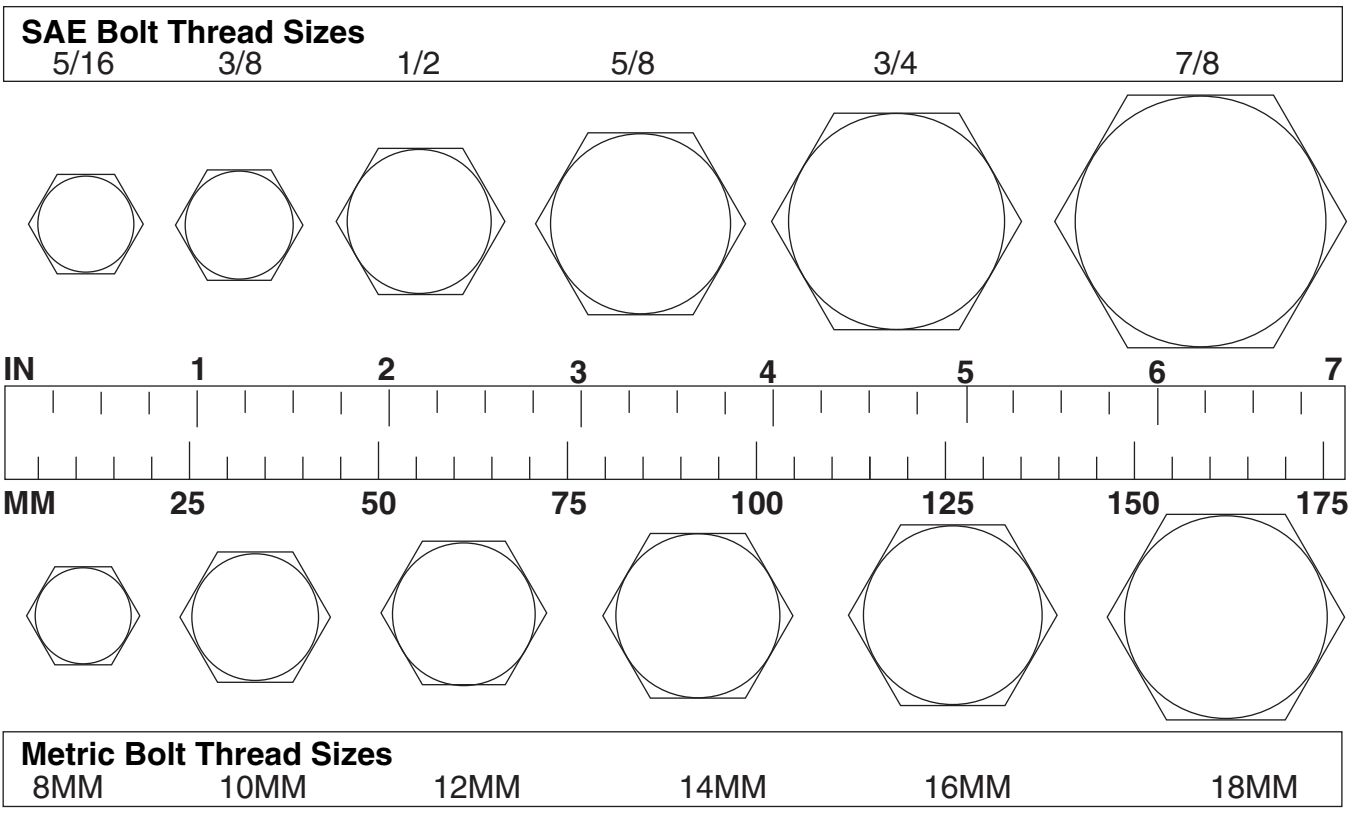
Flat Washer



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



## LIMITED WARRANTY

(Mow'n Machine™ Zero-Turn Mower and  
Woods Boundary™ Utility Vehicle Replacement Parts)

Woods Equipment Company ("WOODS") warrants replacement parts for Mow'n Machine™ zero-turn mowers and attachments and Woods Boundary™ utility vehicles, accessories and attachments 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.

IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO A PERIOD OF NINETY (90) DAYS FROM THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

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.

This Warranty does not cover normal wear or tear, or normal maintenance items, or any damage, failure or loss caused by improper operation, improper maintenance, misuse, or an accident.

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.

**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.

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

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

### 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](http://www.WoodsEquipment.com)

# WOODS®

ALITEC™

BMP®

CENTRAL FABRICATORS®

GANNON®

GILL®

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WOODS®





# LIMITED WARRANTY

## (Mow'n Machine™ Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

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 and attachments and Woods Boundary™ utility vehicles, accessories and attachments to be free from defect in material and workmanship for the warranty periods listed below.

### FOR HOW LONG:

Mow'n Machine Model #CZ2136B, CZ1736K, CZ1942K, CZ1948K, CZ1952K, ME2052B, MZ1952K, MZ2652G, MZ2561K, MZ2761, MZ3361G, MZ3372G, MZ2061YD & attachments are warranted for **Commercial Use** for two (2) years from the date of delivery to the original purchaser or 2000 hours of operation, whichever occurs first; or, for **Non-Commercial Use** for five (5) years from the date of delivery to the original purchaser or 500 hours of operation, whichever occurs first.

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.

Woods Boundary utility vehicle Model #MAV350, MAV480, MAV4x4, accessories & attachments are warranted for two (2) years from the date of delivery to the original 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:

#### Woods Equipment Company

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