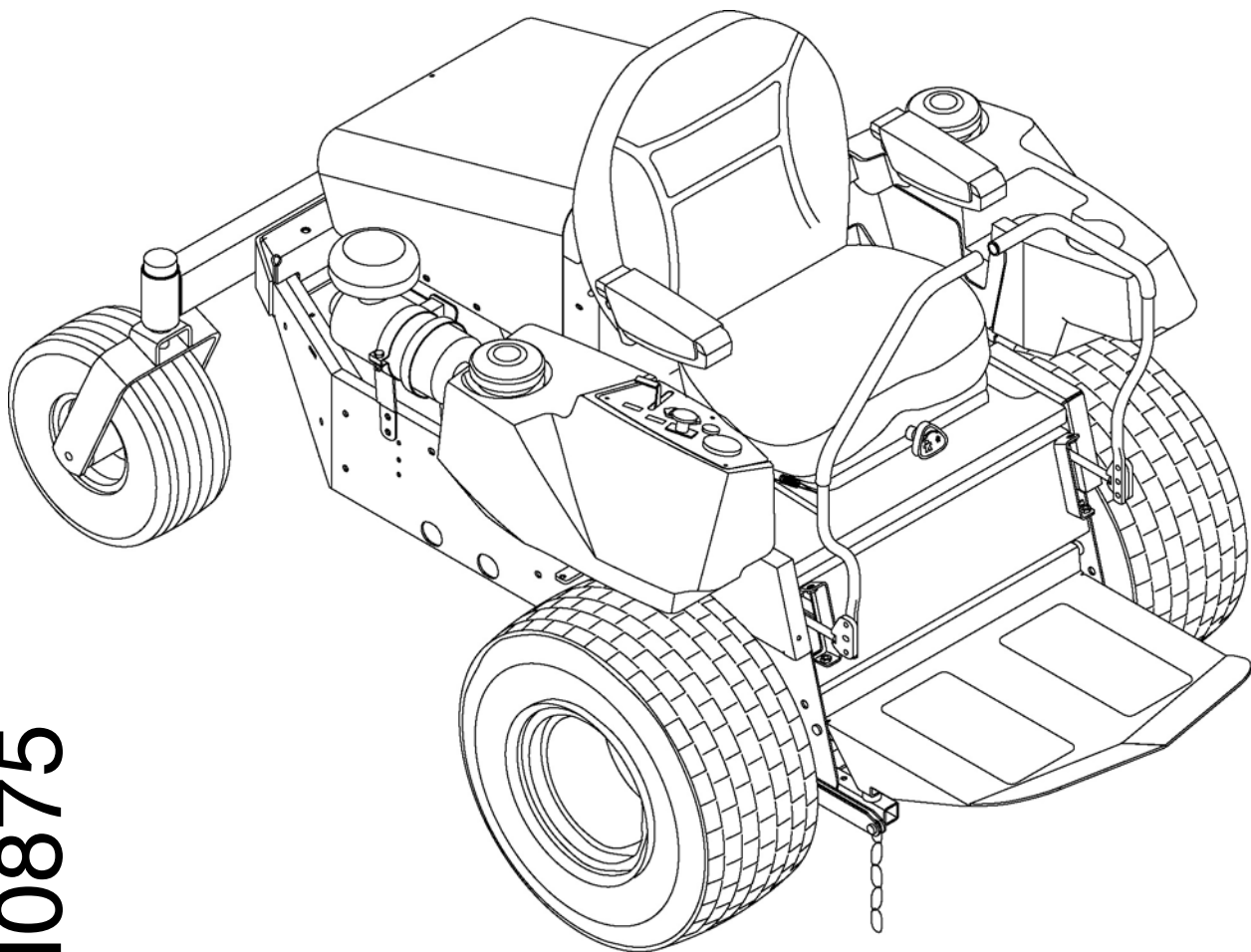


WOODS MOW'N MACHINE™

FZ23B

FZ28K

Serial Number 1177489 & Up



MAN0875
(Rev. 3/7/2012)

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. 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, or in the United States and Canada call 1-800-319-6637.

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

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

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

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

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

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

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



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



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



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



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

**IMPORTANT
or NOTICE**

Is used to address practices not related to physical injury.

NOTE

Indicates helpful information.

ALITEC™

BMP®

CENTRAL FABRICATORS®

GANNON®

GILL®

WAIN-ROY®

WOODS®

WOODS®

2 Introduction

Gen'l (Rev. 12/5/2011)

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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.

⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



¡LEA EL INSTRUCTIVO!

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

⚠ WARNING ⚠

This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

SPECIFICATIONS

Engine:	FZ23B	Briggs & Stratton Vanguard V-Twin, 4-Cycle, Air Cooled
	FZ28K	Kawasaki, 4-Cycle, Air Cooled
Horsepower:	FZ23B	23 HP
	FZ28K	28 HP
Fuel Type:	Gasoline (minimum 85 octane, unleaded recommended)
Standard Tire Size:	Front	23 x 10.50 - 12
	Rear	15 x 6.00 - 6 Rib
Recommended Air Pressure:	Front	12 psi
	Rear	Maximum 18 psi
Fuel Tank Capacity:	8.5 Gallons
Power Unit Dimensions:	Width	50"
	Over all Length	84"
	Weight	1000 lbs
Recommended Mowers:	FZ23B54", 61"
	FZ28K54", 61"

GENERAL INFORMATION

WARNING

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

The purpose of this manual is to assist you in operating and maintaining your Mow'n Machine. 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.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



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

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

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

TRAINING

■ **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**

■ **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.**

■ **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.**

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 getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective**

equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

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

■ **Make sure 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.**

■ **The safety interlock system was installed for your protection. Do not disconnect, disable, override, or execute any action that would cause this system to malfunction. If malfunction occurs, stop all operation and contact dealer for repair.**

■ **Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.**

■ **Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.**

■ **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.**

■ **When using weight transfer system, correct counterweight must be used to maintain stability. See counterweight chart in power unit manual or contact dealer.**

■ **When equipped with ROPS, total vehicle weight with all equipment, ballast, and operator must not exceed 2,590 lbs.**

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

■ **Do not mow on wet grass.**

■ **While fueling, extinguish all cigarettes, cigars, pipes, and other sources of ignition.**

■ **Never fuel the machine indoors.**

■ **Never fill fuel containers inside a vehicle or a truck or trailer bed with a plastic liner. Always place container on the ground away from the vehicle before filling.**

(Safety Rules continued on next page)

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

- Remove gas-powered equipment from the truck or trailer and refuel on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- Never over-fill tank. Replace gas cap and tighten securely.
- Handle fuel carefully; it is highly flammable. Always use an approved container. Never remove fuel cap or add fuel while engine is running. Allow engine to cool before refueling. Wipe up all spilled fuel before starting engine.

TRANSPORTATION

- Use extra care when loading or unloading the machine onto a trailer or truck.
- Do not operate or transport on steep slopes.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Transport power unit facing rearward when equipped with a sunshade.

OPERATION

- Keep bystanders away from equipment.
- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Make sure people and objects are clear of attachment and discharge area before engaging PTO.
- Be alert and turn machine off if a child enters the mowing area.
- Before and while backing, look behind and down for children.
- Never direct discharge toward people, animals, or property.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.

- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- When improperly operated, power unit can roll over or upset. Use of rollover protective structure (ROPS) with seat belt securely fastened will reduce the possibility of injury or death if rollover or upset occurs.
- Use care when operating with ROPS or sunshade around shrubs, trees or other objects that can become entangled with power unit.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your vision.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Start engine from operator's seat after disengaging power unit PTO and placing steering levers in neutral.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not mow in reverse unless absolutely necessary.
- Slow down before turning.
- Do not operate on slopes greater than 15 degrees (27% grade).
- Mow up and down slopes, not across.
- If the tires lose traction on a slope, disengage the blade(s) and proceed slowly straight down the slope.
- Do not stop, start, or change directions suddenly on slopes.
- Do not make sudden changes in speed or direction which could cause the machine to roll over.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Installation of a grasscatcher assembly will reduce the stability and maneuverability of the Mow'n Machine when operating on sloping terrain.
- Do not tow a trailer over 200 lbs. Do not tow a trailer or add power unit ballast with a combined weight over 200 lbs. Too much weight can cause loss of traction or stability on a slope. It can also reduce parking brake ability. Too much weight will shorten the hydraulic system life. Never tow a trailer with a grass collection system attached to the power unit.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Watch for hidden hazards on the terrain during operation.
- Watch for traffic when operating near or crossing roadways.
- Uneven terrain could overturn the machine.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge caves in.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
- Do not drive or operate mower in tilt-up position. Power unit stability is not adequate and resulting loads can damage or cause failure of tilt-up mechanism.
- Never leave a running machine unattended.
- Moving steering levers rapidly from forward to reverse or reverse to forward could cause loss of control.
- Do not operate power unit with attachment removed. Attachment is required for power unit stability.
- Before attempting to unplug vacuum hoses, disengage PTO, stop power unit, and remove key.

MAINTENANCE

- Before dismounting power unit, follow these steps: lower attachment to ground, shut off PTO, set parking brake, shut off engine, position steering levers to neutral swing-out position, and remove key.
- When using a sunshade and lifting hood for maintenance, use caution around pinch points.
- 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 -).
- Before working underneath, read manual instructions, securely block up, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failure, or mechanical component failure.

- 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 on mower in tilt-up position unless lock-up mechanism is in good condition. Replace if damaged.
- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Do not put Mow'n Machine into service unless clutch is working properly. When the engine is at full throttle, PTO-driven accessories must stop within five seconds after the PTO switch is turned to "OFF." See your dealer for replacement clutches.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Do not remove radiator cap while engine is hot.
- Do not change engine governor settings or overspeed engine.
- Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.
- Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.
- Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Use care to prevent battery acid from contacting skin.
- 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.

(Safety Rules continued on next page)

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

■ **Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.**

STORAGE

■ **Keep children and bystanders away from storage area.**

■ **Never store equipment where fuel or fumes could reach an open flame or spark. Allow engine to cool before storing in an enclosure.**

■ **Never store the machine or fuel container near an open flame, spark or pilot light such as on a water heater or other appliance.**

■ **Do not run engine indoors. Exhaust gases contain carbon monoxide, an odorless and deadly poison.**

■ **Remove key and store in a secure location to prevent unauthorized persons from operating equipment.**




SAFETY & INSTRUCTIONAL DECALS



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

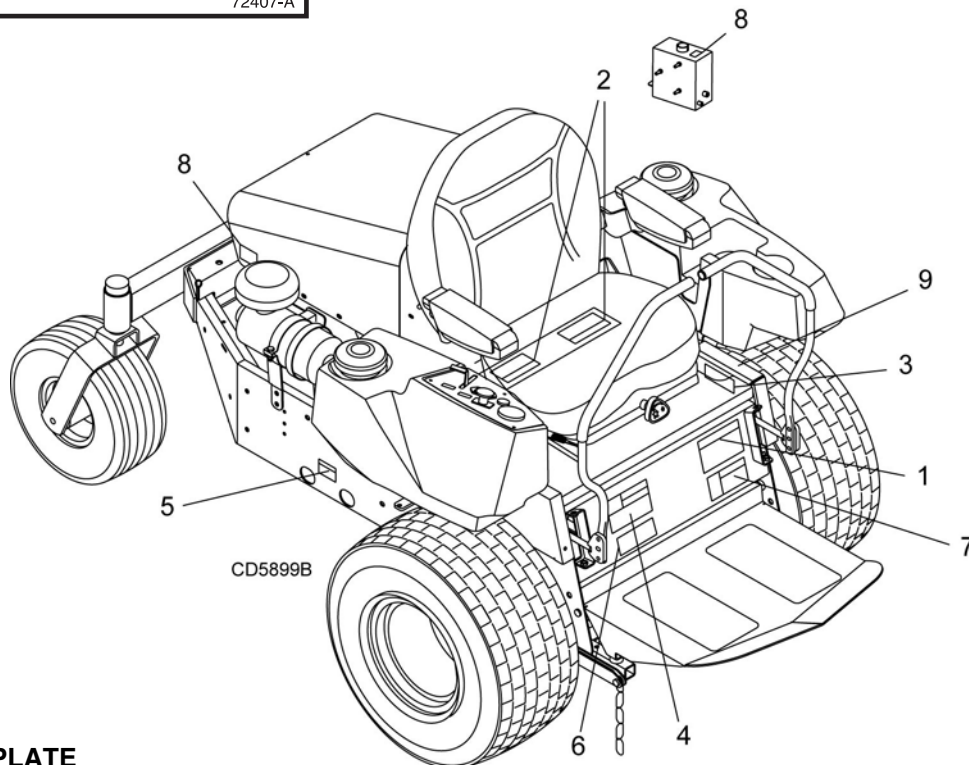


1 – 72407

 WARNING
TO AVOID SERIOUS INJURY OR DEATH
<ul style="list-style-type: none">■ Read manual before operating and follow all safety and operating instructions. (Manual available from dealer or call 1-800-319-6637.)■ Before dismounting, stop engine, set park brake, and remove key.■ Never allow riders.■ Do not operate near drop-offs, embankments and holes.
72407-A

2 – 72404

 WARNING
FAN BLADE - KEEP CLEAR!
72404-A



3 – SERIAL NUMBER PLATE

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

4 – 72408

	<p>⚠ WARNING</p> <p>TIP OVER HAZARD</p>
<ul style="list-style-type: none"> ■ Operate controls smoothly and slowly, especially on slopes. ■ Unit may roll on slopes when not under power. Always set park brake immediately when engine is turned off or power loss occurs. ■ Move very slowly when attachment is removed. ■ Do not operate on steep slopes. See Operator's Manual for details. 	
<small>72408-A</small>	

8 - 07754100



5 – 72406

<p>⚠ WARNING</p>
<p>The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.</p>
<small>72406-A</small>

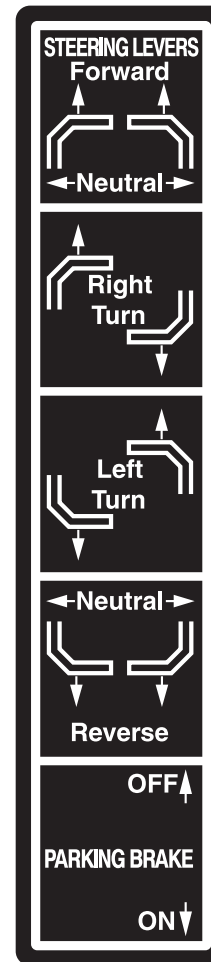
6 – 70376

<p>⚠ WARNING</p>
<p>DO NOT ALTER ELECTRICAL SYSTEM Wrong wiring connections will damage electrical components and may make the safety switches inoperative.</p>
<small>70376-D</small>

7 – 72405

	<p>⚠ DANGER</p> <p>RUNOVER HAZARD</p>
<ul style="list-style-type: none"> ■ Be alert when operating. ■ Look carefully. This unit turns quickly. ■ Never allow riders. Never carry children. ■ Do not mow with people nearby. 	
<small>72405-A</small>	

9 - 72801



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, or in the United States and Canada call 1-800-319-6637.

OPERATION

The operator is responsible for the safe operation of this Mow'n Machine. The operator must be properly trained. Operators should be familiar with the power unit, all attachments that will be used, and all safety practices before starting operation. Read the safety rules and safety decals on page 5 through page 10.

! WARNING

- 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.
- Do not operate power unit with attachment removed. Attachment is required for power unit stability.
- Never direct discharge toward people, animals, or property.
- Moving steering levers rapidly from forward to reverse or reverse to forward could cause loss of control.

! CAUTION

- Start engine from operator's seat after disengaging power unit PTO and placing steering levers in neutral.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

CONTROLS AND SWITCHES

! WARNING

- Know your controls and how to stop engine and attachment quickly in an emergency.

The Control and Indicator console is located on the right fuel tank for FZ23B and FZ28K models. This console contains controls needed to operate this unit. PTO switch (2) is used to engage attachments: pull up to engage, push down to disengage.

Deck Height/Power Tilt™ Adjustment Switch

The deck height and Power Tilt™ switch is used with MXT or MX decks equipped with the Power Tilt™ Kit. Push the toggle switch forward to raise the deck and pull back to lower the deck to the desired cutting height. For Power Tilt operation, pull back and hold the

toggle switch to lower the deck and cycle through to the tilt position. Release switch when deck reaches maximum tilt position. To lower the deck, push and hold toggle switch until it cycles to the desired cutting height. **NOTE:** Power Tilt™ feature must not be used when sitting in the seat.

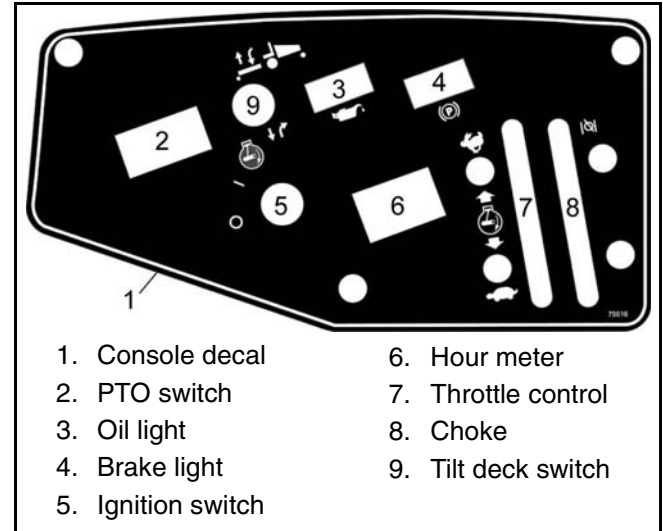


Figure 1. Console Control Locations

Hour Meter

The hour meter is programmed to alert the operator at various service intervals. The change oil light will flash at 20 hours (initial break in) and every 100 hours after. The light will flash for a period of 4 hours (alternating between hours & change oil) and then resume normal mode. The hour glass will flash every second indicating that it's in running mode.

Service Intervals	
20 hrs	Engine oil change (break in)
100 hrs	Engine oil change & filter
500 hrs	Hydraulic oil change & filter (see hydraulic transmission - change oil & filter, page 18.)

Brake Lights

The brake light indicates when the brake is engaged. To ensure light is operating properly, engage parking brake and turn ignition key switch to the "ON" position. Control panel brake light (4) should be on.

Safety Switch System

Several safety switches are incorporated in the unit's design to prevent it from being started out of NEUTRAL (handles pivoted outward) or with PTO engaged.

The PTO control must be in the "OFF" position and the steering handles in the NEUTRAL position before unit can be started.

A safety switch behind the operator's seat will cause the engine to stop if the operator leaves the seat with the PTO or steering handles engaged. The engine will also stop if the steering handles are moved from NEUTRAL while the parking brake is engaged or if the deck jumper wire is not connected to the wire harness or the deck safety switch is disengaged.

STARTING ENGINE

DANGER

■ **Do not run engine indoors. Exhaust gases contain carbon monoxide, an odorless and deadly poison.**

To enhance starter life, use short starting cycles not exceeding 10 seconds. If engine does not start within 10 seconds, stop cranking for 30 seconds; then repeat starting procedures.

1. Position yourself on the power unit seat.
2. Set parking brake.
3. Place steering control handles in the NEUTRAL position (pivoted outward).
4. Place PTO switch in the "OFF" position (down).
5. Place throttle approximately 1/3 open.
6. Turn key to "START".
7. Ensure that the alternator and oil pressure lights are off.
8. Warm up engine several minutes at medium throttle.

NOTE: Choke as necessary to start. When engine starts, release key immediately. Pull choke gradually back until choke is off and engine is running smoothly.

NOTE: Allow engine a warm-up period regardless of the season. Loading a cold engine will shorten its life.

Cold Weather Starting Tips

1. Use proper oil grade for temperature expected. (Refer to engine manual for oil grade.)
2. Set throttle half way open.
3. A warm battery has better starting capacity than a cold one.
4. Use fresh fuel, it is better for starting than leftover fuel.

STARTING MOWER OR ATTACHMENT

WARNING

■ **Make sure people and objects are clear of attachment and discharge area before engaging PTO.**

NOTICE

■ **Never engage PTO if the mower blades are plugged with grass or other material. This may cause damage to the electric clutch.**

1. With engine running, position throttle at half speed.
2. Engage PTO by pulling up on the PTO switch.
3. Move throttle to full speed and begin operation.

NOTE: Starting attachment at lower engine speed will help prolong the life of the clutch and transmission components.

Stopping Mower or Attachment

Push down on PTO switch.

NOTE: If attachment does not stop in five seconds, the unit requires service.

PRACTICE OPERATION

WARNING

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

Operating this unit is not difficult once you are familiar with the use of the controls. Equip the power unit with the attachment you will be using and practice in a flat open area at half throttle setting until you are comfortable with the controls.

Do not operate attachment until you become proficient with controls.

Uneven Terrain Operation

WARNING

■ **Do not operate on slopes greater than 15 degrees (27% grade).**

■ **Do not stop, start, or change directions suddenly on slopes.**

■ **Use extreme care and reduce ground speed on slopes and rough terrain.**

! WARNING

- Watch for hidden hazards on the terrain during operation.

Practice steering maneuvers at half throttle.

STEERING HANDLE OPERATION

! WARNING

- Moving steering levers rapidly from forward to reverse or reverse to forward could cause loss of control.

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

NOTE: Speed and direction are controlled with steering handles. Pushing handles forward will move power unit forward. Pulling handles to the rear will move the power unit in reverse. The further forward or rearward

the steering handles are moved, the faster the machine will move.

Steering Handle Positions

NOTICE

- If you become confused during operation, return both handles to the center NEUTRAL position and the power unit will stop.

Forward	Both handles forward
Reverse	Both handles rearward
Gentle Right	Left handle further forward than right
Gentle Left	Right handle further forward than left
360° Left	Left full rearward / right full forward
360° Right	Right full rearward / left full forward

NOTE: Moving one handle forward with the other handle in NEUTRAL will also result in a 360-degree circle. However this will cause one drive wheel to dig into the turf and should be avoided.

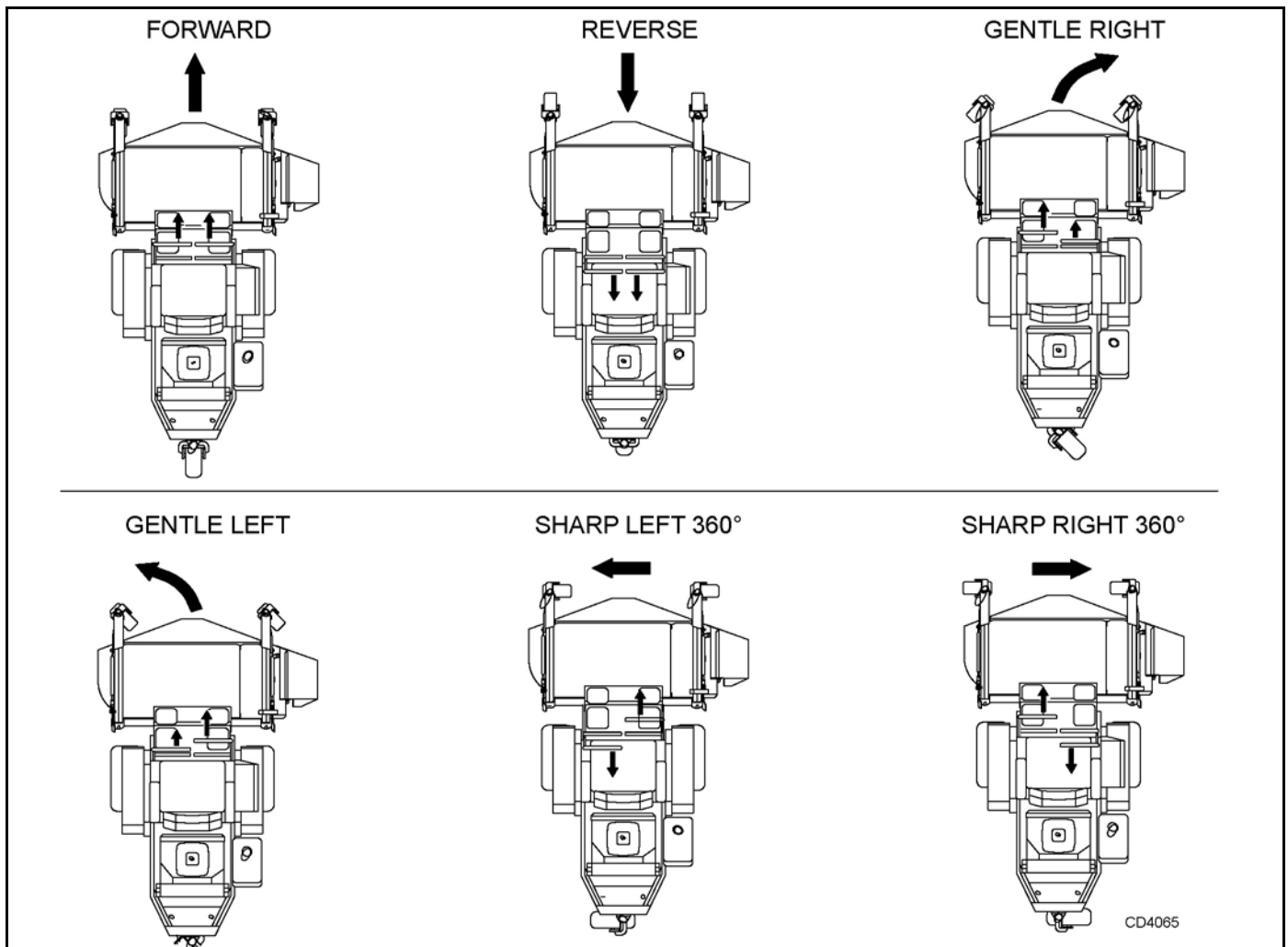


Figure 2. Steering Handle Operation

STOPPING ENGINE

⚠ CAUTION

■ Remove key and store in a secure location to prevent unauthorized persons from operating equipment.

1. Place steering handles in the NEUTRAL position and set parking brake.
2. Move throttle to 1/3 setting.
3. Allow engine to idle for several minutes.
4. Turn key to OFF position and remove.

MOVING DISABLED POWER UNIT

Manually move disabled power unit by following these steps.

1. Locate dump valve on bottom of both hydraulic pumps.
2. Turn hex head two full revolutions counter-clockwise to open valve, using a 5/8 wrench.

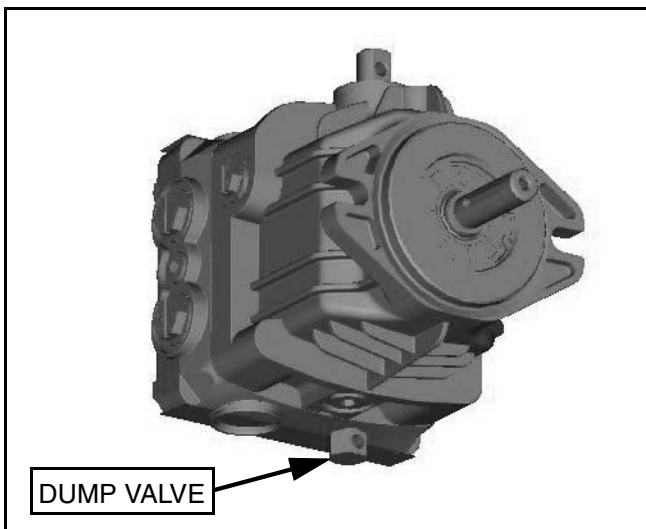


Figure 3. Left Pump Dump Valve

WEIGHT TRANSFER SYSTEM

⚠ WARNING

■ When using weight transfer system, correct counterweight must be used to maintain stability. See counterweight chart Figure 4 or contact dealer.

The weight transfer is designed to place an additional load on the drive wheels, providing additional traction.

1. Attach mower to power unit and set to desired cutting height.
2. Torque bolt on both sides to 35 lbs-in.

NOTE: Counterweight is needed to provide adequate stability. Refer to the chart to determine your power unit/mower combination, and the amount of counterweight required.

Counterweights are not required when power unit is equipped with a grass catcher system.

Mower	FZ23B FZ28K	With ROPS	With ROPS & Sun Shade	Grass Catcher
54" Deck	50	100	150	0
61" Deck	100	100	150	0
Snow Thrower	100	100	150	N/A
Dozer Blade	100	100	150	N/A
60" Sweeper	150	150	200*	N/A

Figure 4. Counterweight Requirement Chart

* - For additional weight use two 73683 counterweights and one 78025 counterweight cover mounted behind the engine. See page 44 for parts list and diagram.

⚠ WARNING

■ Do not tow a trailer over 200 lbs. Do not tow a trailer or add power unit ballast with a combined weight over 200 lbs. Too much weight can cause loss of traction or stability on a slope. It can also reduce parking brake ability. Too much weight will shorten the hydraulic system life. Never tow a trailer with a grass collection system attached to the power unit.

OWNER PRE-OPERATION CHECK LIST

(OWNER'S RESPONSIBILITY)

- ___ Review and follow all safety rules and safety decal instructions on pages 5 through 10.
- ___ 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 shield or complete vacuum attachment is installed.
- ___ Check that all hardware and cotter pins are properly installed and secured.
- ___ Check that equipment is properly and securely attached to power unit.
- ___ Make sure driveline spring-activated locking pin or collar slides freely and is seated firmly in power unit PTO spline groove and in gearbox spline groove.
- ___ Check for grass wrap on PTO shaft. When mowing long grass, remove key and check for grass wrap around PTO shaft every 30 minutes of operation.
- ___ Check to be sure engine is free of dirt and debris. Pay particular attention to the cooling fins, governor parts and muffler.
- ___ Do not allow riders.
- ___ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- ___ Clean air intake screen. Check air cleaner; service if necessary.
- ___ 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 the lubrication information, page 16.
- ___ Check hydrostatic fluid level (refer to Owner Service section). Check to be sure cooling fins on hydrostat are clean.
- ___ 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. If it does not, do not operate unit until the safety interlock system has been repaired and operates properly.



OWNER SERVICE

WARNING

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

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

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

CAUTION

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

SERVICE ENGINE

NOTE: Follow engine manufacturer recommendations in engine manual.

Check Engine Oil Level

NOTE: Never attempt to check oil level while engine is running. Serious injury or damage to equipment could result.

1. Park power unit on a level surface.
2. Stop engine and clean off dirt and dust from around dipstick.
3. Remove dipstick, check oil level. Oil level should be between marks on dipstick.
4. Add oil as necessary. See engine owner's manual for specifications.

Change Engine Oil

NOTICE

■ Use care to prevent hot oil from contacting bare skin.

1. Run engine to allow oil to become hot. This will ensure that most foreign materials are in suspension and will be flushed out with the oil.
2. Remove drain plug and drain crankcase.
3. Remove oil filter.
4. Install new oil filter.
5. Install drain plug and add oil.

NOTE: Refer to the engine manual for oil specifications, capacity, service rating, and proper grade.

LUBRICATION INFORMATION

1. Do not let excess grease collect on or around parts, particularly when operating in sandy areas.
2. See Figure 5 for lubrication points and frequency or 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.

Lubrication (Service Intervals)

Ref	Description	Frequency
1.	Hydrostatic Fluid Level (check)	8 hours
2.	Deck Pivot	8 hours
3.	Driveline	80 hours
4.	Driveshaft	8 hours
5.	Blade Spindles	40 hours
6.	Front Wheels	8 hours
7.	Engine Oil Level (check)	8 hours
8.	Parking Brake	80 hours
9.	Gearbox (under deck)	500 hours
10.	Front Lift Linkage	40 hours
11.	Caster Pivot	40 hours

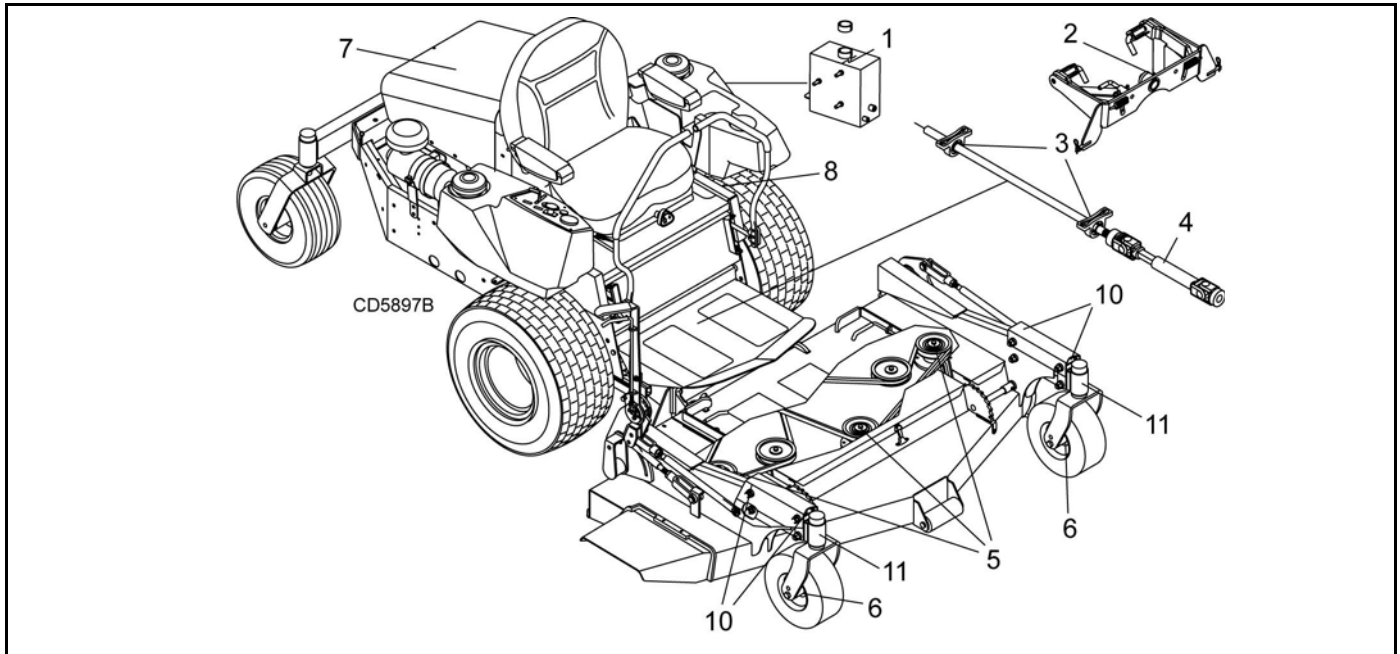


Figure 5. Lubrication Diagram

TAILWHEEL MAINTENANCE

Once a year, disassemble tailwheel assembly and inspect roller bearings:

1. Remove dust cap (2) from top of tailwheel assembly (1).
2. Remove cotter pin (3) and slotted hex nut (4).
3. Remove wheel fork (10), bearing cones (6) and remaining hardware from assembly.
4. Inspect bearing cones (6) and bearing cups (7) for wear and replace if necessary. Replace seals and washers as necessary.
5. Pack bearing cones (6) with a good grade wheel bearing grease.
6. Install wheel fork (10) bearing cones (6) and remaining hardware into assembly as shown.
7. Set bearings by torquing nut to 26 lbs-ft. All bearing free play should be removed.

NOTE: Proper bearing adjustment is essential to good bearing life.

If bearings are loose, casters will wobble and/or slap side-to-side.

If bearings are overtightened, loosen hex nut and rap shaft with a lead hammer to loosen bearings. Readjust bearings until proper setting is obtained.

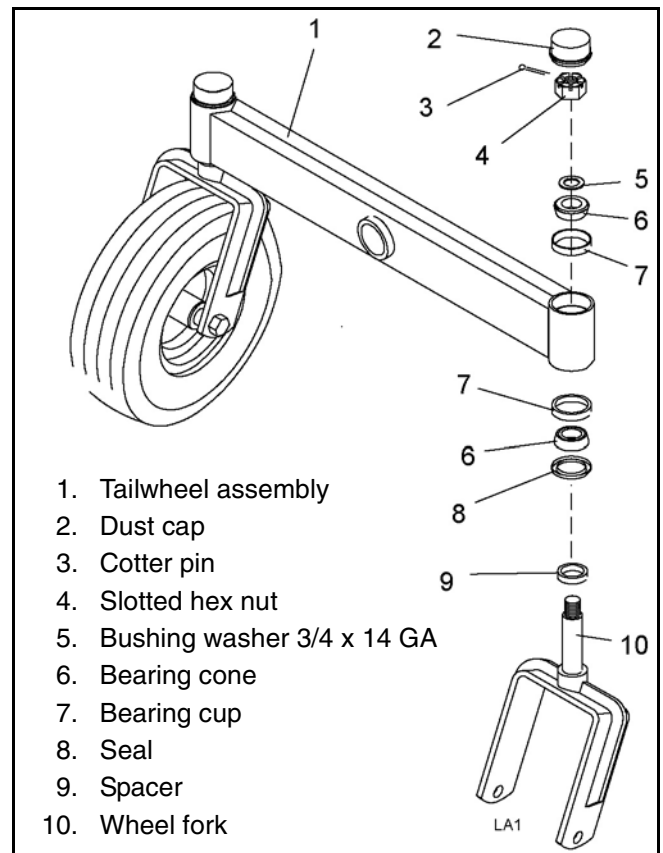


Figure 6. Tailwheel Assembly (Typical)

HYDROSTATIC TRANSMISSION SERVICE

NOTICE

■ **Keep transmission oil clean. When adding fluid take precautions to prevent dirt and other foreign material from entering the system.**

NOTE: Check fluid level every 8 hours of operation.

1. Place power unit on a level surface.
2. Stop engine; remove key and clean off dirt and dust from around cap on top of hydraulic reservoir, located behind left tire.
3. Remove cap and look inside reservoir to check fluid level. Check oil against notch in center of reservoir; hot oil should be to the top of the divider, cold oil should be to the bottom of the notch. See Figure 7.
4. Add oil as necessary.
5. Check cooling fins and fan blades for debris; they should be free of foreign material. Clean as necessary.

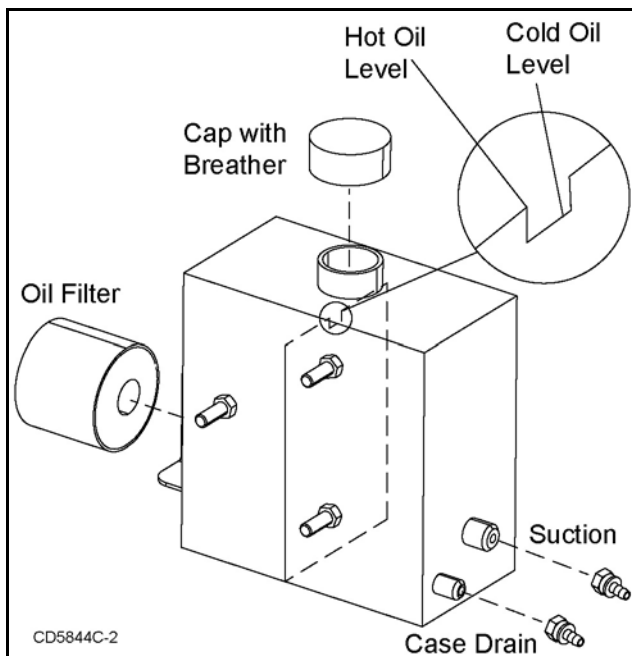


Figure 7. Hydraulic Tank

HYDRAULIC TRANSMISSION - CHANGE OIL & FILTER

NOTE: Change oil and filter every 1000 hours under normal mowing conditions.

NOTE: Change oil and filter every 500 hours when using a grass catcher or when operating in ambient temperature above 100°F for any extended period.

1. Place power unit on a level surface.
2. Stop engine; remove key.

3. Remove case drain hose fitting from bottom of reservoir, located outside of power unit frame. Allow reservoir to completely drain.
4. Remove automotive type filter (Figure 7) by turning counter-clockwise.
5. Replace filter by turning until gasket is seated; then turn an additional 3/4 turn.
6. Replace hose fitting and fill reservoir with 5 quarts of 20W-50 motor oil.

NOTE: The transmissions do not need to be individually drained; they will drain through the fluid reservoir.

SERVICE BATTERY

⚠ WARNING

■ **Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.**

⚠ CAUTION

■ **Use care to prevent battery acid from contacting skin.**



Figure 8. Battery Located Under Seat

Refer to Figure 8.

Clean battery at least once a season by following these steps:

1. Inspect cables for deterioration and loose connections.
2. Clean terminals.

3. Inspect battery to make sure tie-down is tight and battery is secured in place.
4. Inspect battery case for cracks or leaks; replace battery if necessary.
5. Test battery with hydrometer; recharge battery if less than 75% charge is indicated.
6. Add water if necessary.

BURNISH CLUTCH

NOTICE

■ **A new clutch or one that has not been used for three months, will require burnishing to dress drive surface. The clutch could fail if you do not accomplish the following procedure.**

1. Place steering control handles in the neutral position. Start engine and run at half throttle.
2. Turn clutch switch (PTO) "ON" 30 seconds and "OFF" for 30 seconds. Repeat cycle 20 times.

NOTE: The 30 seconds "OFF" allows clutch surface to cool.

RETURN TO OPERATION

 **WARNING**

- **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.)**

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 on page 9 for location drawing.



DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, you may be time and money ahead to replace complete assemblies.

WARNING

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

■ 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.

TROUBLESHOOTING HYDROSTATIC PUMP

Loss of Power in Transmission

1. Make sure transmission fluid is correct.
2. Make sure hydrostatic pump and fan blades are clean.

NOTE: Overheating can cause loss of power or fluid leaks from excess fluid expansion.

3. Make sure dump valves are tightened down.

NOTE: Transmission fluid can leak by the dump valve if bypass is not tight. Tighten hex head if dump valves are loose.

No Positive Neutral Position

If drive wheels travel forward or reverse when steering handles are in the neutral position (pivoted outward), adjustment of hydrostatic pumps is necessary.

1. Block up power unit frame so both drive wheels are off the ground.
2. Release parking brake.
3. Loosen jam nut (1) on linkage rod as shown in Figure 9.

4. Place steering handles in the neutral position (pivoted outward) and start engine.
5. If drive wheels turn, turn rod out or in until wheel stops.
6. Tighten jam nut.
7. Repeat steps 3 through 6 for other hydrostatic pump control arm.

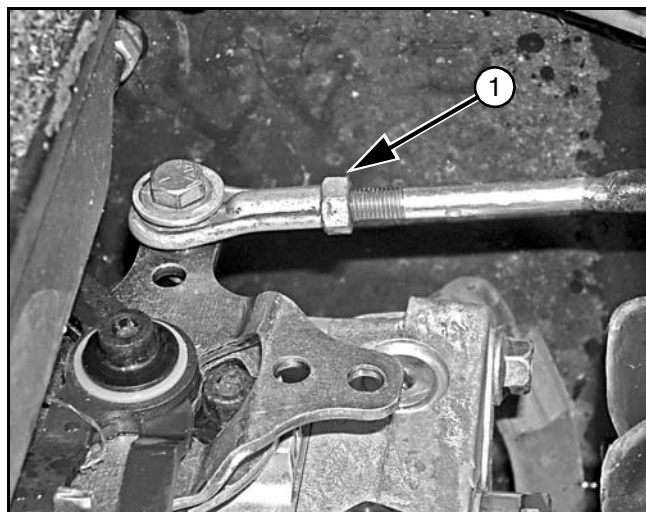


Figure 9. Jam Nut on Linkage Rod

Straight Line Travel

1. Check tire pressure; tires must have equal air pressure.
2. Check travel; drive forward with both steering handles full forward at half throttle.
 - If travel is not straight, adjust steering handle stop bolt on opposite side of turn.
 - If power unit turns to the left, raise steering stop bolt on the right.
 - If power unit turns to the right, raise steering stop bolt on the left.

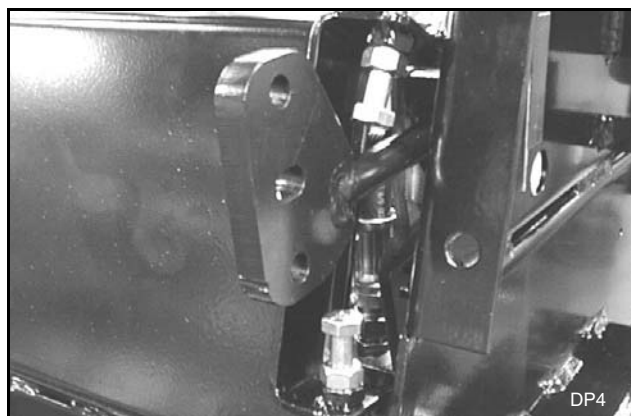


Figure 10. Left Side Steering Stop Bolts

TROUBLESHOOTING ENGINE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not crank	PTO switch is "ON"	Switch to the "OFF" position
	Steering handles are not in "Positive Neutral"	Swing steering handle outward
	Battery is discharged	Charge or replace battery
	Starter fuse is blown	Replace fuse
	Steering handle switches are out of adjustment	Listen for the switch "click" and adjust as necessary
Engine cranks but will not start	Fuel tank is empty	Fill fuel tank
	Fuel line or fuel filter is restricted	Bleed fuel line or replace fuel filter
	Ignition fuse is blown	Replace fuse
	Loose wires or connections	Inspect wire connection and safety switches

Engine Dies When Steering Handles are Engaged

1. Check if parking brake is set.
 - Release parking brake.

NOTE: When parking brake is on the system is designed to kill the engine if either steering handle is engaged.

NOTICE

■ The following test must be performed with an accurate voltmeter. The amperage in this circuit is too low for a test light. This circuit is the ground side of a relay.

2. Check seat switch and deck safety switch/jumper.
 - a. Raise seat assembly and secure.
 - b. Turn key switch "ON", engage seat switch and move deck to highest cut height position if equipped with power tilt deck.
 - c. Check voltage at the pink and black wires on the main wire harness where it connects into the seat switch wire harness. (2 way Packard 56 series connector located underneath seat pan on the right side next to steering pivot block.)
 - If there is voltage at one wire but not the other, either the switches/jumper are defective or not fully engaged. The pink and black wires are part of a series circuit that includes the seat switch and deck safety switch (on power tilt deck) or weatherpack jumper.
 - If there is voltage on only one wire check each switch ((seat switch, deck safety switch, (located

on the deck), or weatherpack jumper)) individually to determine which switch is defective or not closed. The weatherpack jumper should be connected to the main wire harness, underneath the seat pan by the left hand steering pivot linkage if there is not a deck or a standard deck is attached.

- If using the power tilt option and you need to check the deck safety switch refer to Figure 11 and troubleshooting deck safety switch. If the deck switch is open the engine will kill when pulling handles in.

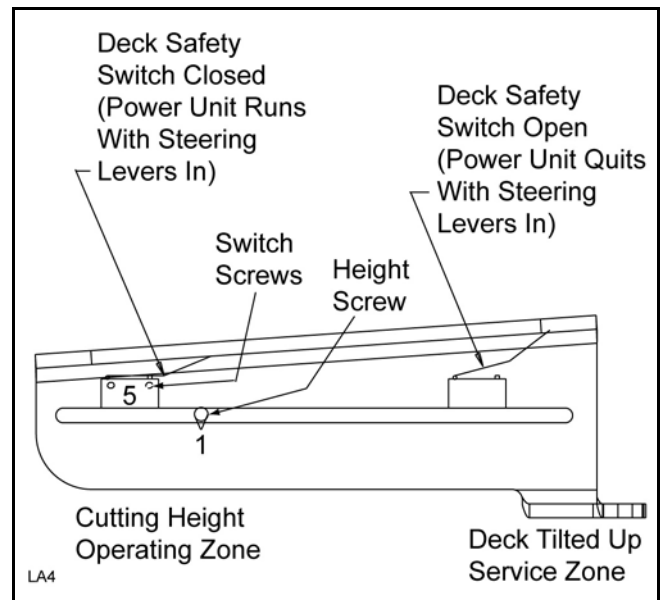


Figure 11. Power Tilt Deck Safety Switch Layout

3. Check park brake switch.

- If there is voltage at both pink/black wires mentioned in the previous paragraph, check voltage at yellow/red parking brake wires with the park brake off.
- If voltage is not present, the wire between the seat relay and parking brake switch is unconnected or the seat relay is defective and must be replaced.
- If voltage is present at one wire but not the other, the parking brake switch is defective and must be replaced.

Troubleshooting Deck Safety Switch

1. Pull handlebars in with deck in lowest cutting height position (1), see Figure 11.
2. Check that switch is making contact with the height gauge.
3. Check that the wires are properly hooked up to power unit.
4. Adjust switch bracket location on actuator if needed (four screws). Make sure height screw does not bottom out on slot in either direction when raising or lowering deck.
5. Check that screws holding switch to bracket are not too tight and holding lever open.
6. Adjust safety switch lever or replace switch if necessary.
7. After adjustments, check that engine cuts out with deck partially raised.

HYDROSTATIC PUMP REMOVAL

NOTE: Removal procedures are the same for both right and left hydrostatic pumps.

1. Place power unit on a level surface and remove key.
2. Place power unit on stands to allow access to bottom of the machine.
3. Drain hydraulic reservoir and hydrostatic pumps.
4. Remove steering linkage from control arm on hydrostatic pump.
5. Loosen J-bolt and remove belts.
6. Remove hoses from hydrostatic pump. Plug and cap all fittings on hoses and pump to prevent contamination.
7. Remove sheaves from hydrostatic pump. Remove 1/4 NC x 3/4 bolts from bushing/sheave. Use new 1/4 NC x 3/4 GR5 bolts in holes located 90° from previously occupied holes, to separate the bushing from the sheaves.
8. Remove two bolts holding hydrostatic pump to frame and remove pump from frame. Hydrostatic

pump weighs approximately 8 lbs.; use care when removing.

HYDROSTATIC PUMP INSTALLATION

1. Position hydrostatic pump into power unit frame and secure with two bolts. Apply Loctite® 242 to threads of the two mounting bolts and torque to 35 lbs-ft.
2. Install sheave onto hydrostatic pump and secure with taper lock and cap screws. Alternate tightening each cap screw to 8 ft-lbs. Align sheave with spring idler to allow for proper belt alignment.
3. Install hoses to hydrostatic pump.
4. Install belts and tighten J-bolt for proper belt tension.
5. Install steering linkage to control arm on hydrostatic pump.
6. Fill hydraulic reservoir with new fluid. Use 20W-50 motor oil.
7. Start engine and disengage parking brake.
8. Open pump dump valve.
9. Slowly push steering levers back and forth 5 to 6 times to bleed the hydraulic system.
10. Close pump dump valve.
11. Adjust neutral position of steering linkage as necessary.
12. Stop engine. Check level of hydraulic reservoir and check for leaks.
13. Remove power unit from stands.

BELT REMOVAL

1. Remove key from switch.
2. Remove belt shield, if necessary.
3. Remove clutch anti-rotation cable, if necessary.
4. Loosen idler spring bolt (J-bolt), and derail belt from pulleys.
5. Remove belts.

ENGINE REMOVAL

1. Disconnect throttle cable, battery cables, hoses, fuel line, and electrical wires from engine.
2. Remove the four engine mounting bolts from bottom of power unit frame.
3. Remove belts from the front and rear engine pulleys. See Belt Removal.
4. Lift engine from the power unit frame.

NOTE: Contact your authorized engine dealer for parts and repairs.

PARKING BRAKE ADJUSTMENT

NOTICE

- **Overtightening the brake can cause internal damage to the brake linkage.**

NOTE: Adjust right and left brakes individually.

1. Disconnect clevis from right parking brake and brake handle linkages.
2. Adjust left parking brake pull rod until brake rock shaft lug is perpendicular with the bottom edge of the frame rail.
3. Readjust and reconnect clevis for parking brake handle linkage.

NOTE: Approximately 12 to 13 lbs. of force at the top of the handle is needed to apply the single brake.

4. Reconnect right parking brake rod.
5. Disconnect clevis from left parking brake and brake handle linkages.
6. Adjust right parking brake pull rod until brake rock shaft lug is perpendicular with the bottom edge of the frame rail.
7. Reconnect parking brake rod.

NOTE: Approximately 24 to 26 lbs. of force at the top of the handle is needed to apply both brakes.

CLUTCH REPAIR

Remove Components

1. Position Mow'n Machine on a level work area.
2. Set parking brake, stop engine, and remove key.

Refer to Figure 12 & Figure 13.

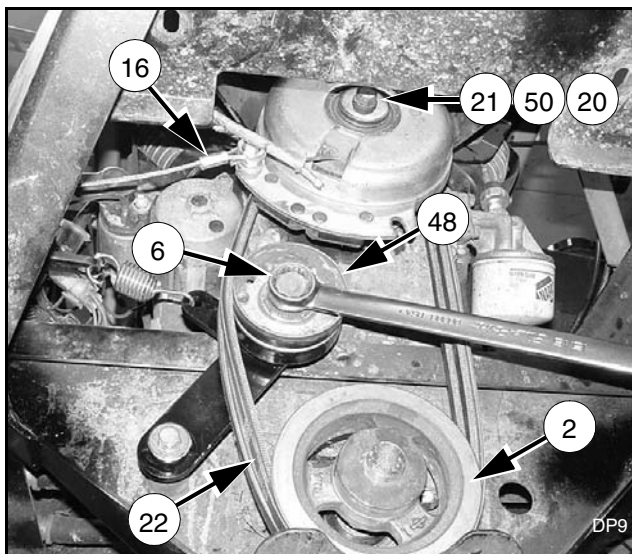


Figure 12. Clutch and Sheave Assembly

NOTE: Photo in Figure 12 was taken from underneath the power unit for clarification. All work can be performed from above.

NOTE: It may be easier to rework clutch if you first remove the counterweights from the rear of the power unit.

3. Place a 9/16 wrench over cap screw (6) on idler (48) and remove the tension from PTO V-belts (22) by rotating the wrench clockwise.
4. Remove PTO V-belts (22) from PTO drive sheave (2).
5. Disconnect electrical wire harness from clutch.
6. Disconnect clutch cable (16) from clutch.
7. Remove cap screw (21), lock washer (50) and retaining washer (20) from end of clutch.
8. Remove clutch (19) and clutch spacer (10) from engine shaft.

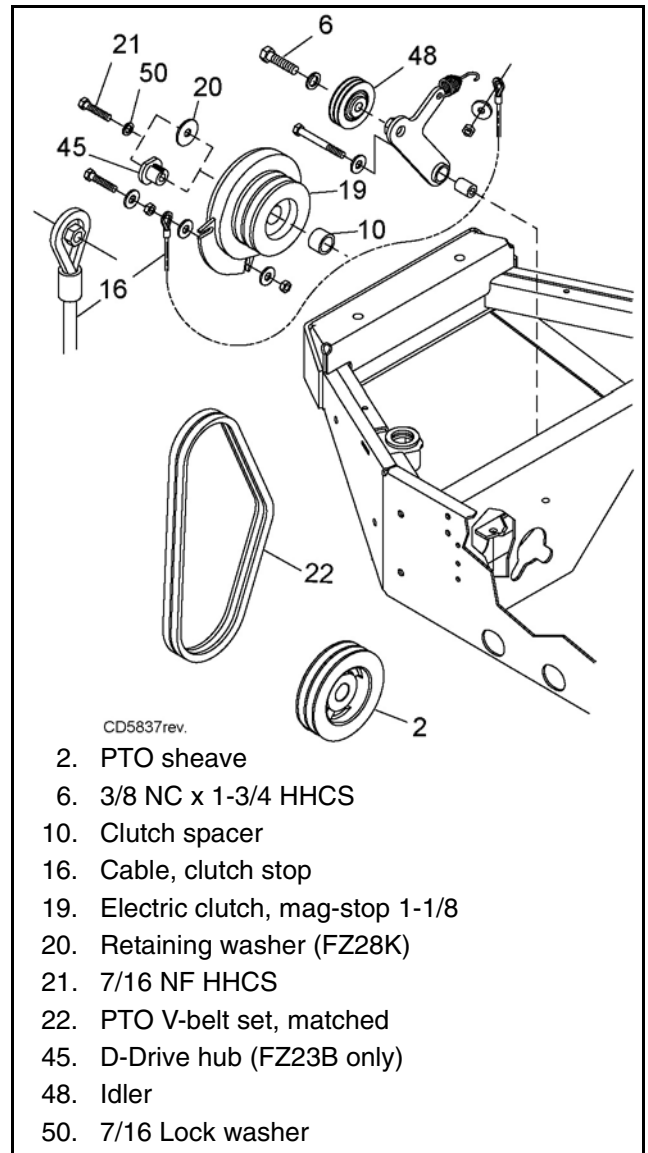


Figure 13. Clutch Assembly

- CD5837rev.
2. PTO sheave
 6. 3/8 NC x 1-3/4 HHCS
 10. Clutch spacer
 16. Cable, clutch stop
 19. Electric clutch, mag-stop 1-1/8
 20. Retaining washer (FZ28K)
 21. 7/16 NF HHCS
 22. PTO V-belt set, matched
 45. D-Drive hub (FZ23B only)
 48. Idler
 50. 7/16 Lock washer

Install Clutch

1. Install clutch spacer (10) over engine shaft with the chamfer side towards the engine. See Figure 14.

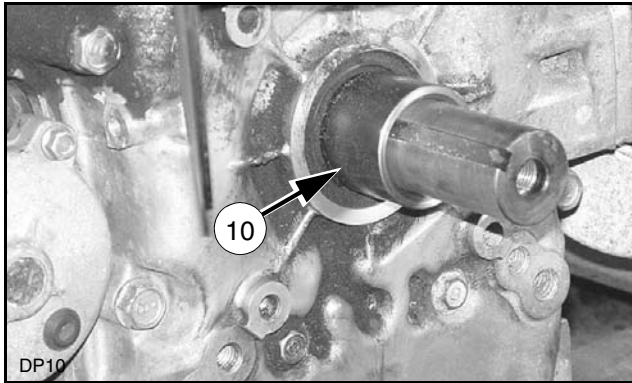


Figure 14. Clutch Spacer Installed

2. For FZ23B Only: Align keyway of new D-Drive hub (45) with key of clutch and press into front of clutch. See Figure 15 and Figure 16.

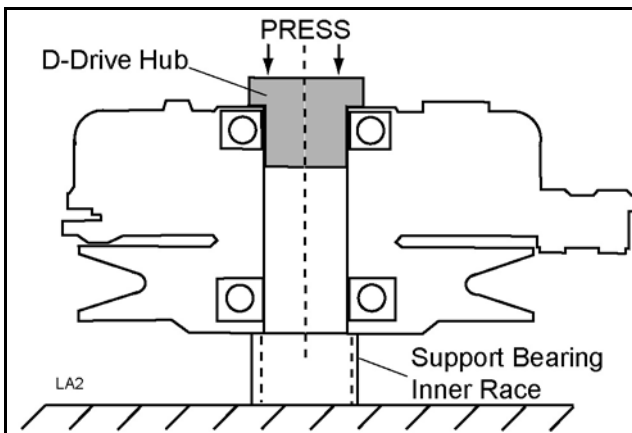


Figure 15. D-Drive Hub Installed

NOTICE

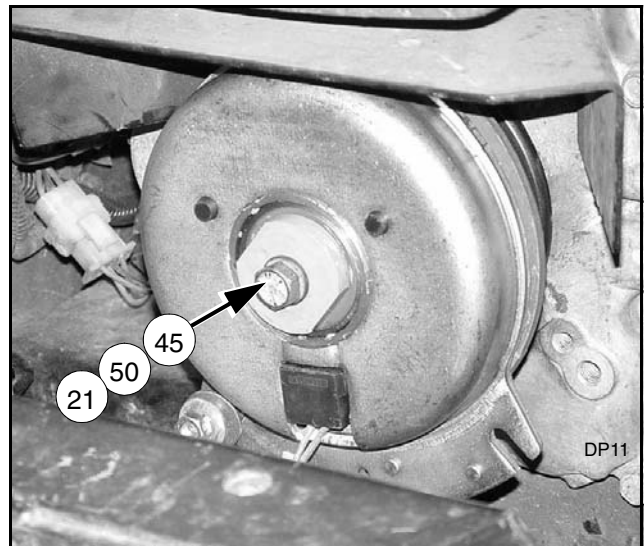
- D-Drive hub must be installed using an arbor press. When installing, inner race must be supported or bearing damage may occur.

All Models

3. Install clutch onto engine shaft.
4. Secure clutch to engine shaft using 7/16 NF cap screw (21) and lock washer (50) previously removed.

NOTE: Place a drop of Loctite 242 (blue) on threads of cap screw before installing.

5. Torque cap screw to 50 lbs-ft.



10. Clutch spacer (see Figure 14)
21. 7/16 NF HHCS GR5
45. D-Drive hub
50. 7/16 Lock washer

Figure 16. Clutch, D-Drive Hub, & Hardware Installed

6. Check belt alignment and if necessary adjust PTO sheave on shaft. See Align Belt.

NOTE: If belt alignment is not necessary proceed to Reassemble Components.

Align Belt

7. Loosen the taper bolts (13), adjust sheave (2), and tighten bolts to 95 lbs-inch.

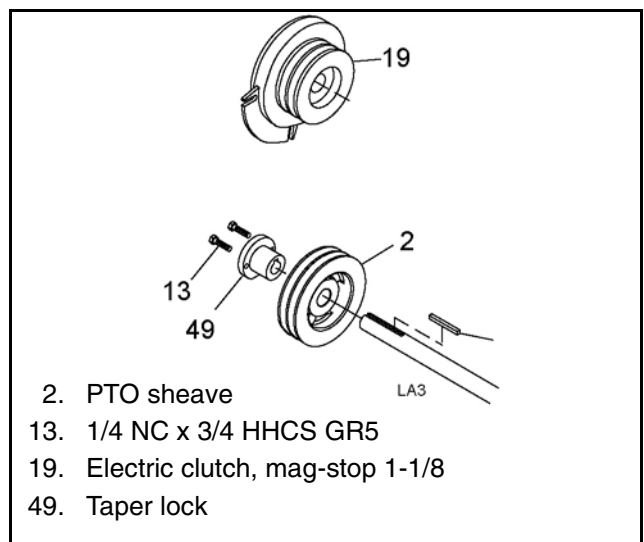
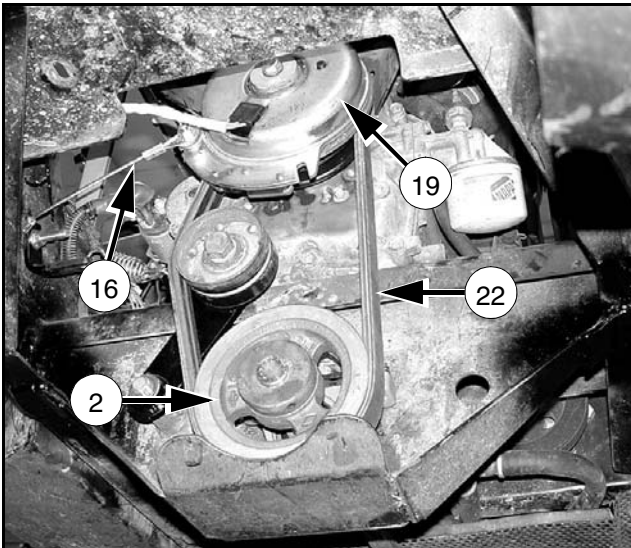


Figure 17. Align Clutch & PTO Sheave

Reassemble Components

1. Install PTO V-belts (22) over PTO sheave (2) and clutch (19).

2. Attach clutch cable (16) to clutch (19) using hardware previously removed. Make sure nut is in side of loop of cable and between washers. Cable must pivot freely, (see Figure 13).
3. Attach electrical wiring harness to clutch.
4. Replace counterweights if removed.



2. PTO sheave
16. Cable, clutch stop
19. Electric clutch, mag-stop 1-1/8
22. PTO V-belt set, matched

Figure 18. Clutch & Drive Components Reassembled

RETURN TO OPERATION

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

⚠ WARNING

- 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.



ASSEMBLY

DEALER SET-UP INSTRUCTIONS

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

Set up the Mow'n Machine as received from the factory with these instructions. Complete the Dealer Check Lists on page 28 when assembly is completed.

Power Unit Preparation

1. Remove crating from around power unit. Remove power unit from pallet and place on blocks.
2. Remove Operator's Manual from power unit frame and save for original retail purchaser.

NOTE: Dealer must complete and return product registration card at time of sale.

Lubrication

NOTICE

■ **Running engine without oil will cause engine failure.**

1. Check engine oil level (30W).
2. Check that oil levels (20W-50) in transmission reservoir are full.

NOTE: See Owner Service section for engine, transmission, and lubrication information.

Fuel

Fill fuel tank with the correct fuel. Refer to engine manual.

INSTALL DRIVE TIRES

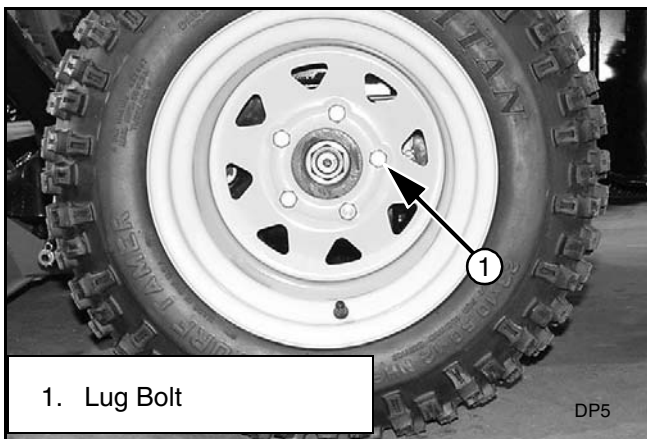


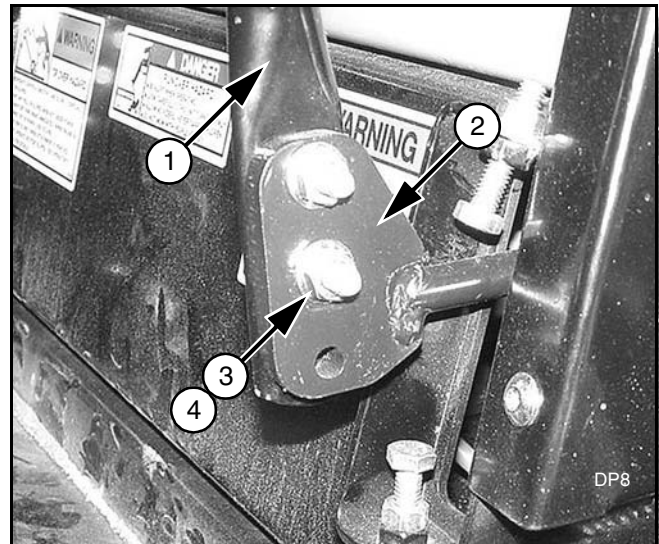
Figure 19. Drive Tire Installed

1. Install drive tires using five lug bolts (1) from bag of loose parts shipped with machine.
2. Torque lug bolts to 85 lbs-ft.

Drive Tire Pressure:

Turf Tires	12 psi
Knobby Tires	12 psi
Chevron Tires	10 - 12 psi

ADJUST STEERING HANDLES



1. Steering lever
2. Steering lever mount
3. 5/16 NC x 1 Whiz bolt
4. 5/16 Flanged lock nut

Figure 20. Steering Handle Adjustment

The steering handles are shipped loose, inside the foot rest.

1. Remove whiz bolt (3) and lock nut (4) from left steering lever mount (2).
2. Position steering handle (1) to desired location on steering lever mount (2). The top and middle holes are for taller operators and the middle and bottom holes are for shorter operators. Do not tighten hardware at this time. Repeat steps 1 and 2 for right steering handle.
3. Rotate handles inward. Align handles with one another. Torque all hardware to 12 lbs-ft. Make sure handles stay in alignment.

Straight Line Travel

1. Check tire pressure; tires must have equal air pressure.
2. Check travel; drive forward with both steering handles full forward at half throttle.
 - If travel is not straight, adjust steering handle stop bolt on opposite side of turn.
 - If power unit turns to the left, raise steering stop bolt on the right.
 - If power unit turns to the right, raise steering stop bolt on the left.

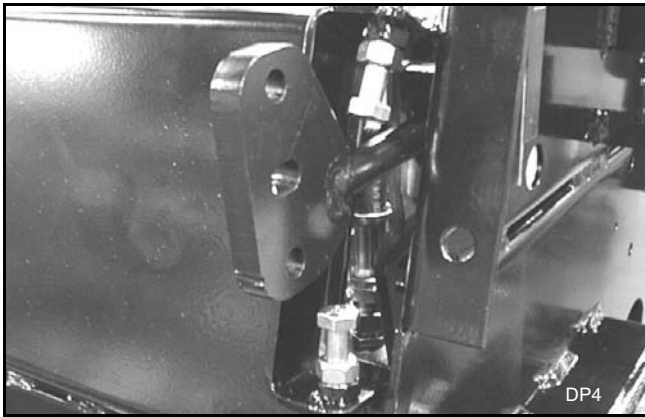


Figure 21. Left Side Steering Stop Bolts

INSTALL SINGLE TAILWHEEL (OPTIONAL)

1. Attach pivot mount adapter (1) to rear of power unit frame using two whiz screws (2) and lock nuts (3).
2. Attach pivot housing (4) to pivot mount adapter and power unit frame using four cap screws (5) and lock washers (6).
3. Torque hardware to 38 lbs-ft.
4. Inflate tire to 18 psi.

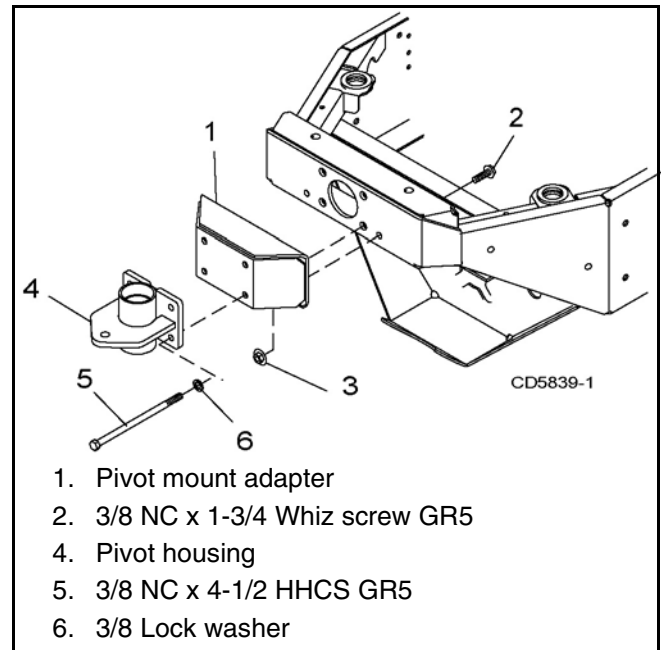


Figure 22. Single Tailwheel Installation



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.
- ___ Check the level of gearbox fluids before delivery.
- ___ Run unit immediately following set-up to double-check systems operation including hydrostatic neutral and safety switch system (page 11).
- ___ Check all fluid levels. See Lubrication, page 26.
- ___ Check tire pressure. See Drive Tire Pressure, page 26.

DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

- ___ Show customer how to make adjustments.
- ___ Instruct customer how to lubricate and explain importance of lubrication.
- ___ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- ___ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings, and emphasize the increased safety hazards that exist when safety rules are not followed.
- ___ 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.

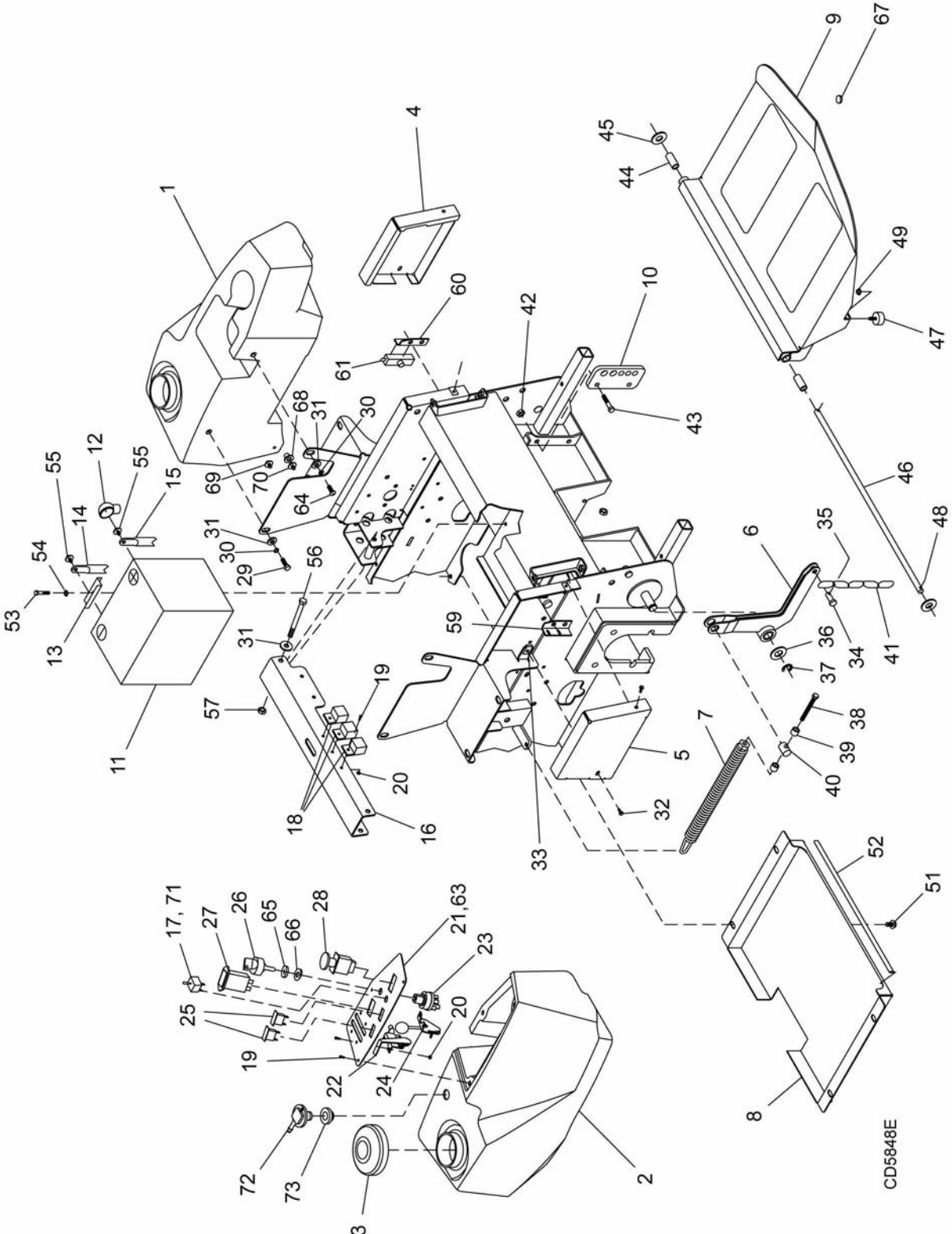


WOODS

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FZ23B, FZ28K FRAME ASSEMBLY



CD5848E

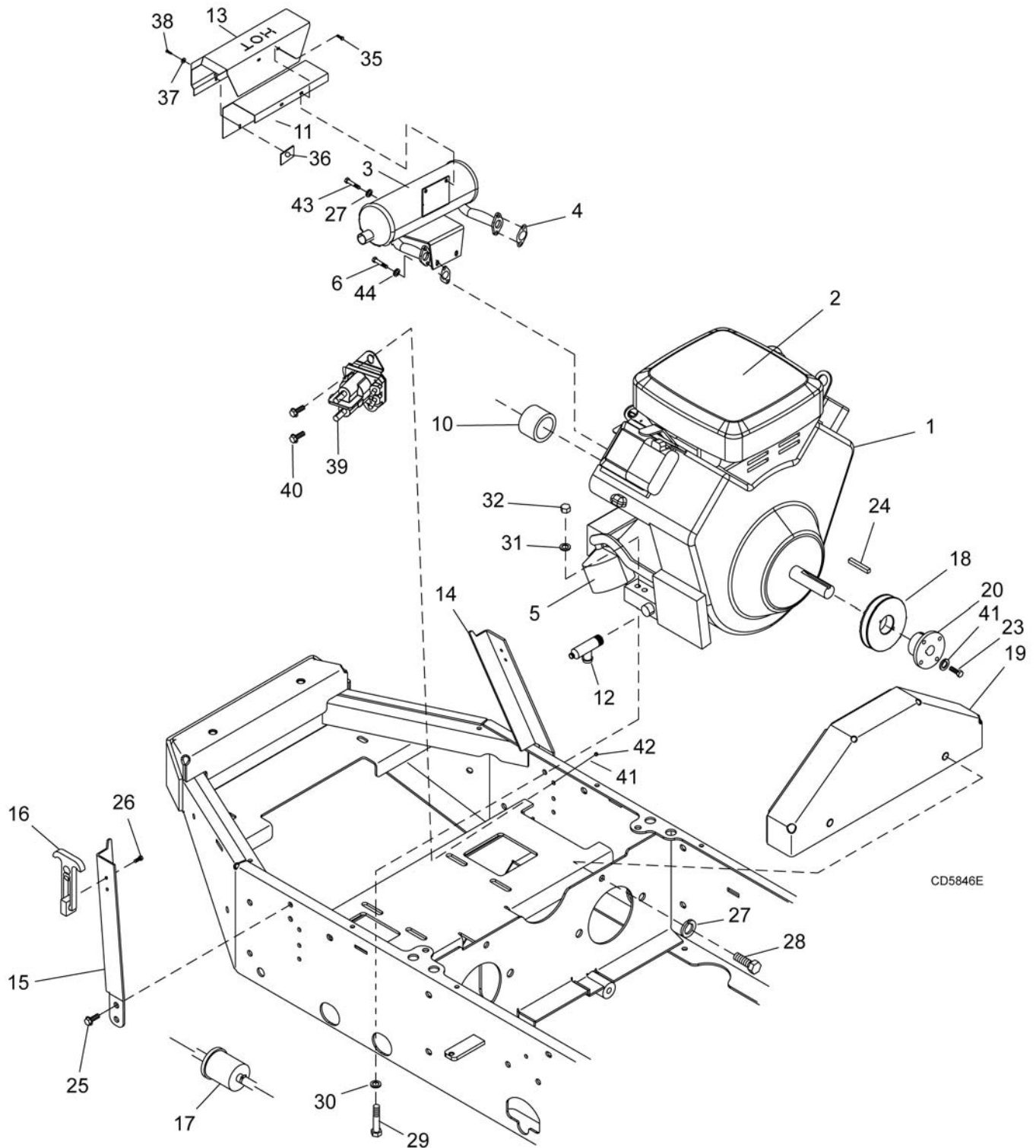
FZ23B, FZ28K FRAME ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	78331	1	Fuel tank, LH	38	24660	2	3/8 NC x 3-1/2 HHCS full thread - GR5
2	78330	1	Fuel tank, RH Gas	39	73896	4	Weight transfer sleeve
3	78333	2	Fuel cap	40	73895	2	Weight transfer pin
4	73427	1	Left fender cover	41	71170	2	5-Link chain
5	73428	1	Right fender cover	42	6698 *	4	3/8 NC Hex lock nut
6	73898	2	Weight transfer arm	43	839 *	4	3/8 NC x 1" HHCS - GR5
7	71144	2	Extension spring	44	73581	2	1/2 x 1" Bushing
8	73443	1	Debris screen, (optional)	45	3598 *	2	1/2 Flat washer
9	73891	1	Footrest (includes items 44, 50)	46	72410	1	Pivot Rod
10	73827	2	Deck bracket	47	71444	2	Rubber bumper
11	----- *	1	Battery (details on page 47 & 49)	48	73217 *	2	1/8 x 3/4 Cotter pin
12	70274	1	Terminal boot	49	73163	2	5/16 NC Flange whiz nut
13	70733	1	Battery hold down	50	72411	2	Footrest tread
14	78042	1	Negative battery cable	51	----- *	4	3/8 NC x 1/2 Hex flange head screw (optional)
15	78043	1	Positive battery cable w/ terminal boot	52	73962	1	Trim lock, 19", (optional)
16	73714	1	Seat support channel	53	3184 *	3	1/4 NC x 1-1/4 HHCS - GR5
17	75520	1	Switch deck	54	1985 *	1	1/4 Standard lock washer
18	71475	1	Bosch style relay	55	78086 *	2	Battery bolt
19	73542 *	8	#10-24 x 1/2 Hex head machine screw	56	62155 *	2	5/16 NC x 2-3/4 HHCS - GR5
20	35710	5	#10-24 Nylok nut	57	6778 *	2	5/16 NC Hex lock nut
21	75517	1	Console	59	71313	1	Steering safety switch mount - Right hand
22	78069	1	Choke cable	60	71314	1	Steering safety switch mount - Left hand
23	01563700	1	Key switch, gas	61	75105	2	Steering safety switch
24	75472	1	Throttle cable (round knob)	63	75516	1	Console decal
25	08841200	2	Indicator light	64	78285	1	5/16 NC x 3/4 Button head screw
26	75196	1	Key	65	07517700	1	Switch cap
27	73902	1	Hour meter	66	06517400	1	Panel nut
28	72262	1	PTO Switch	67	75546	1	Glide, felt
29	6096 *	8	5/16 NC x 3/4 HHCS - GR5	68	07511400	2	Bushing
30	2472 *	8	5/16 Standard lock washer	70	07064500	2	Fitting, barb 5/16" w/screen
31	4378 *	10	5/16 Standard flat washer	71	75553	1	Boot
32	301300 *	4	1/4 NC x 3/4 Truss head bolt	72	78335	1	Roll over vent
33	72474	4	1/4-20 U-tapped spring nut	73	78334	1	Grommet, remote vent
34	70070	2	3/8 x 3/4 Pin	NS	75368	1	Decal, Woods
35	1326 *	2	1/8 x 1/2 Cotter pin	NS	75378	1	Decal, FZ23B
36	70624	2	3/4 x 18 GA Washer	NS	75380	1	Decal, FZ28K
37	71145	2	3/4 External retainer				

NS - Not Shown

* Standard hardware, obtain locally

FZ23B ENGINE ASSEMBLY



32 Parts

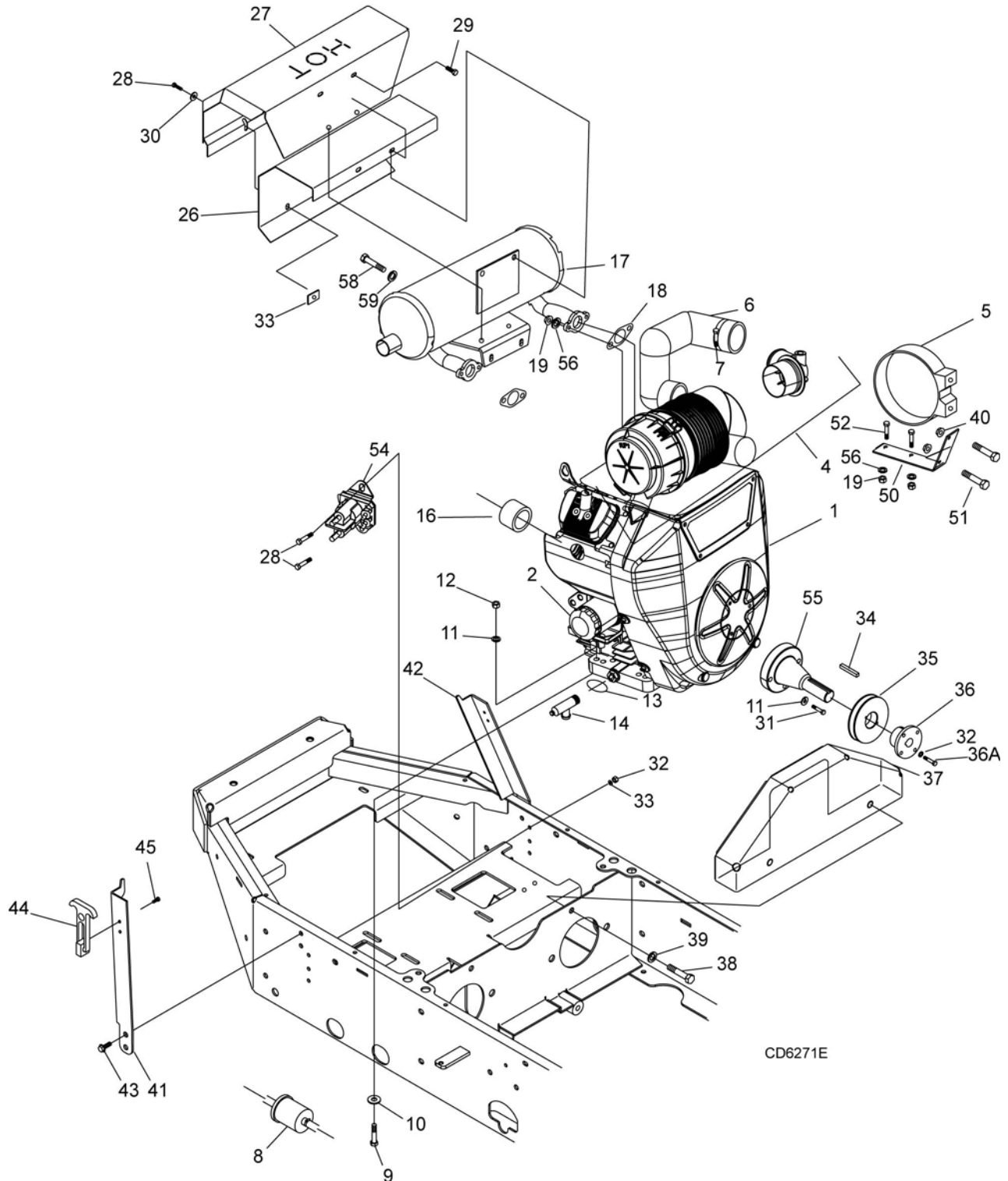
MAN0875 (2/8/2011)

FZ23B ENGINE ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1		1	Briggs Vanguard gas engine 23 hp Engine 386447 type 0212 trim G1	23	----- *	2	1/4 NC x 3/4 HHCS GR5
2	1000606	1	Air filter	24	3886	1	1/4 x 1-1/4 Key
	1000607	1	Air filter - pre cleaner	25	----- *	4	3/8 NC x 1/2 Hex flange head screw - GR5
3	75470		Muffler	26	15041 *	4	1/4 NC x 1-1/2 HHCS - GR5
4	73945	2	Exhaust gasket	27	838 *	4	3/8 Lock washer
5	70939	1	Oil filter	28	839 *	2	3/8 NC x 1 HHCS GR5
6	-----	4	M8 x 1.25P x 20 mm Socket head cap screw	29	4528 *	4	5/16 NC x 1-3/4 HHCS GR5
10	74076	1	Spacer	30	21109 *	4	5/16 SAE Flat washer
11	75468	1	Inner panel shield	31	2472 *	4	5/16 Lock washer
12	75187	1	Drain valve	32	4529 *	4	5/16 NC Hex nut
13	75467	1	Muffler shield	35	71206 *	2	1/4 NC x Hex flange screw
14	73672	1	Left hood support	36	72474	6	1/4 NC Spring nut
15	73671	1	Right hood support	37	5336 *	2	1/4 Flat washer
16	09079500	2	Hood latch	38	64825 *	2	14 NC x 3/4 HHCS GR5
17	70311	1	Fuel filter	39	75310	1	Engine solenoid relay
18	75484	1	Front drive sheave	40	64825 *	2	1/4 NC x 3/4 HHCS GR5
19	75514	1	Belt shield	41	1985 *	4	1/4 Lock washer
20	34440	1	Bushing H	42	70065 *	2	1/4 NC Whiz nut
				43	-----	2	3/8 NC x 3/4 Bolt GR5
				44	-----	4	Lock washer M8

* Standard hardware, obtain locally

FZ28K ENGINE ASSEMBLY



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34 Parts

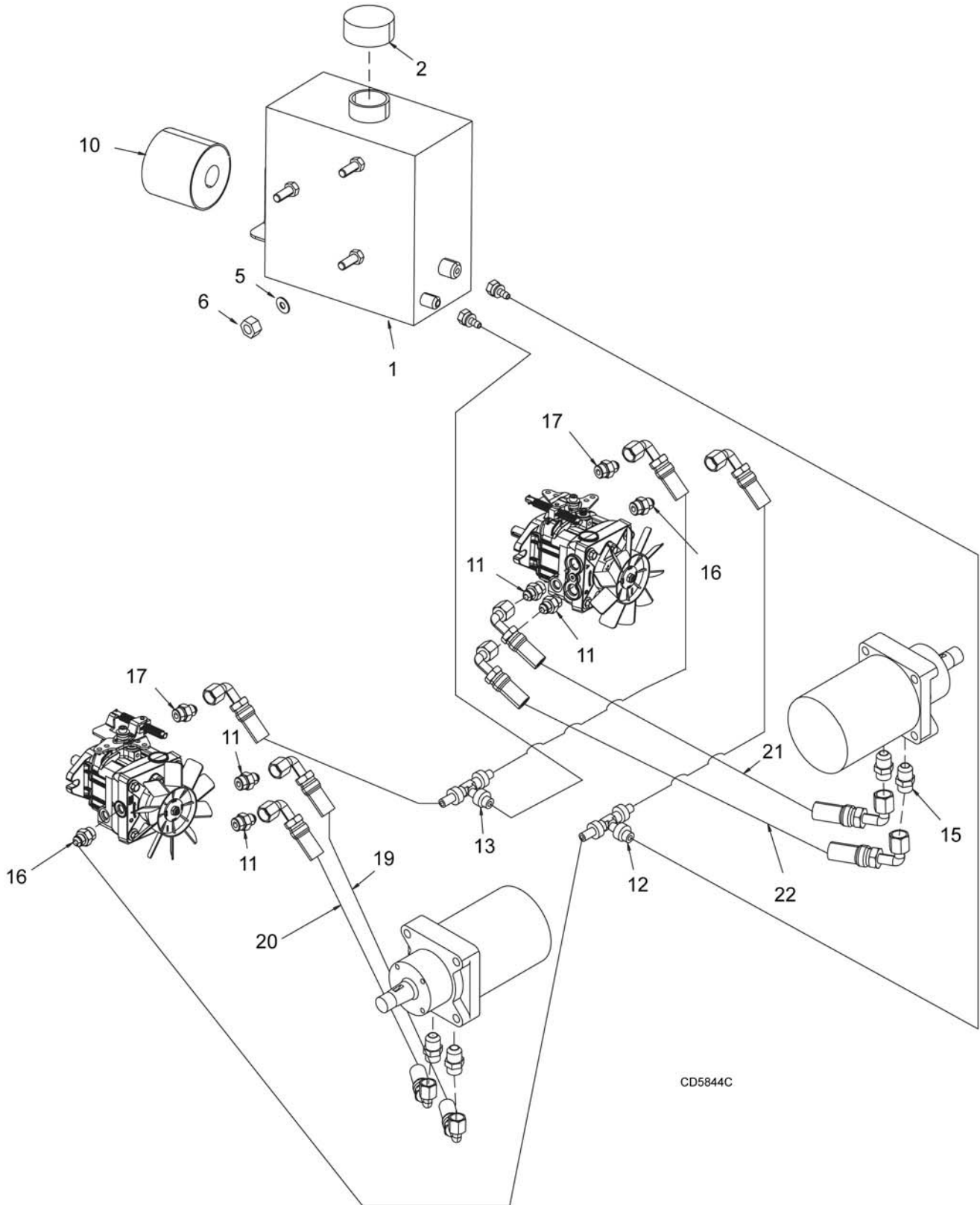
MAN0875 (2/8/2011)

FZ28K ENGINE ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	21536100	1	Spark plug (not shown)	30	5336 *	2	Washer, 1/4 flat
1	----	1	Kawasaki gas engine 28 hp (spec no. FH770D-ESO4-R)	31	29751 *	4	HHCS, M8 - 1.25 x 35 mm GR8.8
2	72859	1	Oil filter	32	1985 *	4	Washer, 1/4 lock
3	75215	1	Air filter safety element (not shown)	33	70065	4	Nut, 1/4 NC whiz
	75214	1	Air filter (not shown)	34	1004104	1	Key, 1/4 x 1/4 x 1-3/4
4	75212	1	Air cleaner housing (incl. elements)	35	75484	1	Sheave, 3V 2 grv 4.00 OD
5	75213	1	Air cleaner mounting bracket	36	34440 *	2	Bushing H 1"
6	75385	1	Air intake hose	36A	----	2	1/4NC x 3/4 HHCS GR5
7	62259	2	Hose clamps 2"	37	75514	1	Belt guard
8	71812	1	Fuel filter	38	15042 *	4	3/8 NC x 3/4 HHCS GR5
9	4528 *	4	5/16 NC x 1-3/4 HHCS GR5	39	838 *	2	Washer, 3/8 lock
10	----	4	Washer, .38 x .875 x .160	40	73163	2	Nut, 5/16 NC flange whiz
11	2472 *	6	Washer, 5/16 lock	41	73671	1	Hood support, right
12	4529 *	4	Nut, 5/16 NC hex	42	73672	1	Hood support, left
13	75366	1	O-Ring	43	----	4	Screw, tapping 3/8 NC x 1/2 flange
14	75325	1	Drain valve	44	09079500	2	Rubber latch
16	75312	1	Sleeve, 1.135 x 1.500 x 1.25	45	73542 *	4	Screw, 10-24 x .50 machine
17	75469	1	Muffler	50	75388	1	Air filter bracket
18	75364	2	Exhaust gasket	51	----	2	5/16 NC x 3/4 HHCS GR5
19	----	6	Nut, M8 x 1.25 flange	52	----	2	HHCS, M8 x 14 mm Flanged
26	75468	1	Muffler shield - inner	54	75310	1	Solenoid
27	75467	1	Muffler shield - outer	55	75311	1	Stub shaft
28	64825 *	4	1/4 NC x 3/4 HHCS GR5	56	----	6	M8 Lock washer
29	71206	2	Screw, 1/4 - 20 Hex flange	57	72474	6	1/4 NC Spring nut
				58	----	2	7/16 NC x 1" GR5 HHCS
				59	----	2	7/16 Lock washer

* Standard hardware, obtain locally

HYDRAULIC RESERVOIR & HOSES



CD5844C

36 Parts

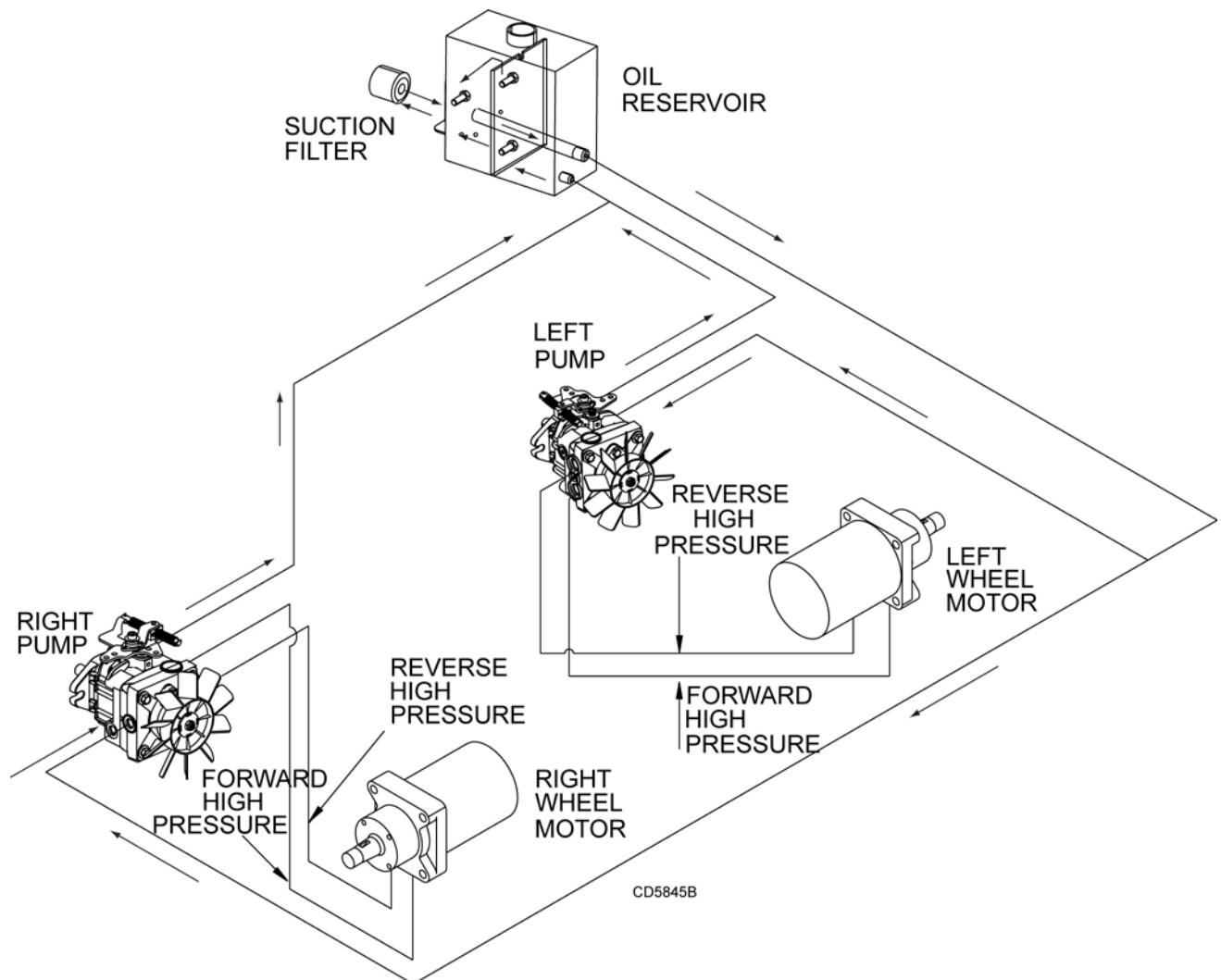
MAN0875 (2/8/2011)

HYDRAULIC RESERVOIR & HOSES PARTS LIST

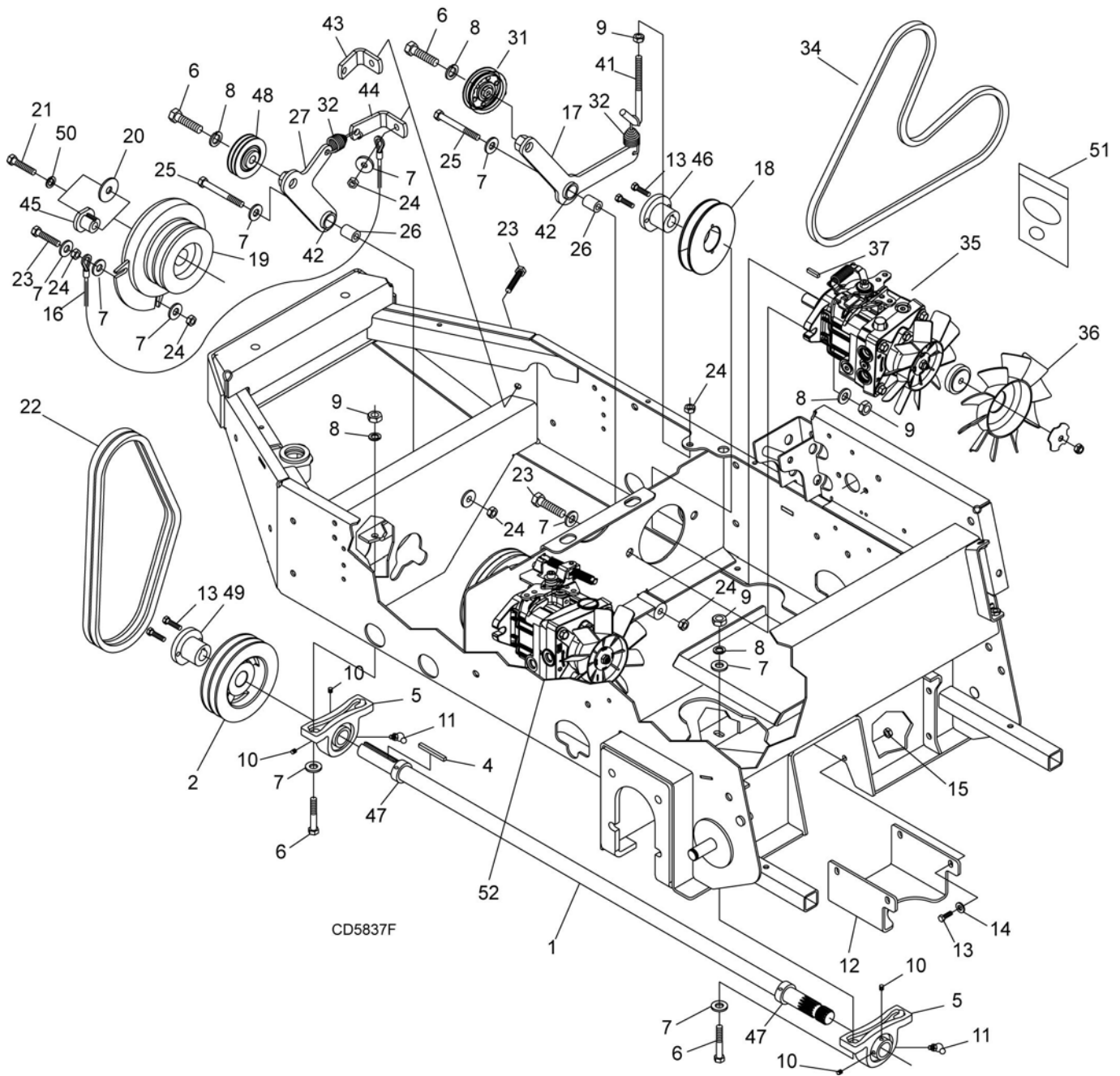
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	75477	1	Hydraulic reservoir	15	316016	4	Adapter, 3/4 JICM x 7/8 ORBM
2	75489	1	Cap w/breather	16	315031	2	Adapter, 9/16 ORBM x 3/4 JICM
5	838 *	3	3/8 Lock washer	17	62367	2	Elbow, 9/16 ORBM x 9/16 JIMCM
6	59077 *	3	3/8 NC Center lock nut	19	75496	1	Hose - Right, top pump front motor
10	75527	1	Filter, hydraulic oil	20	75495	1	Hose - Right, bottom pump back motor
11	61	4	Adapter, 3/4 JICM x 3/4 ORBM	21	75494	1	Hose - Left, side
12	75482	1	Hose assembly - suction				
13	75483	1	Hose assembly - Case drain				

* Standard hardware, obtain locally

HYDRAULIC DIAGRAM



PTO, CLUTCH & PUMP ASSEMBLY



CD5837F

38 Parts

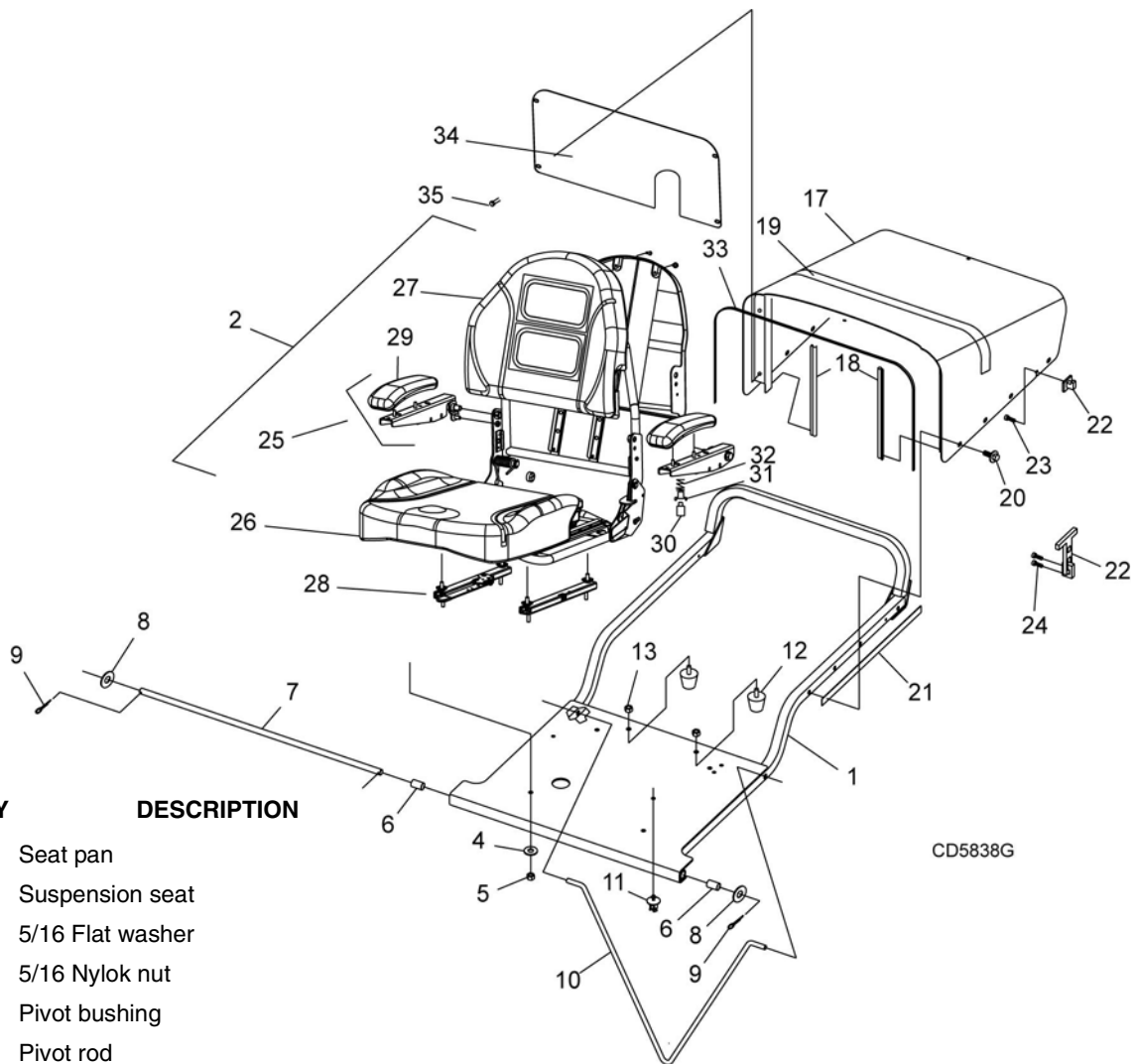
MAN0875 (2/8/2011)

PTO CLUTCH & PUMP ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	73746	1	Splined power shaft (FZ28K) -or-	24	6698 *	6	3/8 NC Center lock nut
1	73825	1	Splined power shaft (FZ23B)	25	31138 *	2	3/8 NC x 3-1/2 HHCS - GR5
2	75358	1	PTO sheave	26	73416	2	Idler sleeve
4	3886 *	1	Key 1/4 x 1-1/4	27	75362	1	PTO Idler Arm (includes item 42)
5	78044	2	1" Pillow block bearing w/set screw	31	75476	1	3-1/4 x 5/8 x 1-5/8 Idler
6	920 *	6	3/8 NC x 1-3/4 HHCS - GR5	32	73826	2	Extension spring
7	565 *	15	3/8 Flat washer	33	73715	1	Spring Lug (F21D/F25L)(73743, 73745)
8	838 *	11	3/8 Lock washer	34	75402	1	Drive V-belt
9	835 *	10	3/8 NC Hex nut	35	75543	1	Pump LH (includes fan)
10	----- *	4	1/4 NF Socket head set screw	36	75538	2	Fan
11	58567 *	2	90° Grease fitting	37	73964	2	Key, 5 mm x 25 mm
12	73425	1	Bearing guard	41	71156	1	3/8 NC x 6 hook bolt
13	2457 *	10	1/4 NC x 3/4 HHCS - GR5	42	74068	2	Bushing idler arm
14	5336 *	4	1/4 Flat washer	43	73745	1	Spring lug (FZ28K)
15	70065 *	4	1/4 Whiz nut	44	73743	1	Spring lug (FZ23B)
16	73758	1	Cable, clutch stop	45	74074	1	D-Drive (FZ23B)
17	75507	1	Drive idler arm (includes item 42)	46	75194	2	Bushing 17 mm
18	75403	2	Pump sheave	47	75363	2	Collar set 1" ID
19	74075	1	Electric clutch, mag-stop 1-1/8	48	75360	1	Idler
20	70355	1	Retaining washer (FZ28K)	49	34440	1	Bushing 1"
21	62533	1	7/16 NF x 2 HHCS GR5 (FZ23B) -or-	50	5664	1	7/16 Lock washer
21	71826	1	7/16 NF x 1-1/2 HHCS GR5 (FZ28K)	51	75537	AR	Seal kit
22	78095	1	PTO V-belt set, matched	52	75542	1	Pump RH (includes fan)
23	12169 *	6	3/8 NC x 1-1/4 HHCS - GR5				

* Standard hardware, obtain locally
AR As required

SEAT & HOOD ASSEMBLY



CD5838G

REF	PART	QTY	DESCRIPTION
1	75239	1	Seat pan
2	75225	2	Suspension seat
4	4378 *	4	5/16 Flat washer
5	FA220 *	4	5/16 Nylok nut
6	73581	2	Pivot bushing
7	72410	1	Pivot rod
8	854 *	2	1/2 Flat washer
9	71630 *	2	1/8 x 3/4 Cotter pin
10	78098	1	Prop rod
11	07534100	1	Rod clip
12	07533000	2	Rubber bumper
13	5283 *	2	5/16 NF nut
14	24408 *	1	5/16 NC x 1-1/2 HHCS
15	21170	1	5/16 NC Hex nut
17	78057	1	Hood assembly (includes items 18 & 19)
19	73944	1	Foam cowl seal
20	15042 *	8	3/8 NC x 3/4 HHCS
21	00932300	2	Foam seal 24"
22	09079500	2	Hood latch
23	----- *	2	#10-24 x 1-1/2 Socket head cap screw
24	53110 *	4	#10-24 x 1/2 Socket head cap screw

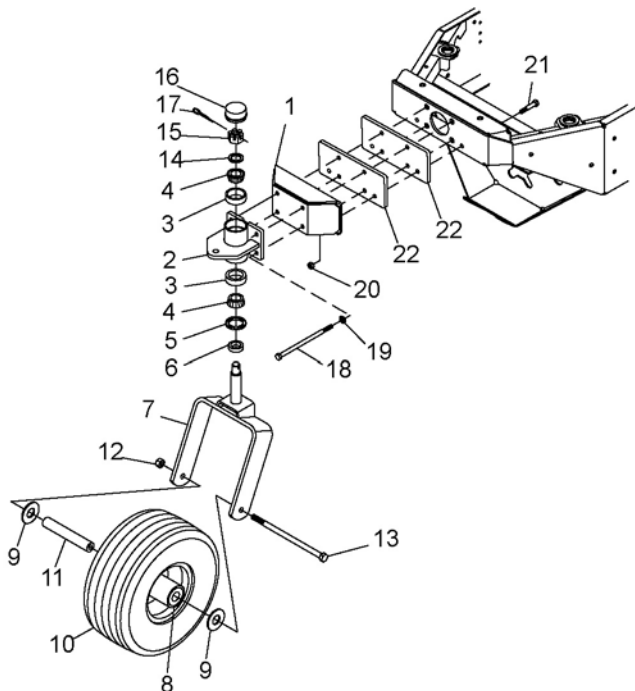
REF	PART	QTY	DESCRIPTION
25	75273	1	Kit, arm rest (LH and RH included)
26	75501	1	Kit, seat cushion
27	75272	1	Kit, back seat cushion
28	75275	1	Kit, track
29	75505	1	Arm pad
30	75502	1	Switch
31	75503	1	Plunger
32	75504	1	Spring
33	75512	1	Trim lok 40.5"
34	75473	1	Baffle
35	----- *	4	Screw #10 -32 self tapping x 7/16
36	1025871	1	Knob, seat adjustment (Not shown)
37	75368	1	Decal, Woods (not shown)
38	75370	2	Decal, Mow'n Machine FZ (not shown)

* Standard hardware, obtain locally

40 Parts

MAN0875 (2/8/2011)

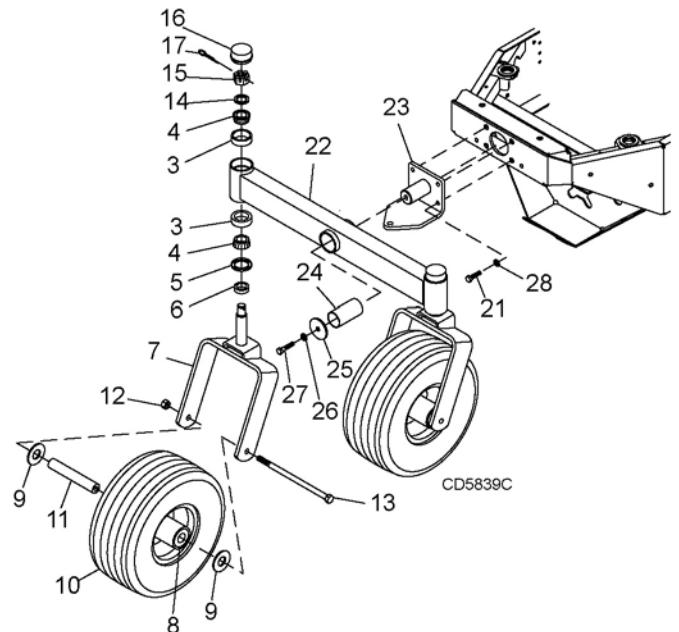
TAILWHEEL ASSEMBLY



Single Tailwheel Assembly

REF	PART	QTY	DESCRIPTION
1	71126	1	Pivot mount adapter
2	73741	1	Pivot housing
3	3585	2	Bearing cup
4	3586	2	Bearing cone
5	70328	1	Seal, 1.5 x 2 x .187
6	70086	1	Spacer, 1.013 x 1.5 x .375
7	73818	1	Wheel fork
8	05435700	2	Bearing, 25mm x 52 mm x 15 mm
9	3598 *	2	1/2 Flat washer
10	07147800	1	Wheel and tire assembly, 15 x 6-6
11	09231800	1	Spacer - wheel
12	765 *	1	1/2 NC Lock nut
13	38107	1	1/2 NC x 9 HHCS
14	70417	1	Bushing washer
15	5849	1	3/4 NF Slotted hex nut
16	70332	1	Dust cap
17	64291 *	1	Cotter pin, 5/32 x 1
18	12915 *	4	3/8 NC x 4-1/2 HHCS GR5
19	838 *	4	3/8 Lock washer
20	6698 *	2	3/8 NC Lock nut
21	920 *	2	3/8 NC x 1-3/4 HHCS GR5
22	78058	2	Tailwheel spacer

* Standard Hardware, Obtain Locally

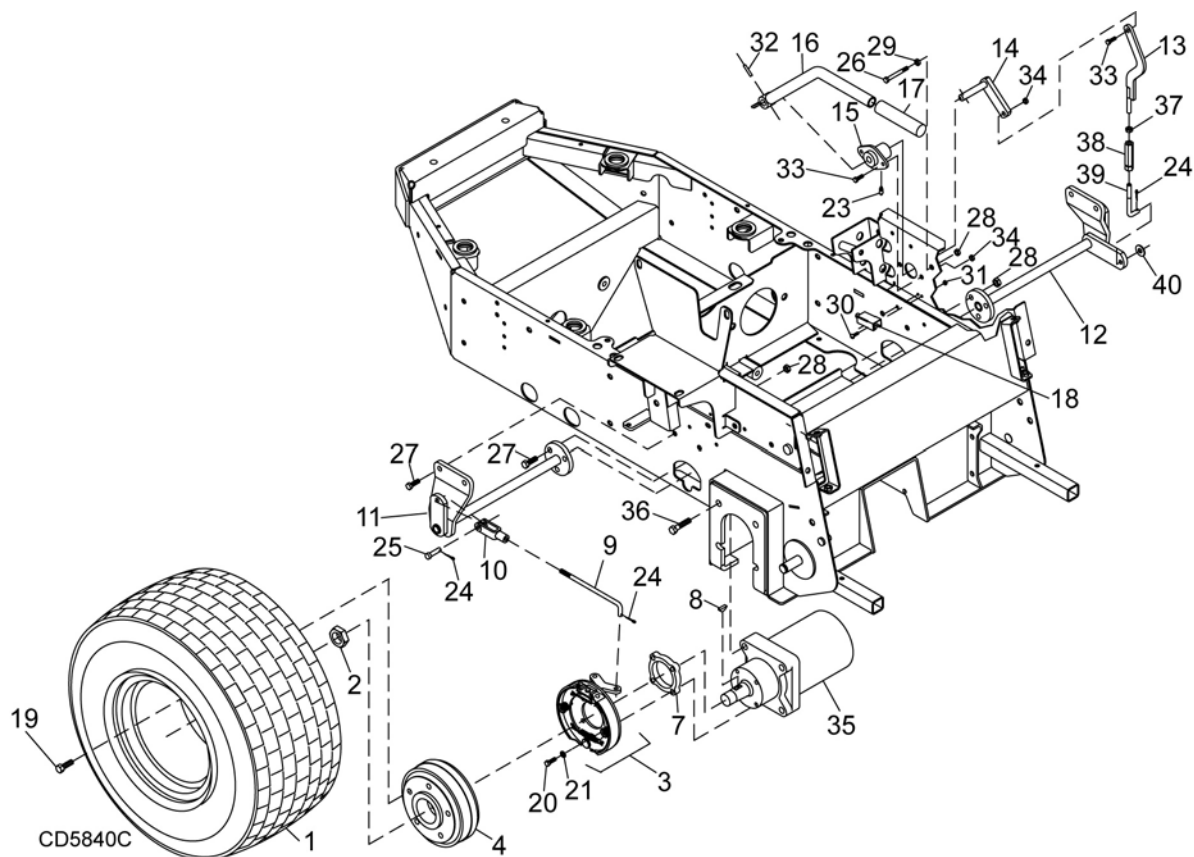


Wide Stance Tailwheel Assembly

REF	PART	QTY	DESCRIPTION
3	3585	4	Bearing cup
4	3586	4	Bearing cone
5	70328	2	Seal, 1.5 x 2 x .187
6	70086	2	Spacer, 1.013 x 1.5 x .375
7	73818	2	Wheel fork
8	05435700	4	Bearing, 25 mm x 52 mm x 15 mm
9	3598 *	4	1/2 Flat washer
10	07147800	2	Wheel & tire assembly tire, 15 x 6-6
11	09231800	2	Spacer - wheel
12	765 *	2	1/2 NC Lock nut
13	38107	2	1/2 NC x 9 HHCS
14	70417	2	Bushing washer
15	5849	2	3/4 NF Slotted hex nut
16	70332	2	Dust cap
17	64291 *	2	Cotter pin, 5/32 x 1
21	839 *	4	3/8 NC x 1 HHCS GR5
22	70336	1	Axle beam (includes item #22)
23	73740	1	Rear axle pivot
24	74065	2	Oilite bushing
25	70602	1	Washer, 1/2 x 2-1/4
26	855 *	1	1/2 Standard lock washer
27	25475 *	1	1/2 NC x 1 HHCS full thread GR5
28	838 *	4	3/8 Lock washer

* Standard Hardware, Obtain Locally

BRAKE ASSEMBLY



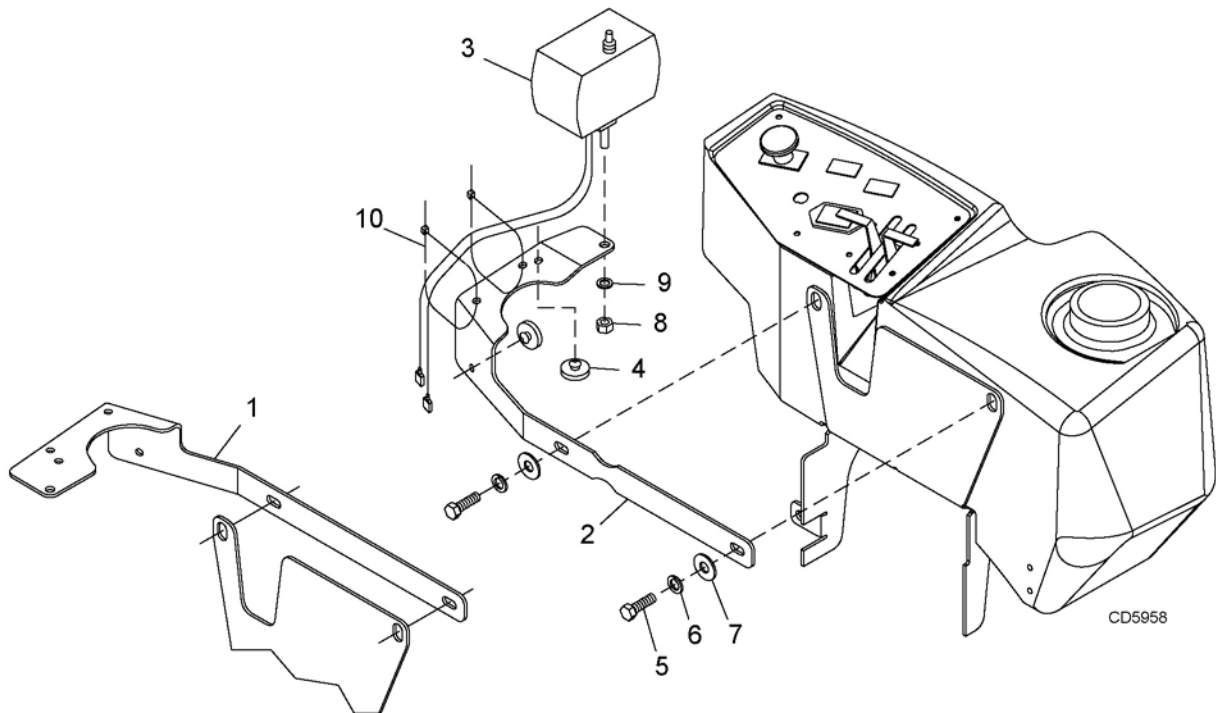
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	73955	2	23 x 10.50 Turf tire & wheel -or-	8	----- *	2	Key, woodruff 3/16 x 1
1	78055	2	23 x 10.50 Low pressure knobby tire & wheel -or-	9	73440	2	Brake actuator bar
1	74093	1	23 x 10.50 Chevron tire & wheel (right)	10	70022	3	Yoke
1	74097	1	23 x 10.50 Chevron tire & wheel (left)	11	73829	1	Brake rod - RH
1	75101		23 x 10.50-12 Turf tire only	12	73439	1	Brake rod - LH
1	78070		23 x 10.50-12 Low pressure knobby tire only	13	73442	1	Bar, parking brake
1	75102		23 x 10.50 Chevron tire only	14	73710	1	Brake actuator
1	78068	2	12 In. spoked wheel rim	15	01522000	1	Sintered bushing
2	06541900	2	1 NF Hex patch lock nut	16	73441	1	Parking brake lever
3	75581	2	Brake repair kit (includes shoes, springs, retainers, and keeper studs for one wheel)	17	75393	1	Parking brake lever - Grip
4	75579	2	Brake drum	18	71148	1	Brake switch
7	75580	2	Adapter plate	19	73943	*	10 Wheel bolt
				20	6250	*	8 5/16 NC x 1-1/4 HHCS - GR5
				21	2472	*	8 5/16 Standard lock washer
							* Standard Hardware, Obtain Locally
							N/S - Not Serviced Separately

BRAKE ASSEMBLY PARTS LIST (CONTINUED)

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
23	2985 *	1	1/4-28 Tapered thread grease fitting	32	4115 *	1	3/16 x 1-1/8 Spring pin
24	3145 *	6	3/32 x 1/2 Cotter pin	33	6096 *	2	5/16 NC x 3/4 HHCS - GR5
25	70024	3	Clevis pin	34	6778 *	2	5/16 NC Hex lock nut
26	3231 *	1	3/8 NC x 2 HHCS - GR5	35	75487	2	Wheel motor
27	12169 *	7	3/8 NC x 1-1/4 HHCS - GR5	36	639 *	8	1/2 NC x 2-1/2 HHCS - GR5
28	6698 *	8	3/8 NC Hex lock nut	37	62149 *	1	5/16 NC Jam nut
29	835 *	1	3/8 NC Hex nut	38	74043	1	5/16 NC x 2-1/2 Hex turnbuckle
30	35709 *	2	10-24 x 3/4 Pan head machine screw	39	74044	1	Lower link rod
31	35710 *	2	10-24 Nylok nut	40	4378 *	1	5/16 Flat washer

* Standard Hardware - Obtain Locally

HEADLIGHT KIT (OPTIONAL)

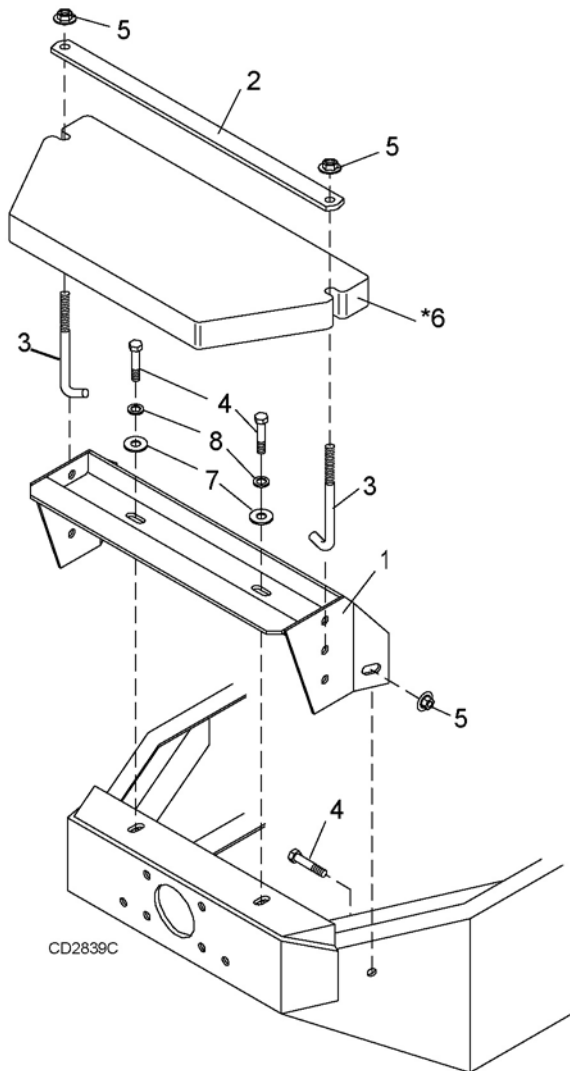


REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
	73938		Headlight kit	7	4378 *	4	5/16 Flat washer
1	73937	1	Light bracket - left	8	5288 *	2	1/4 NC Hex nut
2	73936	1	Light bracket - right	9	1985 *	2	1/4 Lock washer
3	73935	2	Rect. work light with switch	10	----- *	8	Plastic tie
4	07516000	4	Button bumper				
5	6096 *	4	5/16 NC x 3/4 HHCS				
6	2472 *	4	5/16 Lock washer				

* Standard hardware, obtain locally

NOTES: Headlight power outlets are located near the steering pivot blocks.

COUNTERWEIGHT MOUNT KIT



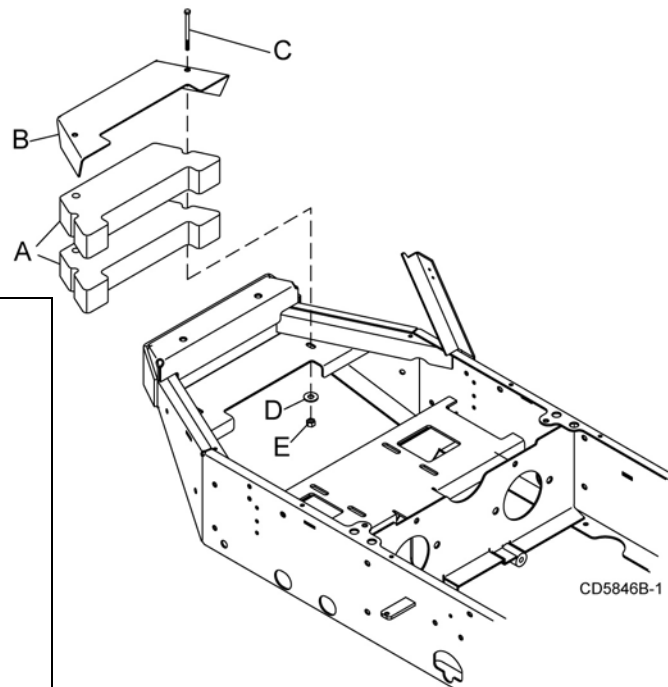
REF	PART	QTY	DESCRIPTION
A	70980		Counterweight mount kit (no weights included)
1	71063	1	Weight mount
2	71123	1	Weight strap
3	71156	2	.375-16 x 6" Hook bolt
4	839 *	4	3/8 NC x 1 HHCS
5	66885	4	3/8 NC Flange nut
6	71512	**	50 lb. Counterweight
7	565 *	2	3/8 Flat washer
8	838 *	2	3/8 Lock washer

NOTES:

** Refer to counterweight requirement chart on page 14 to determine the amount of counterweight required for your mower and equipment. One counterweight is provided on the power unit, others are available from your Woods Dealer.

* Standard hardware, obtain locally

CD2839C



Extra Counterweights

REF	PART	QTY	DESCRIPTION
A	73683	2	Counter weight
B	78025	1	Counter weight cover
C	----- *	2	3/8 NC x 5 HHCS GR5
D	-----	2	3/8 Flat washer
E	----- *	2	3/8 NC Lock washer

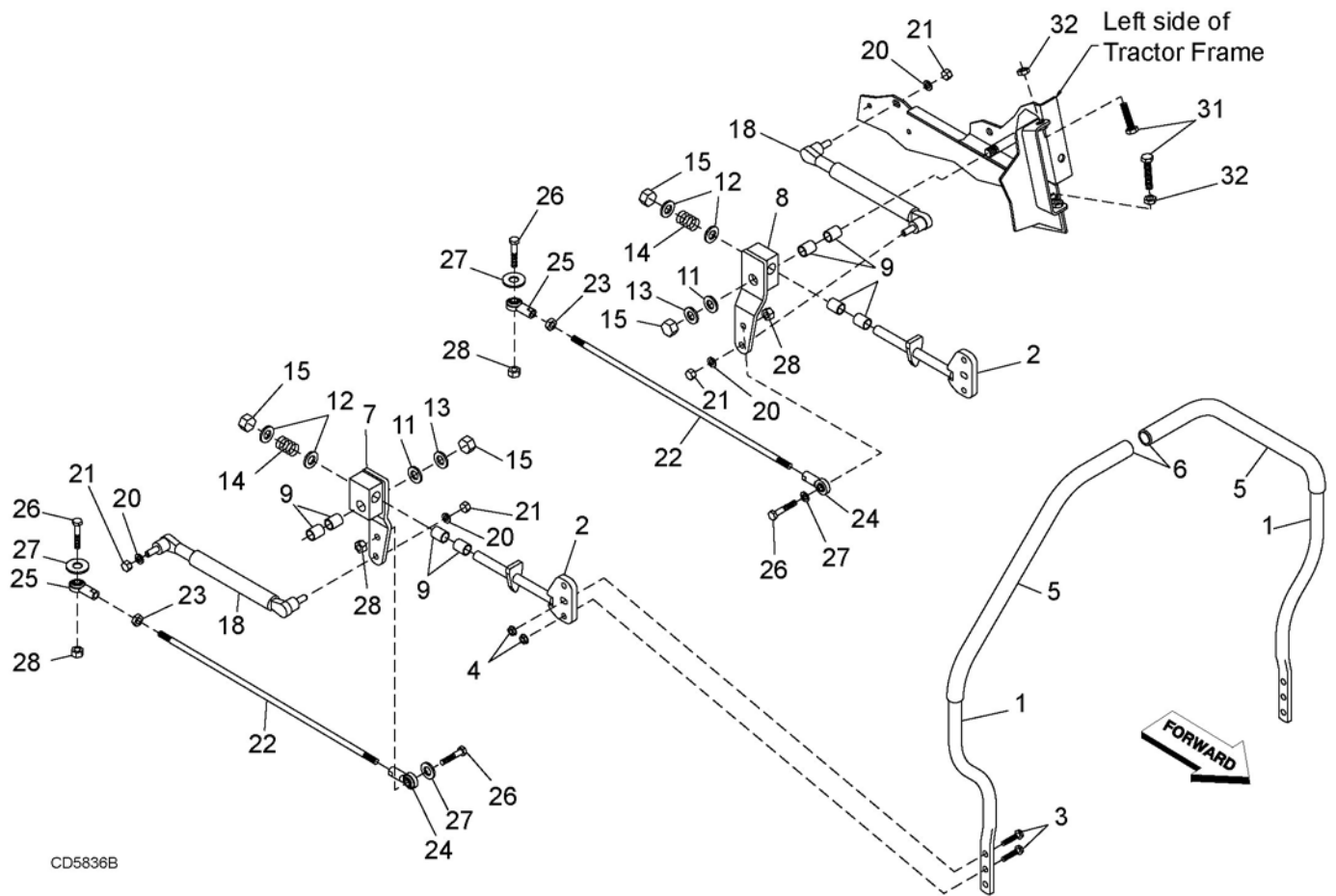
* Standard hardware, obtain locally

CD5846B-1

44 Parts

MAN0875 (2/8/2011)

STEERING ASSEMBLY

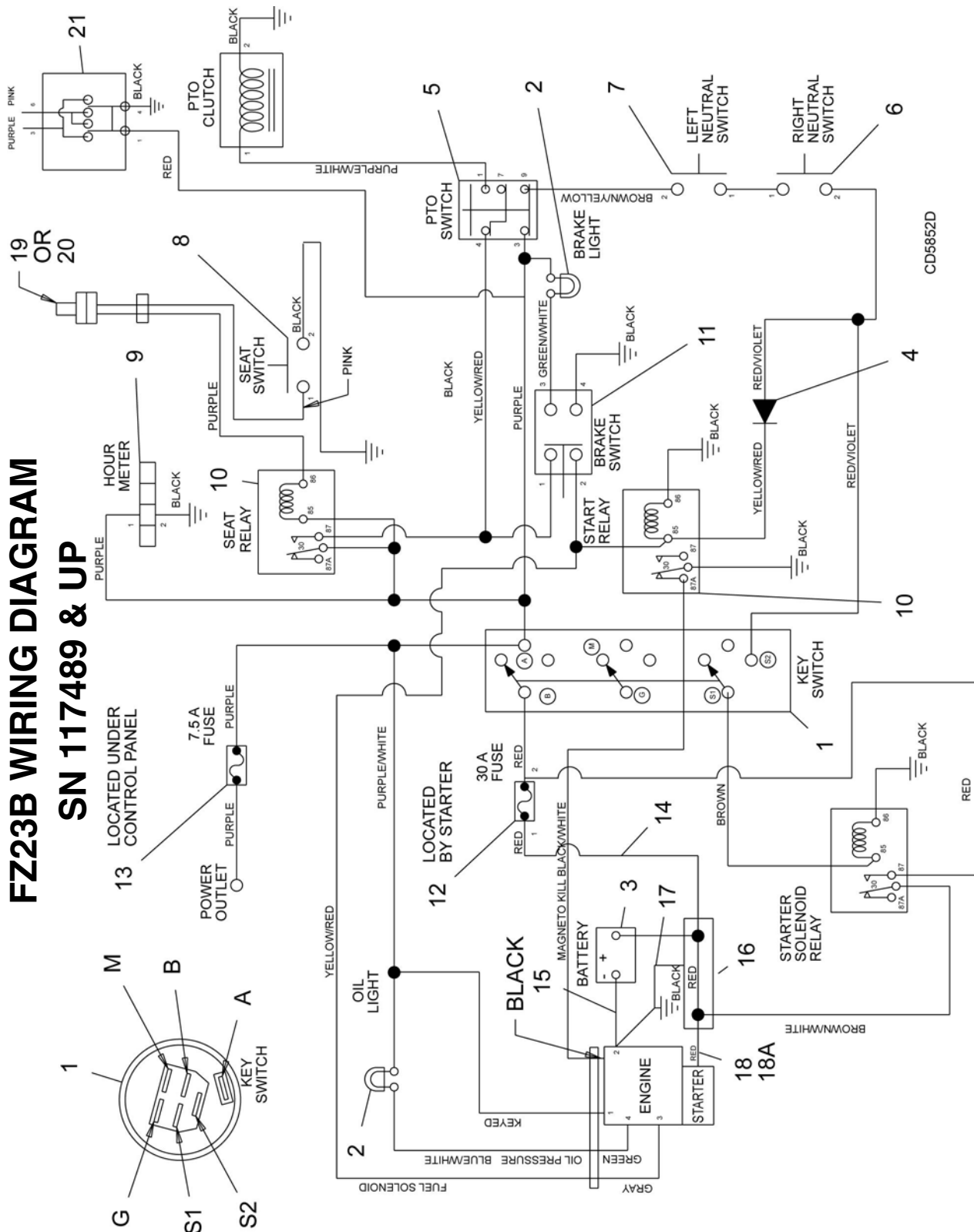


CD5836B

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	73023	2	Steering lever (includes items 5 & 6)	18	75488	2	Dampener
2	73030	2	Steering lever mount	20	2472 *	4	5/16 Standard lock washer
3	73178	4	5/16 NC x 1.0 Whiz bolt	21	30515	4	M8 x 1.25P Hex nut
4	73163	4	5/16 NC Flanged lock nut	22	75511	2	Steering control link
5	09246800	2	Foam handle grip	23	33654	2	5/16 NF Jam nut
6	09211400	2	Vinyl cap	24	08960700	2	5/16 NF RH Female rod end
7	75458	1	Steering pivot - right	25	09107800	2	5/16 NF LH Female rod end
8	75459	1	Steering pivot - left	26	24408 *	4	5/16 NC x 1-1/2 HHCS, GR5
9	71323	8	1/2 Nylon bushing	27	4378 *	8	5/16 Standard flat washer
11	70423	2	Nylon washer	28	6778 *	4	5/16 NC Hex lock nut
12	72886	4	Nylon washer	31	-----	4	5/16 NC x 1-1/2 HHCS, GR5 full thread
13	3598 *	2	1/2 SAE Washer	32	4529 *	4	5/16 NC Hex nut
14	70162	2	Compression spring				
15	765 *	4	1/2 NC Lock nut				

* Standard hardware, obtain locally

FZ23B WIRING DIAGRAM SN 117489 & UP



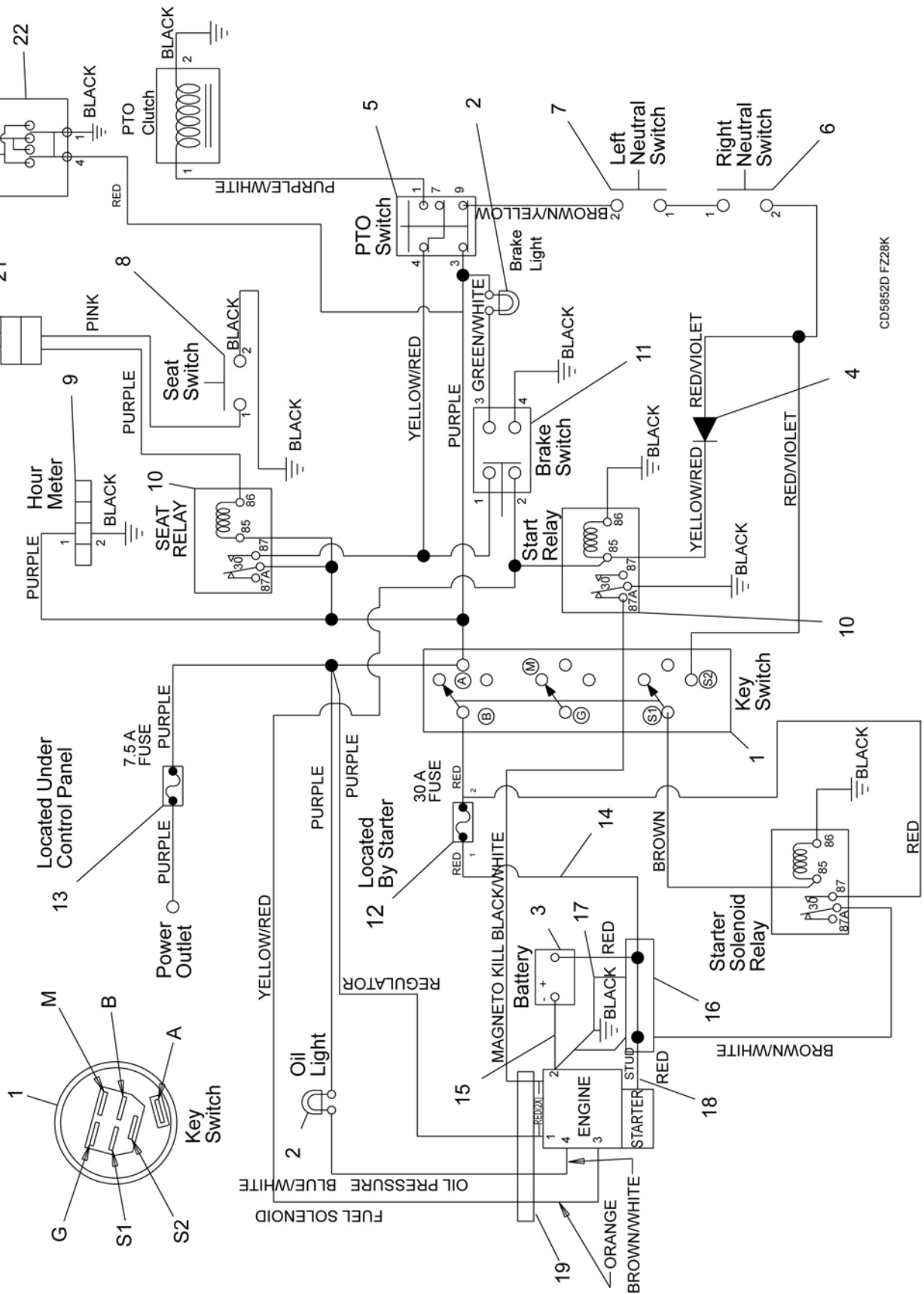
CD5852D

FZ23B WIRING DIAGRAM PARTS LIST

SN 1177489 & UP

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
	75515	1	FZ23B/FZ28K Wiring assembly	12	71385	1	Fuse - 30 amp auto
1	01563700	1	Ignition switch	13	71387	1	Fuse - 7.5 amp auto
	75196	1	Ignition key	14	78043	1	Positive battery cable w/ terminal boot
2	08841200	2	Indicator light	15	78042	1	Negative battery cable
3	-----	1	Battery 12V side post, group 70, 450 - 500 CCA (obtain locally)	16	75310	1	Engine solenoid relay
4	73046	1	Diode assembly	17	75324	1	Ground wire solenoid
5	72262	1	PTO Switch	18	75390	1	Positive cable, short
6	75105	2	Steering safety switch	18A	75392	1	Boot (not shown)
8	75502	1	Seat switch	19	75521	1	Jumper
9	73902	1	Hour meter	20	75419	1	Deck switch
10	71475	1	Bosch style relay	20	75550	1	Deck switch, 39"
11	71148	1	Brake switch	21	75520	1	Switch

FZ28K WIRING DIAGRAM SN 1177489 & UP



CD5852D FZ28K

FZ28K WIRING DIAGRAM PARTS LIST

SN 1177489 & UP

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	75232	1	FZ23B/FZ28K Wiring assembly	12	71385	1	Fuse - 30 amp auto
1	01563700	1	Ignition switch	13	71387	1	Fuse - 7.5 amp auto
	75196	1	Ignition key	14	78043	1	Positive battery cable w/ terminal boot
2	08841200	2	Indicator light	15	78042	1	Negative battery cable
3	-----	1	Battery 12V side post, group 70, 450 - 500 CCA (obtain locally)	16	75310	1	Engine solenoid relay
4	73046	1	Diode assembly	17	75324	1	Ground wire solenoid
5	72262	1	PTO Switch	18	75390	1	Positive cable, short
6	75105	2	Steering safety switch	18A	75392	1	Boot (not shown)
8	75502	1	Seat switch	19	75309	1	Engine wiring harness jumper
9	73902	1	Hour meter	20	75521	1	Jumper
10	71475	1	Bosch style relay	21	75419	1	Deck switch
11	71148	1	Brake switch	21	75550	1	Deck switch 39"
				22	75520	1	Toggle switch

BOLT TORQUE CHART

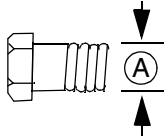
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

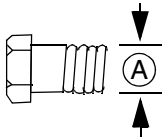


SAE Grade 5
(3 Radial Dashes)



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

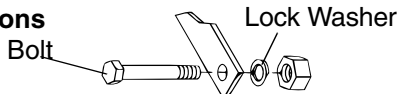
Metric Bolt Head Identification



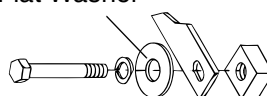
Metric
Grade 10.9

Ⓐ 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



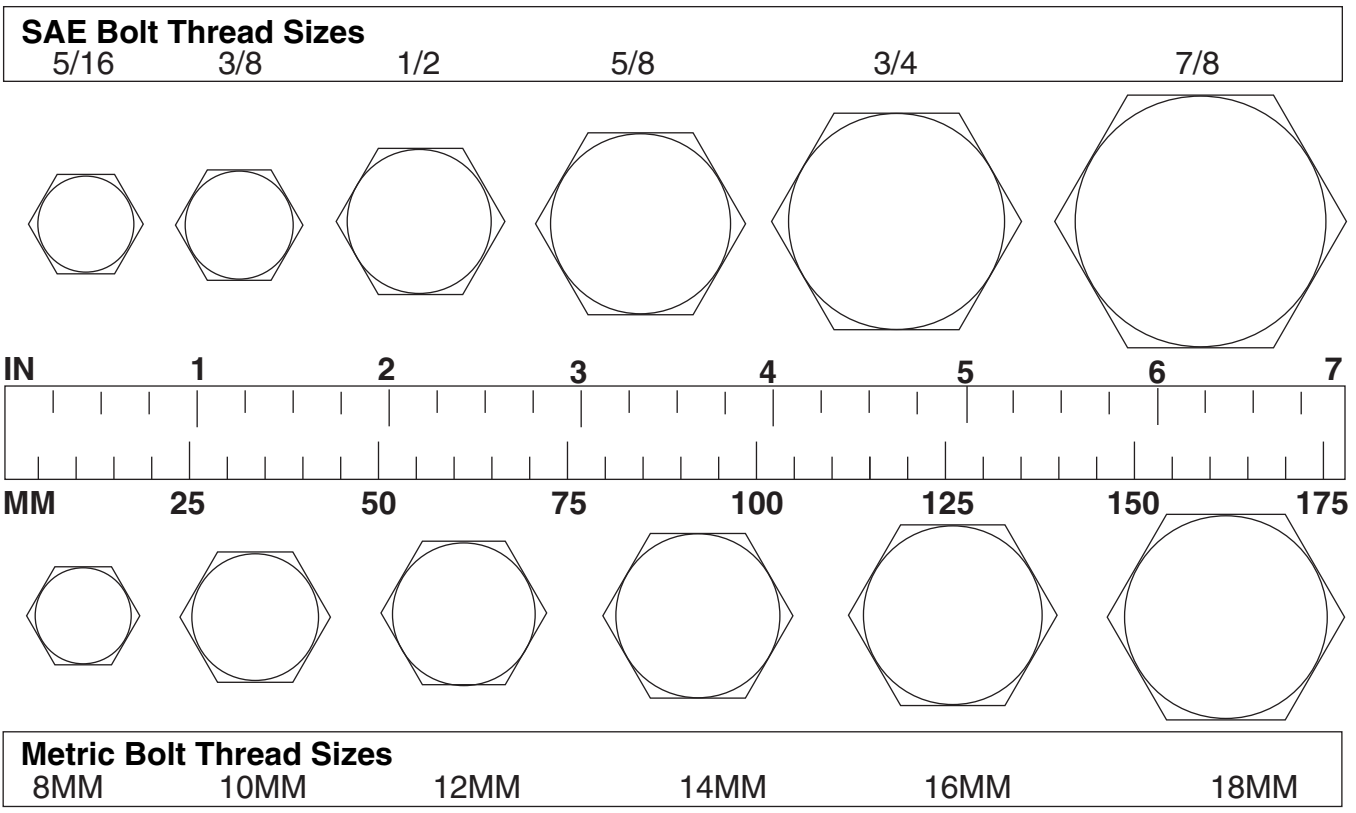
Flat Washer



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

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LIMITED WARRANTY

(Mow'n Machine™ Zero-Turn Mower Replacement Parts)

Woods Equipment Company ("WOODS") warrants replacement parts for Mow'n Machine™ zero-turn mowers 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

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BMP®

CENTRAL FABRICATORS®

GANNON®

GILL®

WAIN-ROY®

WOODS®



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 #CZ2242, CZ2252, CZ2461, CZ2361, MZ2552K, MZ2561K, MZ2661K, 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 #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:

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