

Yard Shark™



Operator's Manual

Covers Models:

YSH2051Z, YSH2460Z

YSK2151Z, YSK2560Z

Your Authorized Yard Shark Dealer:

**Congratulations on the purchase of
your new Yard Shark commercial mower!
Before operating the mower read and understand
this operator's manual!**

Part # YZ2007

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Proudly Distributed by:

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Congratulations On The Purchase Of Your New Yard Shark Mower.

When you purchase a Yard Shark you are part of a family of satisfied customers – people who appreciate a mower that will provide you with years of excellent performance, durability, and trouble free service when operated and maintained as directed in this manual.

Read and understand this operator's and parts manual and follow all instructions and warnings before operating this machine.

If you did not sign and receive your copy of your warranty registration, contact your Yard Shark dealer to do so immediately! Before any warranty service can be authorized you must register this product with Tilton Equipment Company.




1 About This Manual

This Yard Shark operator's manual is considered a permanent part of the mower. It must be available to all operator's and/or person(s) servicing the mower. Should the mower be resold, this manual must remain with the mower.

Should you ever have any questions regarding the operation, maintenance, or safety of your mower, please contact your authorized Yard Shark mower dealer who has been trained on operation and service of this mower.

All information, illustrations, and specifications contained in this manual were in effect at the time of publication. The manufacturer reserves the right to change, modify, and/or discontinue specifications and/or design without notice. If you notice that a change has been made to your mower which is not shown or reflected in this manual, please see your authorized Yard Shark mower dealer before operating or servicing the mower.

This manual identifies potential hazards and has safety messages identified by the safety alert example symbols shown below, which signal a hazard that may cause serious injury or death if you do not follow the recommended precautions.

 DANGER	Failure to follow instructions WILL result in SERIOUS INJURY or DEATH!
 WARNING	Failure to follow instructions CAN result in SERIOUS INJURY or DEATH!
 CAUTION	Failure to follow instructions can result in personal injury.

2 Delivery Checklist

Before you, the owner or primary operator uses this machine, go through this check list so that you understand the safe and proper operating procedures for your new Yard Shark machine.

_____ Read and understand this operator's manual before operating your Yard Shark mower.

_____ Understand the "Safety Instructions" section of manual.

_____ Record engine and mower serial numbers in space provided.

_____ Checking Engine Oil

_____ Checking Hydro Oil

_____ Filling Fuel Tank

_____ Seat and Armrest Adjustments

_____ Motion Control Levers and Parking Brake Operation

_____ Engine Controls – Throttle/Choke/Ignition Switch

_____ Fuel Gauge / Hour Meter

_____ Setting Deck Height

_____ Cold Engine Start Procedure

_____ Warm Engine Start Procedure

_____ Deck Deflector


_____ PTO / Starting and Stopping Blades

_____ Shutting Down Engine

_____ Fill Out the Warranty Registration Form through your Yard Shark Dealer.


3 Safety Instructions

3.1 Training

 WARNING	Failure to follow instructions CAN result in SERIOUS INJURY or DEATH!
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- Read the operator's manual and other training material. If the operator(s) or mechanic(s) cannot read English it is the owner's responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- **NEVER** let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

3.2 Preparation

 WARNING	Failure to follow instructions CAN result in SERIOUS INJURY or DEATH!
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- **ALWAYS** evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.
- **ALWAYS** wear appropriate clothing including safety glasses and hearing protection.
- **ALWAYS** inspect the area where the equipment is to be used and remove all objects such as rocks, toys and wire which can be thrown by the machine
- **ALWAYS** use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
- **ALWAYS** use only an approved safety fuel container.
- **ALWAYS** check that operator's presence controls, safety switches and shields are attached and functioning properly.
- **ALWAYS** be sure all drives are in neutral and parking brake is engaged before starting engine. Only start engine from the operator's position.
- **ALWAYS** slow down and use extra care on hillsides. Be sure to travel in a safe direction on hillsides. Turf conditions can affect the machine's stability. Use caution while operating near drop-offs.
- **ALWAYS** turn uphill when changing directions while mowing left to right and right to left on hill sides.
- **ALWAYS** use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- **ALWAYS** stop on level ground, lower implements, disengage drives, engage parking brake, shut off engine before leaving the operator's position for any reason including emptying the catchers or unclogging the chute.
- **ALWAYS** stop equipment, shut off the engine, set parking brakes and inspect blades after striking objects or if an abnormal vibration occurs. Make necessary sharpening repairs or replace all blades before resuming operations.
- **ALWAYS** keep hands and feet away from the cutting units.

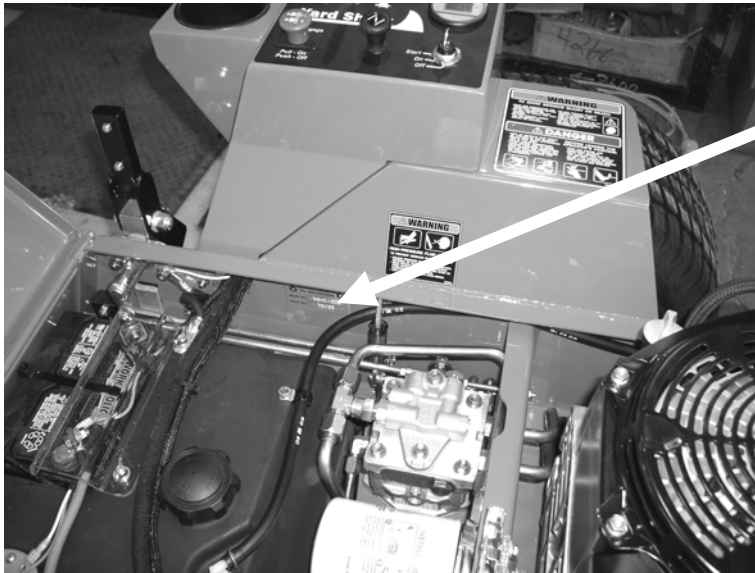
- **ALWAYS** look behind and down before backing up to be sure of a clear path.
- **ALWAYS** be aware of the mower discharge direction and do not point it at anyone.
- **ALWAYS** slow down and use caution when making turns and crossing roads and sidewalks.
- **ALWAYS** stop blades if not mowing.
- **ALWAYS** use care when loading or unloading the machine into a trailer or truck.
- **ALWAYS** operate in good light, keeping away from holes and hidden hazards.
- **NEVER** operate with long hair, loose clothing or jewelry that may get tangled in moving parts.
- **NEVER** remove gas cap or add fuel when engine is running.
- **NEVER** smoke while fueling the machine or near any fuels or fuel fumes.
- **NEVER** refuel or drain the machine indoors.
- **NEVER** raise deck with the blades running.
- **NEVER** operate with guards not securely in place.
- **NEVER** operate with the discharge deflector raised, removed or altered, unless using a grass catcher.
- **NEVER** run an engine in an enclosed area.
- **NEVER** change the engine governor setting or over speed the engine.
- **NEVER** carry passengers and keep pets and bystanders clear of the work area.
- **NEVER** operate the mower under the influence of alcohol or drugs.

3.3 Maintenance and Storage

- Disengage drives, lower implement, set parking brakes, stop engine, remove key and disconnect spark plug wires. Wait for all movement to stop before adjusting, cleaning or repairing.
- Clean grass and debris from cutting units, drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.
- Let engine cool before storing and do not store near flame.
- Do not store fuel near flames or drain indoors.
- Park machine on level ground. Never allow untrained personnel to service machine.
- Use jack stands to support components when required.
- Carefully release pressure from components with stored energy (example, hydraulic components).
- Disconnect battery and remove spark plug wires before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Use care when checking blades. Wrap the blade with a heavy rag or towel or wear gloves, and use caution when servicing them. If blades are bent or damaged, replace all of the blades. Never straighten or weld them.
- Keep hands and feet away from moving parts. Do not make adjustments with the engine running.
- Charge batteries in an open well ventilated area, away from spark and flames.
- Charge battery with a 2 amp charger and disconnect the battery ground cable before storing the machine for 30 days or more. Improper battery care will void battery warranty.
- Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.

3.4 Serial Number and Model Identification

The serial number/model number tag can be found at the RH side of the mower under the seat in front of the engine compartment.



The engine serial number can be found on the Front LH side of the engine as shown below.



Record serial numbers here for future reference.

Mower Model Number _____



Mower Serial Number _____

Engine Serial Number _____

4 Machine Operation

Left Side of machine is determined by sitting in the seat in the operating position.

4.1 Filling The Fuel Tank

 WARNING	Gasoline is extremely flammable and gasoline vapor can explode. Failure to follow proper procedures can result in personal injury or death.
 WARNING	Do not add fuel while the engine is running or hot. Keep open flames, sparks and heat away from fuels and store fuel in containers specifically designed for that purpose.

- Fill fuel tank outside in a well ventilated area
- Shut the engine off and set parking brakes.
- Allow engine to cool to ambient temperatures.



- Unlatch seat and tip forward to access the fuel tank.



- Use a funnel and be careful to not spill fuel.
- Wipe up possible fuel spills and allow to completely dry before re-starting engine

4.2 Motion Control Levers

Motion Control Levers in Operating Position



Motion control levers are in the operating position when they are as shown above. Left hand lever controls the speed and direction of the LH drive wheel. Right hand lever controls the speed and direction of the RH drive wheel.

Moving both levers forward together causes mower to travel forward in a straight line.

Moving both levers rearward together causes the mower to travel in reverse in a straight line.

To turn left while moving forward, pull back slightly on the LH lever. To turn right while moving forward, pull back slightly on the RH lever.

To make a zero radius turn, move one lever slightly ahead of neutral and the other lever slightly behind neutral center position.

4.3 Parking Brake

The parking brake system on the Yard Shark mower is not really a brake, but is actually a pin and cog system that is activated every time the control levers are moved out into the neutral locked position as shown below. It is an automatic system that sets itself when you move the levers out to get off the mower and releases itself when you move the levers back in to start moving. If the mower will not move or sounds like it is straining, simply move the control levers slightly forward or backwards to release the pin.



Motion Control Levers in Non-Operating Position – Parking Brakes On

4.4 PTO Engagement Switch

Located on RH control panel. Switch is pulled UP (“ON” position) to engage the blades. Switch must be in the DOWN or OFF position in order to start the engine.



4.5 Choke Control

Pull choke knob UP or OUT to the choke “ON” position.
Push choke knob DOWN or IN the choke “OFF” position.

4.6 Throttle Control

Move lever forward to increase engine speed.
Move lever to the rear to idle position.
When mowing the throttle should be in the full forward (fastest) position.

4.7 Ignition Switch

Three (3) position switch. The first position is OFF, second position is ON or RUN. The third position is the start position.

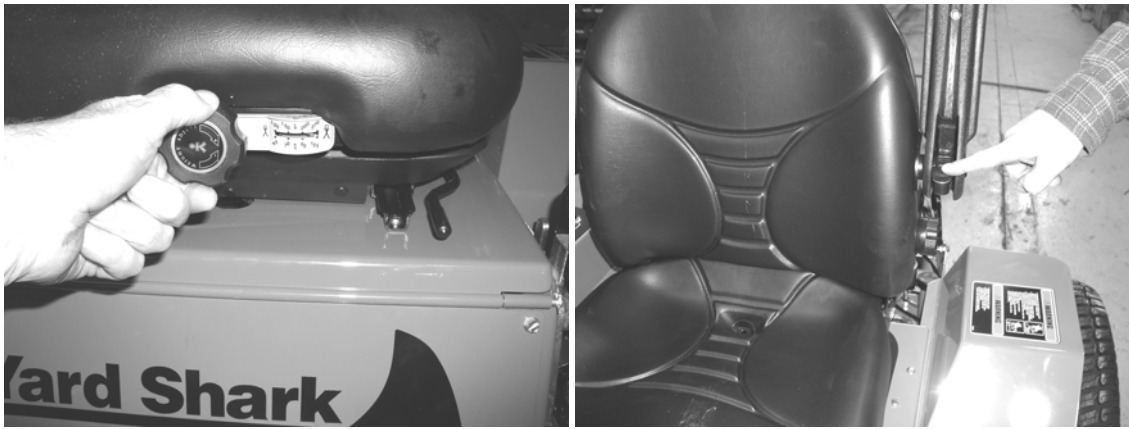
4.8 Fuel Gauge / Hour Meter

Digital display indicates amount of fuel remaining. When red light flashes, unit is very low on fuel and should be refueled.

Refer to all items in filling the tank (Section 4.1).

The hour meter records time the key is on. Use hour meter to record service intervals.

4.9 Seat and Armrests



There are two adjustments at the front of the seat.

The knob controls the stiffness of the suspension seat. This should be adjusted to fit the operator weight.

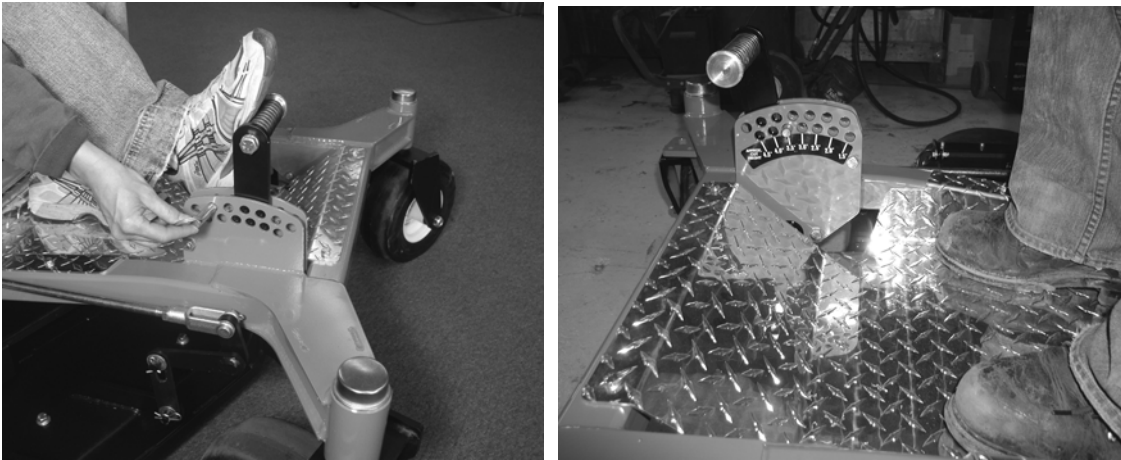
The lever, shown above left with an arrow, allows for fore and aft adjustment. While seated, pull lever to the left to release seat and move seat into desired position. Make sure the latch is fully locked so that seat is secure.

The armrest height can be adjusted with the small knobs, above right, screw out to raise armrests. Setting the armrests at the proper height will assist you in maintaining better control of the machine.



The other settings are located on either side of the seat backrest. The knob on the RH side adjusts the angle of the backrest. The knob on the LH side adjusts the lumbar support. Adjust these for your personal preference.

4.10 Setting Mower Deck Cutting Height



While seated on the seat, push on foot lever to raise deck. The deck can now be locked in the upper position by using the deck latch lever located on the LH side of the mower (shown below). Move the lever to the rear to engage the deck lock. Remove pin and move to the desired position. The decal next to the foot lever indicates the cutting height. Moving the pin one hole adjusts the cutting height by 1/4".



To release deck lock, push forward on the deck latch lever while pushing forward with the foot pedal.


4.11 Cold Engine Starting Procedure

- Be sure engine has oil to the proper level and gas in the fuel tank.
- Pull up on Choke to "ON".
- Move throttle control about 1/3 of the way forward.
- Turn key to "START" position and hold until engine starts.
- If engine fails to start within 5 seconds, release the key, wait at least 10 seconds.
- Note: Using the starter for more than 5 seconds at a time can overheat and damage the starter.
- Gradually push choke knob in as engine warms up.

4.12 Warm Engine Starting Procedure

Same as above but leave choke in the "OFF" position.

4.13 PTO / Blades


 DANGER	Operating PTO creates a thrown object hazard. NEVER operate with deflector or guards missing. Make sure discharge chute is not pointed toward pets or bystanders.
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The PTO switch engages the cutting blades. Be certain everyone including pets are clear of the mower deck and the RH discharge area before engaging the PTO.

Operator must be seated before the PTO can be engaged. The motor will kill if the seat switch is not depressed.

Move throttle to halfway position. Pull up on PTO switch to the "ON" position. Then move throttle to full forward "FAST" position.

4.14 Deck Deflector

 DANGER	Operating PTO creates a thrown object hazard. NEVER operate with deflector or guards missing. Make sure discharge chute is not pointed toward pets or bystanders.
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Deck is equipped with a rubber deck discharge deflector.

Deflector can be pivoted upwards for clearance, for storing or transporting.

NEVER mow with the deflector in the UP position unless using an approved grass catcher/collector.

4.15 Stopping PTO

In an emergency, deck blades can be stopped anytime by pushing down on the PTO switch, also by turning the ignition key switch to "OFF".

Normal operation - move throttle to halfway position. Push down on PTO switch to "OFF" position.

4.16 Shutting Down Engine

In an emergency simply turn the ignition key switch to "OFF".

For normal shutdown, stop machine, turn off PTO, move throttle all the way to SLOW. Turn ignition key switch to OFF.


5 Service and Maintenance Procedures

Service and Maintenance Procedures	Daily	After First 10 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 300 Hours
Clean Dust and Dirt From Engine Clean Air Intake Screen and Cooling Fins	X					
Check Seat Switch Interlock	X					
Check Engine Oil Level	X					
Check Mower Blades	X					
Clean Underside of Deck	X					
Air Filter Inspect/Clean			X			
Engine Oil / Filter Change		X		X		
Check Hydraulic Oil Level		X		X		
Check Tire Pressure		X		X		
Check/Adjust Deck Belt Tension		X		X		
Lubricate Control Levers				X		
Grease Deck Lift Pivots				X		
Grease Front Wheel Bearings				X		
Check Pump Drive Belt					X	
Spark Plugs Check / Adjust					X	
Clean Oil Cooler Fins				X		
Air Filter Replace (Both)						X
Spark Plugs / Replace						X
Valve Clearance						X
Fuel Filter / Change						X
Change Hydraulic Filter		X				X
Change Hydraulic Oil & Filter						X

5.1 Clean Dust and Dirt From Engine Clean Air Intake Screen & Cooling Fins – Check Daily

Check for accumulations of dust, grass clippings, dirt, etc. Check around the fresh air intake screen on top of the engine. Also check cooling fins on engine and oil coolers and clean with compressed air. Be careful on the Honda 24 so the cooling fins on the separate oil cooler are not damaged. Remove excess accumulations around the base of the engine, under the seat, around hydro pumps and the top of the deck. Keeping the machine clean will guarantee a cooler and safer operating environment.

5.2 Check Seat Safety Switch Operation – Check Daily

 WARNING	Safety interlock is designed to prevent PTO/blades operating unless operator is seated. Failure to maintain proper operation of system can result in injury or death.
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- When raised off the seat, turn key switch to start.
- Engine should not crank.
- If engine cranks, **contact your dealer** to resolve this problem before using mower.
- While seated on mower, start engine, then engage PTO.
- With the control levers moved outward to the locked/parking brake position, raise yourself off the seat.
- Engine should shut off immediately.
- If engine does not shut off, **contact your dealer** to resolve this problem before using mower.

5.3 Check Engine Oil Level – Check Daily

At rear right of mower, unscrew dipstick. Wipe clean. Then, reinsert ***without screwing it in***. Add oil, if needed to bring up to the full mark.



5.4 Check Mower Blades – Check Daily

Raise front of mower and check condition of mower blades.

If blades are not sharp they must be sharpened or replaced.

If blades are bent or damaged replace all of the deck blades. Don't attempt to straighten bent blades. It is dangerous to straighten because it could cause the blades to crack/break in operation.

5.5 Clean Underside of Deck – Check Daily

While checking conditions of blades, scrape out any accumulated grass clipping from under the mower deck. Mower performance will deteriorate if blades are not in good condition and grass builds up under deck.

5.6 Air Filter Inspect / Clean

Follow instructions in the respective Honda or Kawasaki owner's manual for details.

5.7 Engine Oil / Filter Change

- Drain used oil while the engine is warm. Warm oil drains quickly and more completely. Replace oil filter at each oil change.
- Place a suitable container under the engine to catch used oil.
- Remove the oil filler cap / dipstick, drain plug and oil filter. Allow used oil to drain completely.
- Reinstall drain bolt and tighten securely.
- Clean the filter mounting base and coat the rubber seal on the new filter with new engine oil.
- Screw on the new filter by hand until seal contacts filter base, then tighten another 3/4 - 7/8 turn, alternatively tighten to 16 lbf-ft (22Nm).
- Refill crankcase with new oil (See engine operator's manual for proper oil selection).
- Start engine and check for leaks. Stop engine then check oil level. Add oil if needed to bring oil to top of safe mark.
- Dispose of used oil and filter at local recycling center and obey all local and federal laws for these products.

5.8 Check Hydraulic Oil Level

- Be extremely careful with dirt and contamination when you are servicing the hydrostatic system.
- Contamination is the worst enemy of the hydrostatic system.
- Clean around dipstick and filters **BEFORE** removing.
- Only add oil from a sealed container.
- Thoroughly clean funnels and anything that will come into contact with the oil.
- Contamination in the system will void the warranty on the hydrostatic system.
- Check level when oil is cold.
- Unscrew dipstick and wipe clean. Insert into oil tank **without screwing it in**. If oil shows on the dipstick (approximately 1/4"-1/2" up from the bottom), then the oil level is adequate. If no oil shows on dipstick, then add oil to bring up to the dipstick. The upper mark is a high level mark for when the oil is hot. If oil tank is overfilled, oil will expand and come out of the dipstick / vent when the oil gets hot.
- See Section 7.4 for proper oil recommendation.

5.9 Check Tire Pressure

Inflate all 4 tires to 12 psi. A special low pressure air gauge (available at most auto parts stores) should be used to accurately check the pressure.

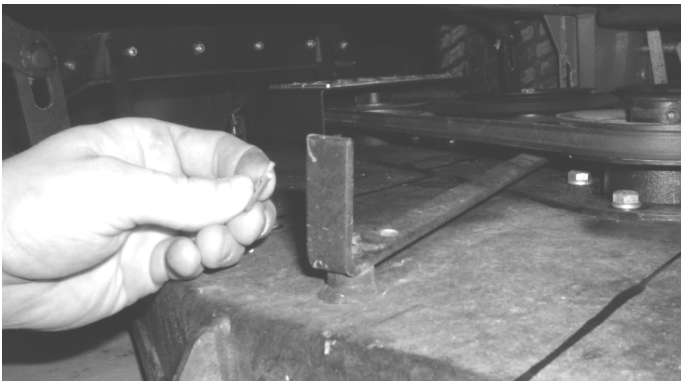
5.10 Check / Adjust Deck Drive Belt Tension



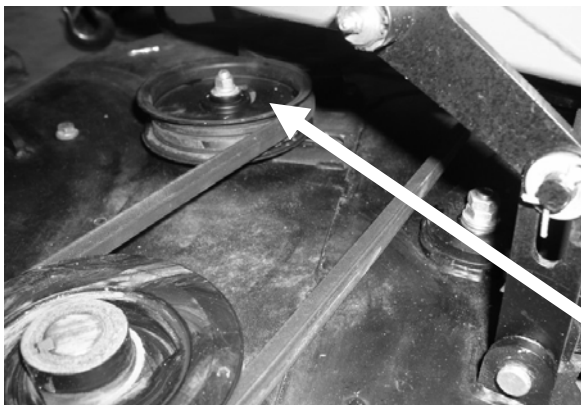
- Spring for deck belt tension can be found by looking under the RH side of the mower. To check belt tension, measure the length of the spring. The body of the spring should measure 3-1/2" to 3-3/4".



- An alternative method is to use a U.S. quarter, to use as a feeler gauge between the coils. Spring tension is correct when quarter will just fit between coils with minimal resistance.



If belt tension needs adjusting remove hair pin and unhook the deck belt tension arm from its stud at the front of the deck (photo above). There are 2 holes for the arm to hook into. Use the front hole for normal operation. If belt becomes stretched enough that you can't get the proper tension then use the second hole.



Go to left side of mower. Loosen the flat idler pulley (use a 9/16" wrench) and move slightly to the rear. Retighten pulley, rehook spring tension arm and recheck spring length. Adjust until body of spring measures 3-1/2" to 3-3/4" or a quarter fits snugly between the coils.

5.11 Lubricate Control Levers

- Raise seat. Use a grease gun with multipurpose grease.



- Grease zerks at the control arm pivots (2).
- Use a light "dry lube" type spray lubricant (use a dry lube containing Teflon or "moly")to lube the brake linkage and the control arms.
- Lubricate the pivot for the park lock position, where the side plates of the handle mount to the control arm block.
- Applying a small amount of multipurpose grease to the tab that actuates the parking lock will make the entire park lock system work more smoothly.
- Use (2) 3/4" wrenches to adjust the amount of tension on control lever arm mounts so the levers have the proper amount of resistance. (This is a personal preference on how stiff to make the arms to move back and forth from the locked position to the travel position).

5.12 Grease Deck Lift Pivots

Use a grease gun with multipurpose grease. Grease zerks at the rear deck lift pivots (2).



5.13 Grease Front Wheel Axle Bearings

Use a grease gun with multipurpose grease. Grease the zerks on each the front wheels. One zerk per wheel.

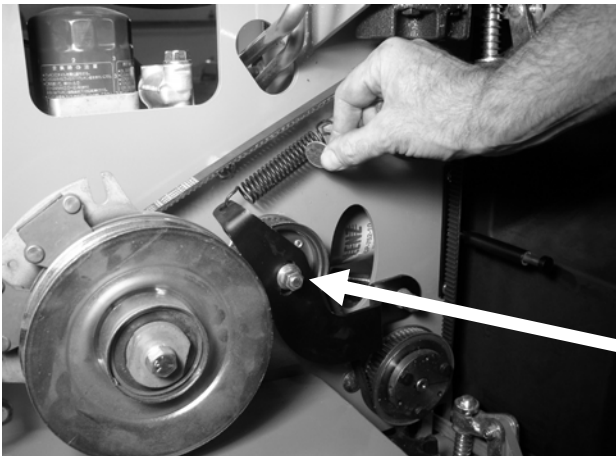


5.14 Check Pump Drive Belt

Raise rear of mower to access pump drive belt. Use blocks as necessary to support mower safely. Pump belt idler arm should be free to move with firm hand force. If arm is sticky or stiff, remove arm and coat the mounting surfaces with anti-seize lubricate. Reassemble and adjust tension at pivot bolt. Proper tension can be achieved by tightening $\frac{1}{2}$ " nut on pivot bolt until spring washers are compressed, then back off $\frac{1}{4}$ turn. Arm should be free to move with firm hand force. Install the lock nut and tighten making sure that the adjustment is not changed.

Measure length of the spring – Proper length is 4- $\frac{1}{4}$ " inside spring hooks, OR length of coils should measure 3- $\frac{1}{4}$ ".

Another method to check tension – A quarter (\$.25 US coin) should just fit in between the coils in the spring.



Adjust position of idler to achieve proper belt tension. Use (2) $\frac{9}{16}$ " wrenches to move the idler in its adjustment slot.

5.15 Spark Plugs Check/Adjust/Replace

Disconnect spark plug caps.

Remove dirt from around spark plug areas.

Remove the spark plugs with a 13/16 spark plug wrench.

Replace plugs if the electrodes are worn or if insulator is cracked or chipped.

Regap spark plugs to .030" (.75 mm).

Reinstall plugs by hand, be careful to avoid cross threading.

To reinstall used plugs, tighten 1/8-1/4 turn after the spark plug seats lightly.

To install new spark plugs, remove old plugs and gap new plugs.

Thread new spark plugs into engine by hand, then use a 13/16" spark plug wrench and tighten 1/2 turn after the spark plug seats. (or tighten to 16 ft lb.)

5.16 Air Filter Replace

Each year or 300 hours replace primary (paper) air filter elements. Follow instructions in respective engine owner's manual. Secondary filter should be replaced according to engine owner's manual.

5.17 Check / Adjust Valve Clearances

Both Kawasaki and Honda recommend valve clearance be checked every year or 300 hours.

This should be performed by your servicing dealer unless you have the proper tools and are mechanically adept. Refer to Honda or Kawasaki shop manual for procedures.

5.18 Fuel Filter Change

Replace every year or 300 hrs, replace sooner if it becomes clogged.

Consult engine owner's manual for instructions.

5.19 Change Hydraulic Filter

- Place a pan under the hydrostatic oil filter, unscrew oil filter enough so the oil can drain into the oil pan. It is possible to get a little oil on the drive belt at this point. It is recommended to place a small shield over the belt to prevent it from coming into contact with the oil.
- Allow oil to drain completely
- Apply a thin film of clean oil to oil filter seal.
- Screw filter on by hand until seal contacts base, then tighten an additional 3/4 turn.
- Add proper oil to bring up to proper level – See section 5.8 in this manual.
- See Section 7.4 for proper oil recommendation.
- Dispose of used oil and filter at local recycling center and obey all local and federal laws for these products.

5.20 Change Hydraulic Oil and Filter

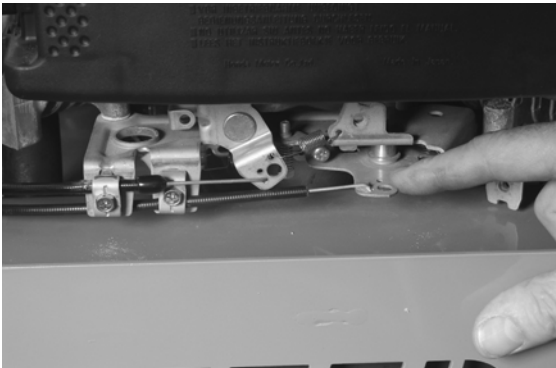
- Be extremely careful with dirt and contamination when you are servicing the hydrostatic system.
- Contamination is the worst enemy of the hydrostatic system.
- Clean around dipstick and filter BEFORE removing.
- Only add oil from a sealed container.
- Thoroughly clean funnels and anything that will come into contact with the oil.
- Contamination in the system will void the warranty on the hydrostatic system.
- Place a pan under the oil tank, remove magnetic oil plug and drain the oil.

- Place a pan under the hydrostatic oil filter, unscrew oil filter enough so the oil can drain into the oil pan. It is possible to get a little oil on the drive belt at this point. It is recommended to place a small shield over the belt to prevent it from coming into contact with the oil.
- Allow oil to drain completely
- Thoroughly clean the drain plug and replace.
- Apply a thin film of clean oil to oil filter seal.
- Screw filter on by hand until seal contacts base, then tighten an additional 3/4 turn.
- Add oil to hydraulic reservoir until oil shows on the dipstick, approximately 7 quarts.
- See Section 7.4 for proper oil recommendation.
- To prime system – raise the rear of mower so that the rear wheels can spin freely.
- Secure machine with jack stands.
- Start engine and run at idle.
- **Immediately** push both levers full forward and hold for 10 seconds. Then pull both levers fully rearward and hold for ten seconds. Repeat this procedures several times until all air is purged from the system.
- Lower mower to the ground and check oil level. The oil level should be approximately 1/2" on the dipstick without the cap screwed in. Add oil to bring to proper level.
- Screw dipstick / cap onto hydraulic reservoir.
- Dispose of used oil and filter at local recycling center and obey all local and federal laws for these products.

6 Service & Adjustments Perform as Needed

6.1 Adjusting Throttle Cable

- If the throttle cable is not properly adjusted, the engine may not be operating at full speed or the throttle may not stay in the fast position.
- Procedure should be done on a cold engine to prevent any chance of burns from the hot engine.
- Shut down mower, set parking brakes and remove the key.
- Move throttle lever full forward until it reaches its limiting stop and then back off about 1/8" - 1/4".
- Go to rear of mower. Throttle linkage should be fully opened (fast position).



- Loosen the clamp on the throttle cable and pull cable tight so the throttle is fully open.
- Retighten clamp.
- If throttle doesn't hold its position while mowing, then the friction discs on the throttle lever need to be tightened.
- Remove the cover on the control panel. Use a 7/16" combination wrench and a 7/16" socket to adjust the tension on the throttle pivot.
- Adjust pinch bolt so that it is tight enough to hold throttle in position.

6.2 Adjusting Choke Cable

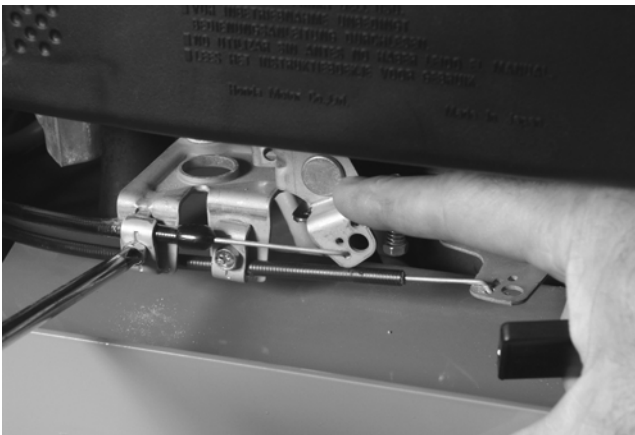
If choke cable is not properly adjusted, it is possible that either the choke won't fully close or fully open. This will cause either hard starting, rough running or poor fuel economy.

When the choke control is pushed all the way in (off), the knob should not contact the base of the choke mounting. There should be about a 1/8" - 1/4" gap as shown below.



If adjustment is needed, go to back of mower. Loosen the clamp holding the choke cable.

Now position choke knob 1/4" up. Go to rear of mower and gently push choke cable to the right (opens choke) and tighten screw on cable when the choke is fully opened.



6.3 Deck Adjustments

To level the cutting deck, proceed as follows. Set mower deck at 3" cutting height.

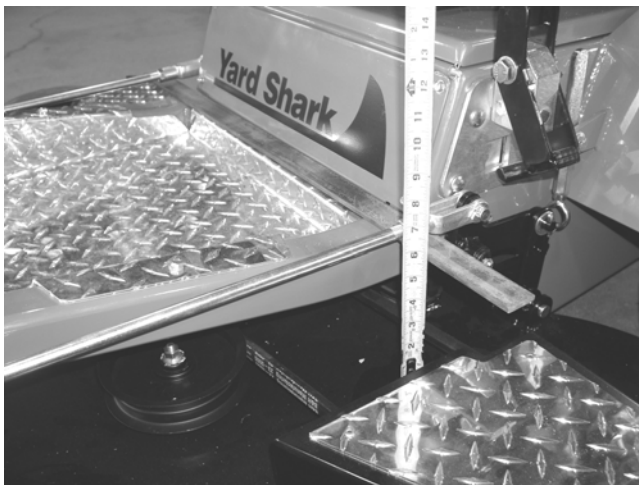
Measure from top of frame rail to top of deck as shown below.



The front left and front right measurements should be within 1/16" of each other. If adjustment is needed at the front, adjust the front rockshaft hangers (as shown below).



The hangers at the front rockshaft (shown above) provide vertical adjustment. Normally these hangers are adjusted all the way UP. If one side of the deck is higher than the other, loosen the bolts at the higher side of the deck and move hanger slightly lower so that equal measurement is achieved at both sides. When equal measurements are achieved, proceed with the rear adjustment.



Measure from the top rear of the frame rail to the deck top on both sides of the machine (as shown above). These measurements should be within 1/16" of each other and should also be 1-3/4" – 1-7/8" less than the measurement at the front of the deck to the top of the rail. This will make the rear of the blades cut slightly higher than the front of the blades.

If adjustment is needed, remove cotter pin and clevis pin at the front of the lift linkage rods. Shorten or lengthen linkage rod to achieve the proper height.

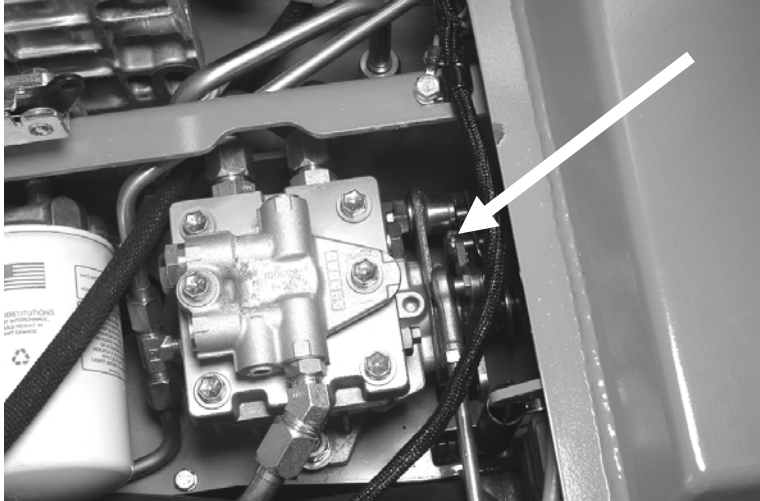
When adjustment is complete, all 4 carrier links should have equal pressure on them.

6.4 Transmission Neutral Setting

If mower creeps when levers are in the neutral position (not the locked position) then the neutral position needs to be adjusted. Do the adjustments in this order only.

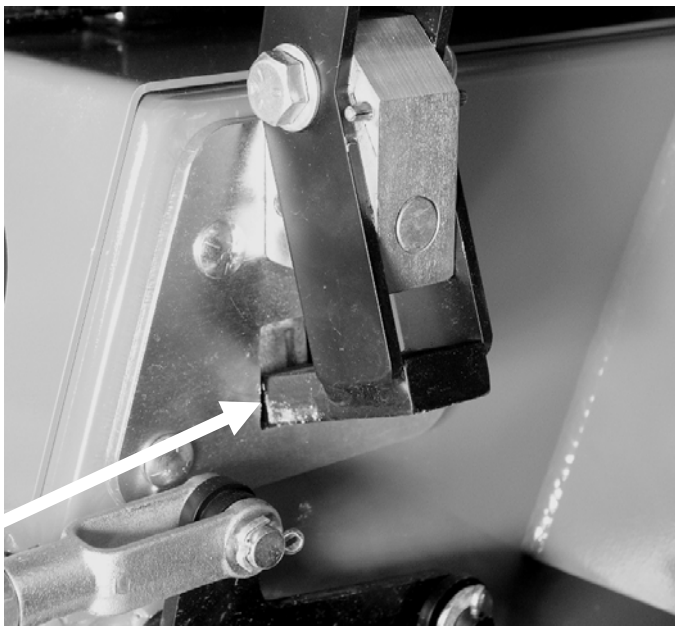
- Raise rear of mower slightly off the ground so the rear wheels can turn freely.
- Secure machine with jack stands.
- Control levers should be in the operating position (handles together).
- With engine at a fast idle, wheels should not be turning.

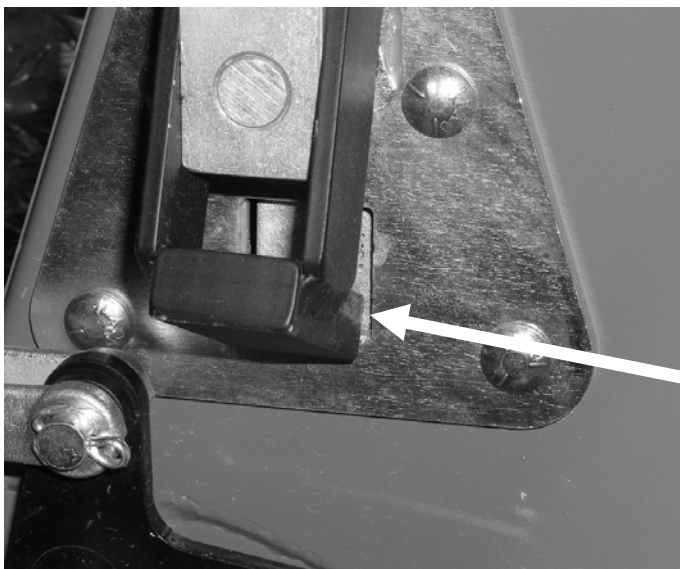
- Proceed with adjustment as follows.
- Adjust centering on pumps first. To adjust pump neutral – use a 17mm open end wrench and an 8mm open end wrench.
- Use the 17mm wrench to loosen the locknut (loosen just enough to turn eccentric with the 8mm wrench). Turn eccentric back and forth to see which way it needs to be adjusted. Adjust so wheel stops turning. When wheel stops turning move the lever forward and backward and let return to neutral. If necessary, readjust until neutral is achieved then retighten locknut with the 17mm wrench.



Picture above shows location of adjustments.

- Shut down engine and lower mower to the ground.
- When the pumps' neutral positions have been readjusted, the linkage rods will have to be adjusted, also.
- With engine off, and control handles in the operating position, check linkage adjustment. As you move the levers into the parking lock position the tab at the lower end of the control levers should enter the square hole perfectly centered. Neither side of the tab should touch the sides as the lever is moved into its locked position. The locations are shown in the figures below.





Loosen 5/16" locknuts on the linkage rod. Keep in mind that the nuts at the rear of the rods are left hand thread and the nuts at the front are right hand thread. Turn linkage rod to lengthen or shorten as needed so correct alignment is achieved.

Retighten locknuts, then recheck alignment. Readjust or fine tune as necessary.

6.5 Deck Belt Replacement

Lower deck to its lowest position.

At front of mower deck, remove hairpin clip and lift spring tensioning arm off of its stud.

Flip up the deck pulley covers with the step plates on them on the LH and RH sides of the deck. Covers can be locked in an open position by opening up 90 degrees and inserting a pin, bolt or screwdriver in the hole.

Belt can now be removed.

Replace worn belt with the new belt.

Reattach the spring tensioning arm onto its stud, replace hairpin clip.

Follow directions in previous section to adjust to proper tension.

Recheck tension after first few hours as it is normal to have to adjust the belt tension until the belt becomes "broken in"; see belt tensioning in Section 5.10.

7 Fuel & Lubricant Recommendations



Gasoline is extremely flammable and gasoline vapor can explode. Failure to follow proper procedures can result in personal injury or death.

Use unleaded gasoline with a pump octane rating of 89 or higher.

These engines are designed to run on unleaded gasoline. Unleaded gas produces fewer engine and spark plug deposits and extends exhaust system life.

Never use old or stale gasoline or an oil/gas mixture. Avoid getting dirt or water in the tank.

7.1 Oxygenated Fuels

To meet clean air standards, some area of the United States and Canada use oxygenated fuels to reduce emissions. If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating of 89.

Ethanol – (ethyl or grain alcohol) 10% by volume. You may use gasoline containing up to 10% ethanol by volume. Ethanol blends may be marketed under the name "Gasohol".

If you notice any undesirable operating symptoms, try another source of gasoline.
Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates listed above are not covered under warranty.

7.2 Fuel Stabilizer / Conditioner

Use a fuel stabilizer / conditioner to keep gasoline fresh if mower is to be stored longer than 30 days. Fuel stabilizers are most effective when mixed with fresh fuel. Fuel stabilizers will NOT make old gasoline fresh.

7.3 Engine Oil Recommendation

See engine owner's manual for proper oil recommendations for the engine on your mower.

7.4 Hydraulic Oil Recommendation

We recommend the use of a Universal Tractor Hydraulic Oil.

Viscosity – 60 SUS (10cSt) at no more than 212deg F (100 deg C)

Some acceptable choices are as follows:

- John Deere: J20A, JD20C, Hy-Gard
- Case-IH: Hy-Tran, Hy-Tran Plus, Hy-Tran Ultra
- AGCO: Power Fluid 821, 821XL
- Cenex: Qwiklift HTB, Maxtron THF+

7.5 Engine Specifications

7.5.1 Model YSH2051Z – Honda 20 hp w/ 51" Deck

- Make / Model Honda GXV-620
- Engine Type 4-stroke, Overhead Valve, 2 cylinder, 90° V-Twin
- Displacement 37.5 in³ (614 cm³)
- Bore x Stroke 3.03" x 2.60" (77mm x 66mm)
- Maximum Output 20 bhp (14.9kW) at 3600 rpm
- Maximum Torque 32.5 lbf-ft (44.13 N-m) at 2500 rpm
- Cooling System Forced Air
- Ignition System Transistorized Magneto
- Spark Plug Gap 0.028" – 0.031" (0.70 mm – 0.80 mm)
- Spark Plug Denso - J16CR-U
- Engine Oil Cap. 2.3 US quarts w/ oil filter change, 1.8 qts. w/o filter change
- Engine Speeds Idle 1,400 ±150 rpm; Fast 3,600 rpm.

7.5.2 Model YSH2460Z – Honda 24 hp w/ 60" Deck

- Make / Model Honda GXV-670
- Engine Type 4-stroke, Overhead Valve, 2 cylinder, 90° V-Twin
- Displacement 40.9 in³ (670 cm³)
- Bore x Stroke 3.03" x 2.83" (77mm x 72mm)
- Maximum Output 24 bhp (17.9kW) at 3600 rpm
- Maximum Torque 37.5 lbf-ft (50.8 N-m) at 2500 rpm
- Cooling System Forced Air
- Ignition System Transistorized Magneto
- Spark Plug Gap 0.028" – 0.031" (0.70 mm – 0.80 mm)
- Spark Plug Denso - J16CR-U
- Engine Oil Cap. 2.6 US quarts with oil filter change, 2.1 qts w/o filter change
- Engine Speeds Idle 1,400 ±150 rpm; Fast 3,600 rpm.

7.5.3 Model YSK2151Z – Kawasaki 21 hp w/ 51" Deck

- Make / Model Kawasaki FH641V
- Engine Type 4-stroke, Overhead Valve, 2 cylinder, 90° V-Twin
- Displacement 41.19 in³ (675 cm³)
- Bore x Stroke 2.96" x 2.99" (75.2mm x 76mm)
- Maximum Output 21 bhp (15.7 kW) at 3600 rpm
- Maximum Torque 38.4 lbf-ft (52.1 N-m) at 2400 rpm
- Cooling System Forced Air
- Ignition System Solid State Ignition
- Spark Plug Gap 0.030" (0.75 mm)
- Spark Plug Denso W16EPR-U
- Engine Oil Cap. 1.8 US quarts with oil filter change, 1.6 qts w/o filter change
- Engine Speeds Idle 1,550 rpm; Fast 3,600 rpm.

7.5.4 Model YSK2560Z – Kawasaki 25 hp w/ 60" Deck

- Make / Model Kawasaki FH721V
- Engine Type 4-stroke, Overhead Valve, 2 cylinder, 90° V-Twin
- Displacement 41.19 in³ (675 cm³)
- Bore x Stroke 2.96" x 2.99" (75.2mm x 76mm)
- Maximum Output 25 bhp (18.6 kW) at 3600 rpm
- Maximum Torque 41.3 lbf-ft (56.0 N-m) at 2400 rpm
- Cooling System Forced Air
- Ignition System Solid State Ignition
- Spark Plug Gap 0.030" (0.75 mm)
- Spark Plug Denso W14EPR-U
- Engine Oil Cap. 1.9 US quarts with oil filter change, 1.6 qts w/o filter change
- Engine Speeds Idle 1,550 rpm; Fast 3,600 rpm.

7.6 Hydrostatic System Specs

Hydrostatic Pumps (2) White KP Series;
Displacement – 10cc / revolution; Variable displacement, axial piston pump.
Wheel Motors (2) White RG Series; 12.2 in³ (200cc)
Component Manufacturer White Hydraulics, Inc.,
PO Box 1127
Hopkinsville, KY. USA 42241
System Capacity 2.1 US gallons (8.0 litres)

7.7 Fuel Tank Capacity

7.0 US gallons (26.5 litres)

8 Service Record

Record all service and repairs here for future reference.

[illegible]

9 Parts lists and drawings.

9.1 Aftermarket Replacement Parts NOT SHOWN in Drawings

Spare Ignition Key		Y3887			
Pin Spanner Tool for Spindle Repair		Y4259			
Orange Touchup Paint (1 can Rim Orange)		YET-4381			
		Honda 20 hp	Honda 24 hp	Kawasaki 21	Kawasaki 25
Air Filter – Primary (Outer)	Tilton Part No.	Y4849	Y3974	Y3375	Y3375
	OEM Part No.	17210-ZJ1-842	17210-759-013	11013-7020	11013-7020
Air Filter – Secondary (Inner)	Tilton Part No.	N/A	N/A	Y3376	Y3376
	OEM Part No.	N/A	N/A	11013-7019	11013-7019
Fuel Filter	Tilton Part No.	Y4195	Y4195	Y3378	Y3378
	OEM Part No.	16910-ZE8-015	16910-ZE8-015	49019-7001	49019-7001
Oil Filter	Tilton Part No.	Y4168	Y4168	Y3374	Y3374
	OEM Part No.	15400-PLM-A01PE	15400-PLM-A01PE	49065-2078	49065-2078
Spark Plug	Tilton Part No.(Denso)	Denso J16CR-U	Denso J16CR-U	Denso W16EPR-U	Denso W14EPR-U



Decal Y3351 – Qty (1) – Placement as shown above.



Decal Y3356 – Qty(1) - Place underneath seat plate next to battery compartment.



Decal Y3361 – Qty (2) – Place under deck pulley covers on LH and RH sides of deck.



Decal Y3365 – Qty(2) – Place one on each side of rear “YardShark” guard, close to the rear in vicinity of muffler.



Decal Y3366 – Qty(1) – Place on inside of LH fender, next to seat.



Decal Y3362 – Qty(1) – Place on top of LH fender.



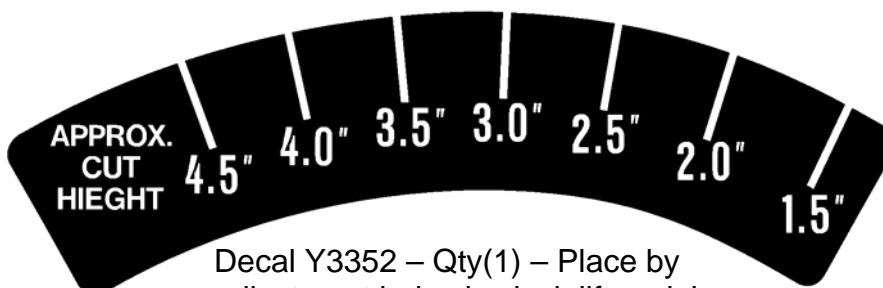
Decal Y3359 – Qty(1) - Place on RH side of deck near discharge chute.



Decal Y3363 – Qty(1) – Place on top of RH fender.



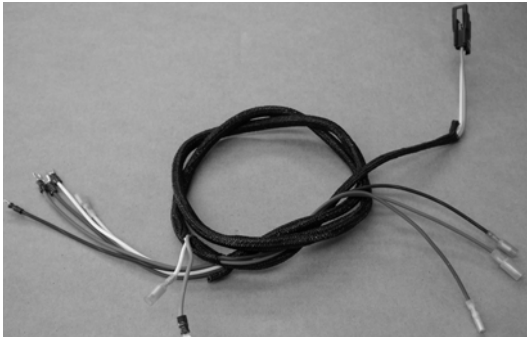
Decal Y3360 – Qty(1) - Place on LH side of deck.



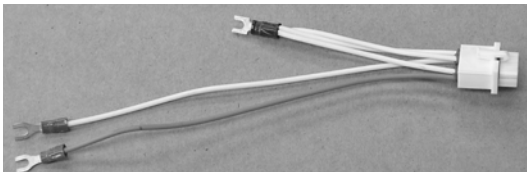
Decal Y3352 – Qty(1) – Place by adjustment holes by deck lift pedal.



Y3746 – Qty(1) - Seat switch wire harness



Y3748 – Qty(1) – Main engine/clutch wire harness



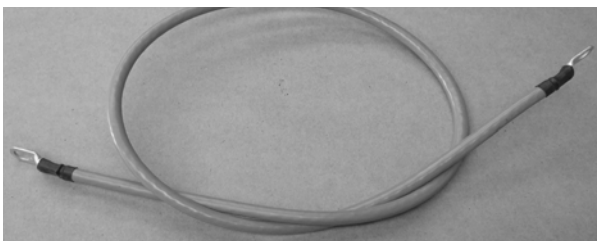
Y3750 – Qty(1) – Fuel gauge plug assy.



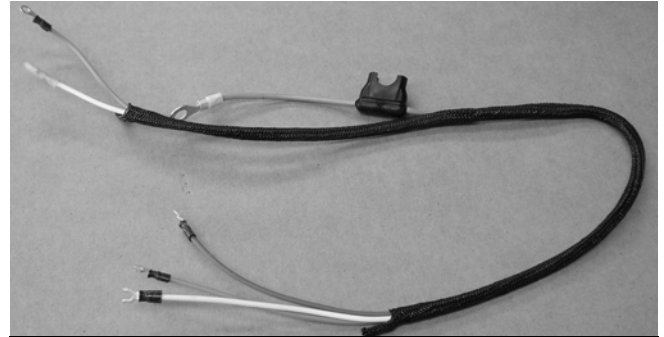
Y3751 – Qty(1) – Deck switch wiring assy.



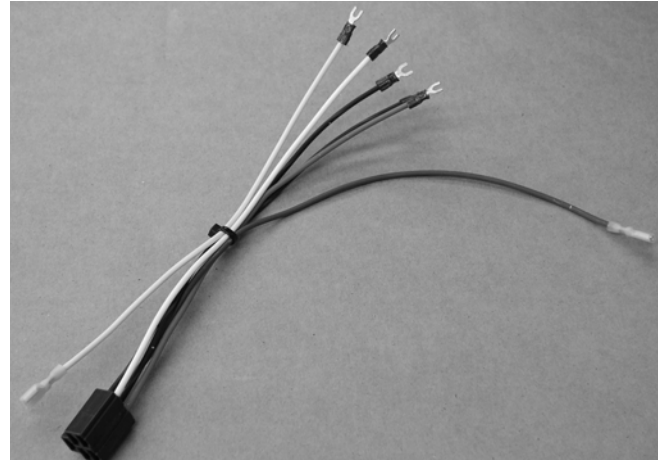
Y4481 – 8" Battery Cable
Qty(1) for Hondas
Qty(2) for Kawasakis



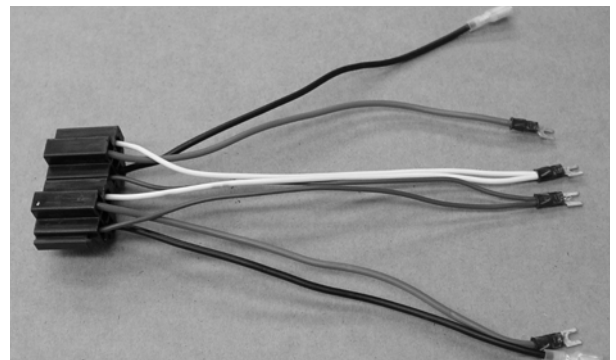
Y4482 – Qty(1) - 40" Battery Cable



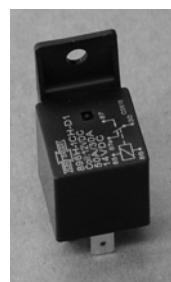
Y3747 – Qty(1) – Wire assy, main power



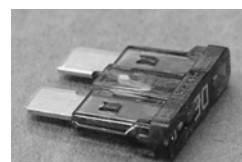
Y3749 – Qty(1) – Wire assy, key switch



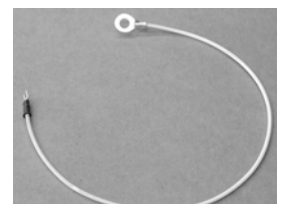
Y3752 – Qty(1) – Relay wiring assy



Y3784 – Qty(2) - Relay



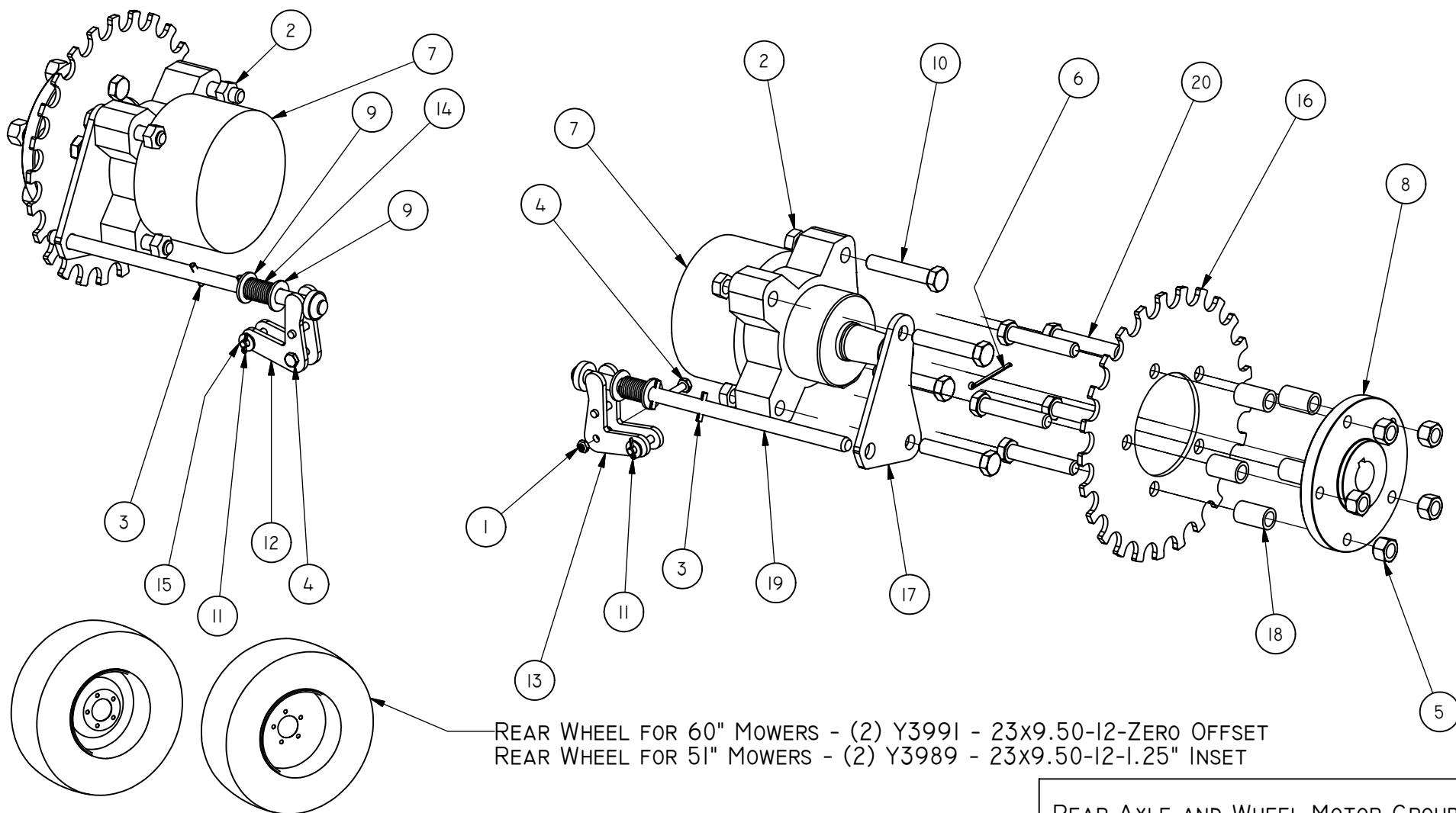
Y7611 – Qty(1) – 30 amp blade-type fuse



Y3753 – Qty(1) – Ground wire

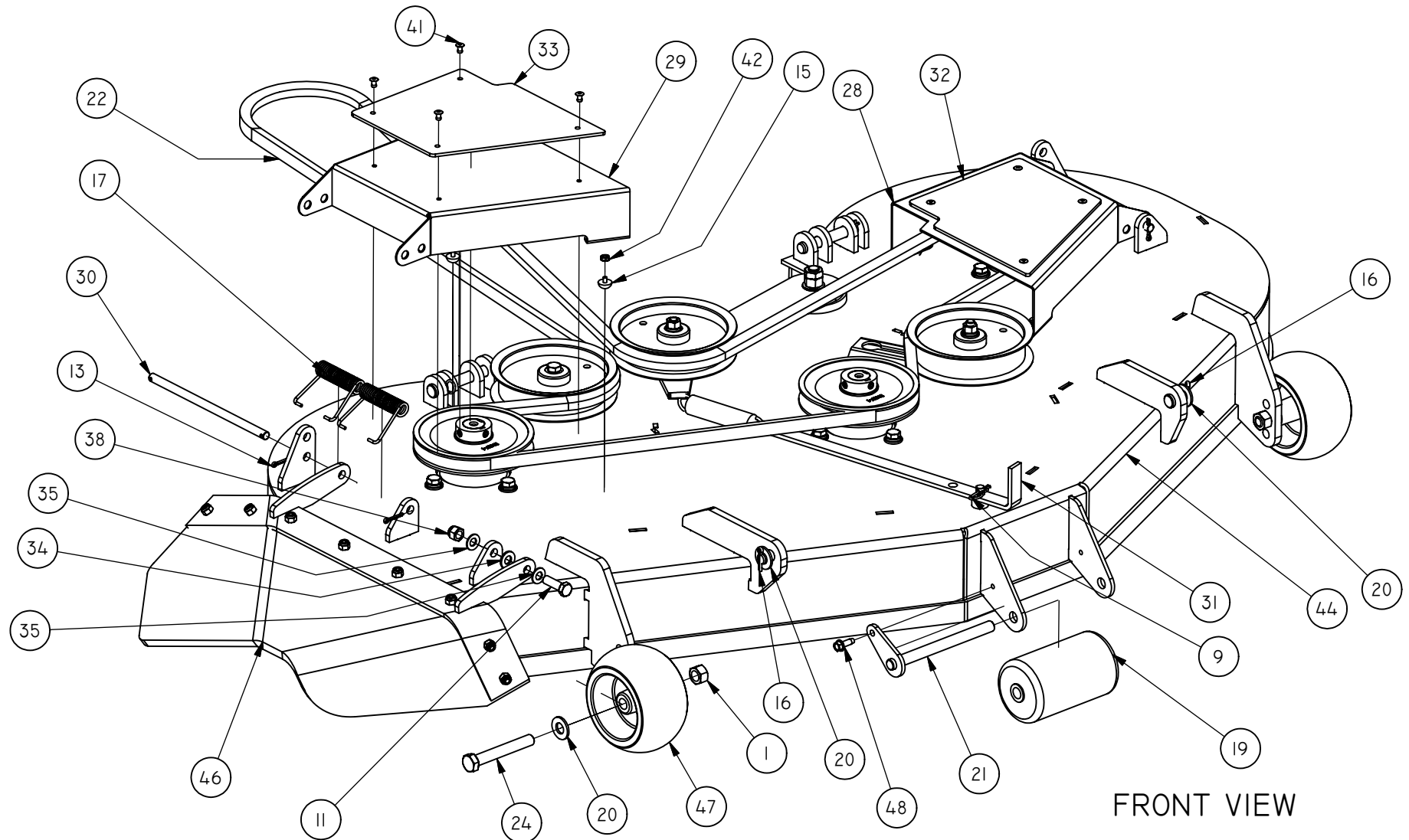
Electrical & Wiring Group

ITM	QTY	PART NO.	DESCRIPTION	ITM	QTY	PART NO.	DESCRIPTION
1	2	Y1006	1/4-20 TOP LOCK NUT	11	2	Y4250	3/32 x 1/2 COTTER PIN
2	8	Y1007	NUT, 1/2" UNC TOP LOCK	12	1	Y4251	BRAKE PIN ROCKER - RH
3	4	Y1594	3/16 x 1 ROLL PIN	13	1	Y4258	BRAKE PIN ROCKER - LH
4	2	Y191246	1/4 x 1-1/4 UNC BOLT	14	2	Y4308	COMPRESSION SPRING, BRAKE PIN
5	10	Y193093	1/2-20 UNF LUG NUT	15	2	Y4426	1/4" SAE FLAT WASHER
6	2	Y196314	1/8 x 2 COTTER PIN	16	2	Y4626	BRAKE DISC
7	2	Y2692	WHITE CE-14 WHEEL MOTOR	17	2	Y4627	BRAKE ROD SUPPORT AT WHEEL MOTOR
8	2	Y30111	5 BOLT WHEEL HUB	18	10	Y4630	BRAKE DISC SPACER
9	4	Y3458	1/2" SAE FLAT WASHER	19	2	Y4637	BRAKE PIN
10	8	Y3972	HEX CAP 1-2x2_3-4 UNC GR5 ZN	20	10	Y4680	HEX CAP 1-2x2_3-4 UNF



REAR AXLE AND WHEEL MOTOR GROUP

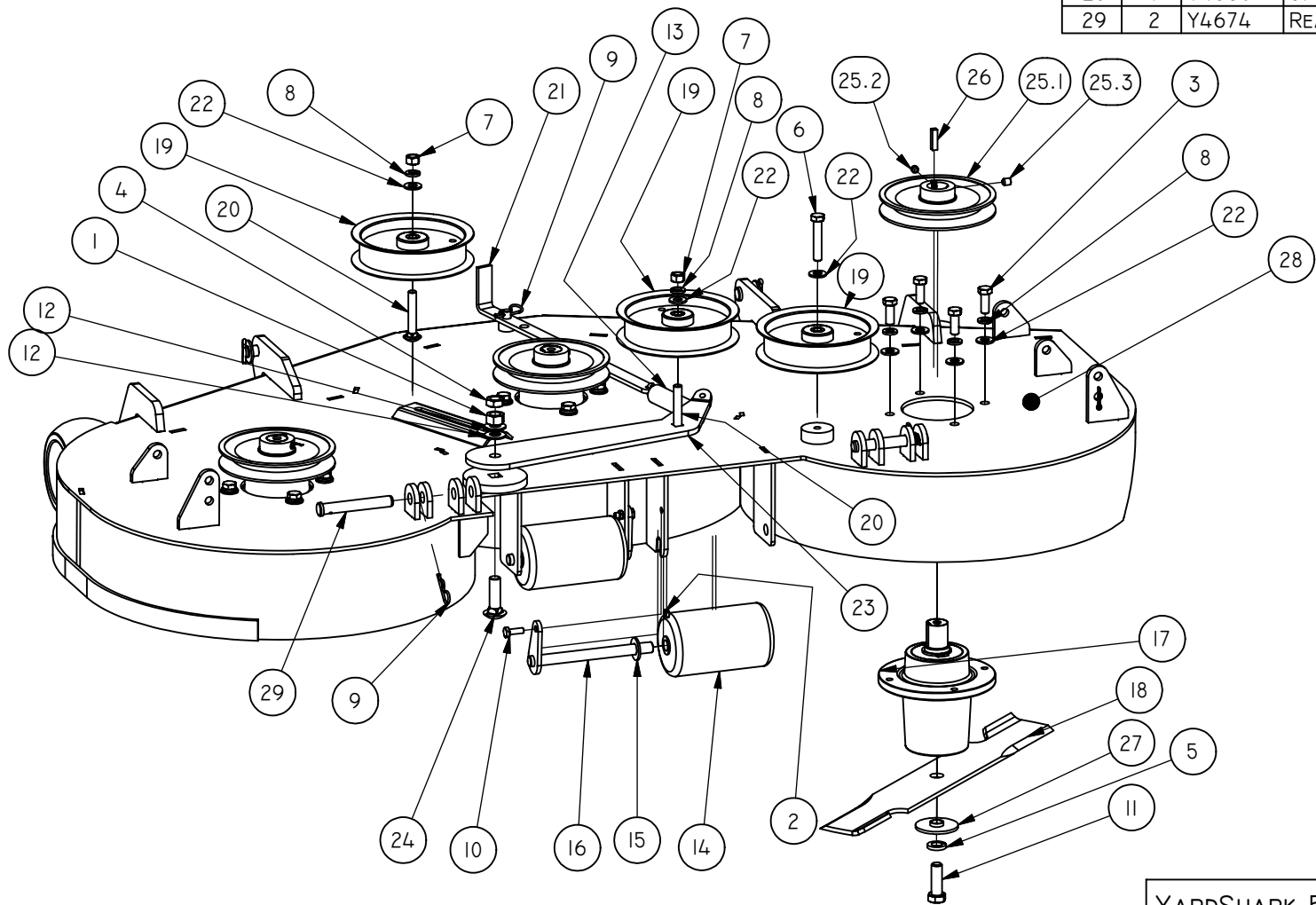
ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	3	Y1002	1/2-13 Hex Nut	21	3	Y3637	DECK ROLLER PIN	34	16	Y4349	3/8 SAE FLAT WASHER
9	3	Y190063	HAIR PIN, #3 FOR 3/8" PINS	22	1	Y3765	V-BELT 51" YARDSHARK	35	2	Y4350	3/8 X .056 BELLEVILLE WASHER
11	1	Y191332	HEX CAP 3-8x1-4 UNC	24	2	Y4002	HEX CAP 1-2x3-1-2 UNC	38	1	Y4372	3/8 STD NC NYLOCK NUT
13	4	Y196304	1/8 X 3/4 COTTER PIN	28	1	Y4311	LH PULLEY COVER	41	8	Y4376	3/16 X .250 STD POP RIVET
15	4	Y2928	RUBBER BUMPER	29	1	Y4313	RH PULLEY COVER	42	4	Y4377	NUT, 8-32 UNC KEPS
16	2	Y2988	5/32 X 3/4 COTTER PIN	30	2	Y4314	PULLEY COVER HINGE	44	1	Y4660	51 DECK WELDMENT - TILTON
17	4	Y30064	TORSION SPRING - MOWER	31	1	Y4333	BELT TENSIONER	46	1	Y4745	RUBBER DISCHARGE DEFLECTOR ASSY
19	3	Y30207	DECK ROLLER, 3" x 5"	32	1	Y4334	PULLEY COVER TREAD PLATE LH	47	2	Y6916	DECK WHEEL
20	6	Y3458	1/2" SAE FLAT WASHER	33	1	Y4335	PULLEY COVER TREAD PLATE RH	48	1	Y7790	1/4 X 3/4 TAPPING SCREW



FRONT VIEW

YARDSHARK 51" DECK GROUP

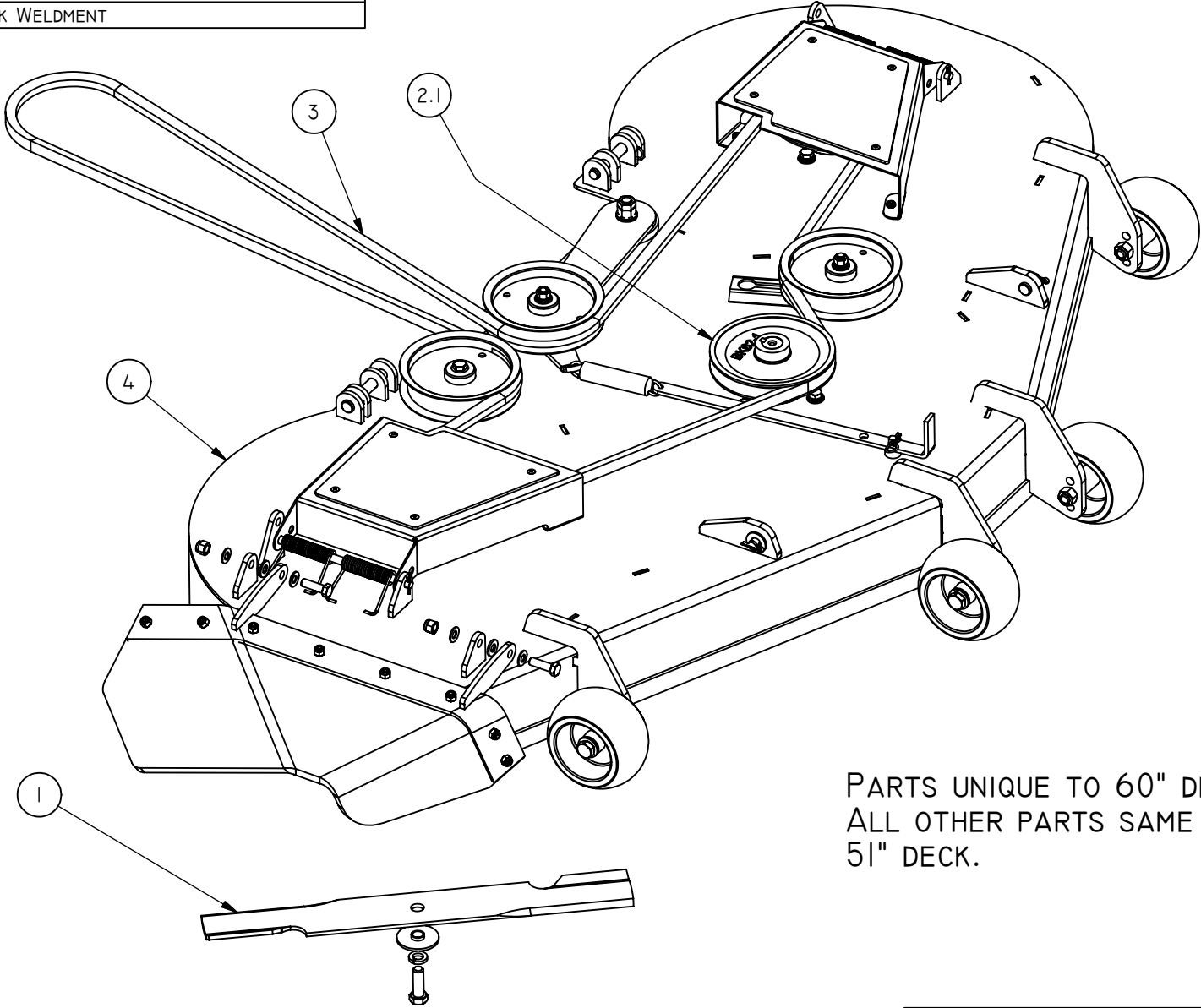
ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	3	Y1002	1/2-13 HEX NUT	12	2	Y198119	1/2 X .070 BELLEVILLE WASHER	23	1	Y4358	BELT TENSIONER ARM
2	2	Y1006	1/4-20 TOP LOCK NUT	13	1	Y30065	DECK BELT TIGHTENING SPRING	24	1	Y4371	1/2-13 X 1-3/4 CARR BOLT
3	12	Y1018	HEX CAP 3-8X1 UNC	14	3	Y30207	DECK ROLLER, 3" x 5"	25	3	Y4374	BK57 X 1" PULLEY ASSY W/ 2 SET SCREWS
4	1	Y1045	1/2-13 UNC JAM NUT	15	6	Y3458	1/2" SAE FLAT WASHER	25.1	1	Y7187	BK57-1" PULLEY
5	3	Y1053	1/2" LOCK WASHER	16	3	Y3637	DECK ROLLER PIN	25.2	1	Y4123	SETSCREW 5_16-18 UNCx0.25 KNURLED
6	1	Y1658	HEX CAP 3-8x2 UNC	17	3	Y3862	SPINDLE ASSY MOWERS 2006-	25.3	1	Y192575	SETSCREW 5_16-18 UNCx0.375 - KNURLED
7	2	Y1826	3/8-16 UNC HEX NUT	18	3	Y4145	18" BLADE - STD.	26	3	Y4375	1/4 x 1 KEY
8	14	Y1827	3/8" LOCK WASHER	19	3	Y4203	DECK IDLER PULLEY ASSY - FLAT	27	3	Y4466	BLADE SPINDLE WASHER
9	3	Y190063	HAIR PIN, #3 FOR 3/8" PINS	20	2	Y4225	3/8 x 2.25 CARR BOLT	28	1	Y4660	51 DECK WELDMENT - TILTON
10	2	Y191242	HEX CAP 1-4x_3-4 UNC	21	1	Y4333	BELT TENSIONER	29	2	Y4674	REAR DECK LIFT PIN
11	3	Y191422	1/2 x 1-1/2 UNF HEX CAP SCREW	22	16	Y4349	3/8 SAE FLAT WASHER				



REAR VIEW

YARDSHARK 51" DECK GROUP

ITM	QTY	PART No.	DESCRIPTION
1	3	Y2978	20-1/2" BLADE - STD.
2	3	Y3947	BK62 PULLEY ASSY W/ 2 SET SCREWS
2.1	1	Y3946	BK62-1" BORE PULLEY
2.2	1	Y4123	SETSCREW 5_16-18 UNCx0.25 KNURLED
2.3	1	Y192575	5/16-18 SET SCREW X 3/8
3	1	Y3973	BELT FOR 60" YARDSHARK
4	1	Y4640	60" DECK WELDMENT

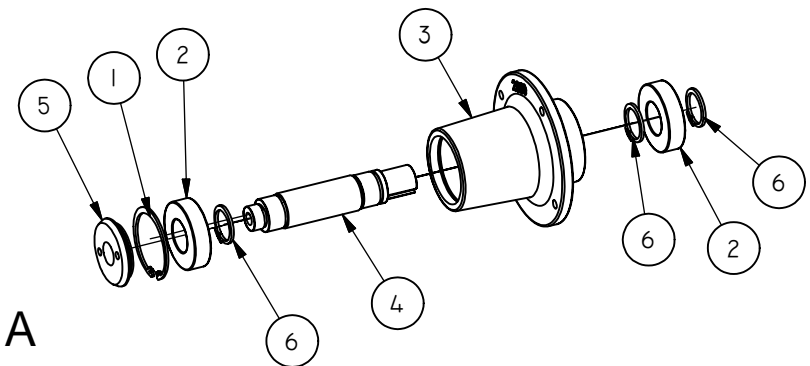
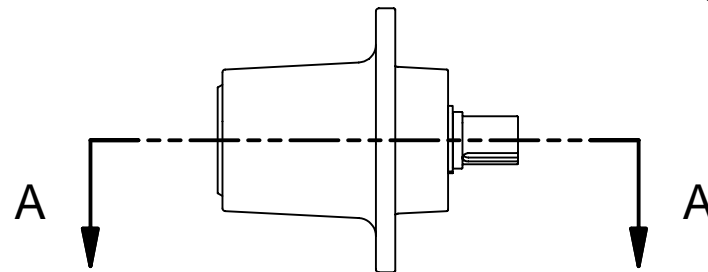
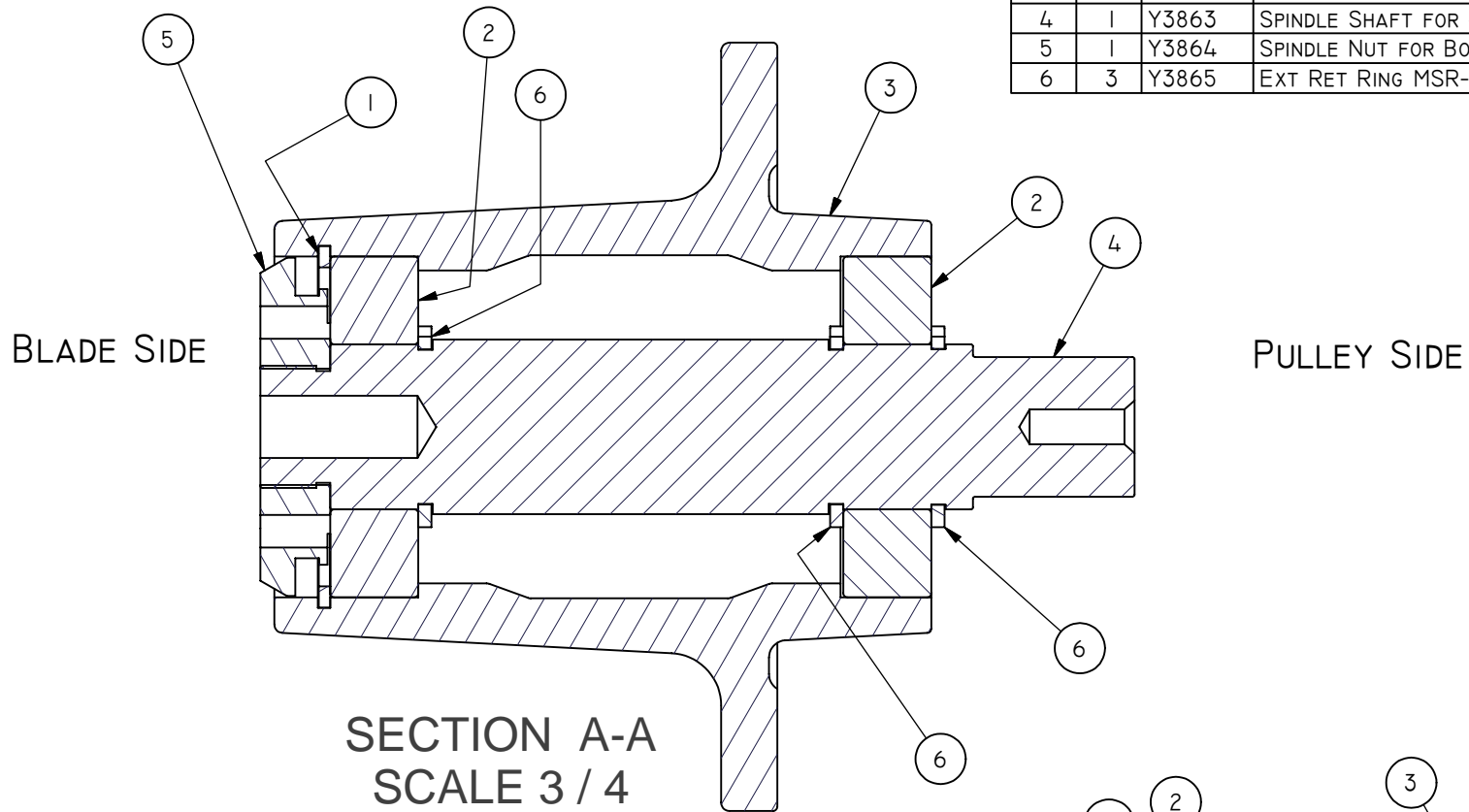


PARTS UNIQUE TO 60" DECK.
ALL OTHER PARTS SAME AS
51" DECK.

YARD SHARK 60" DECK GROUP

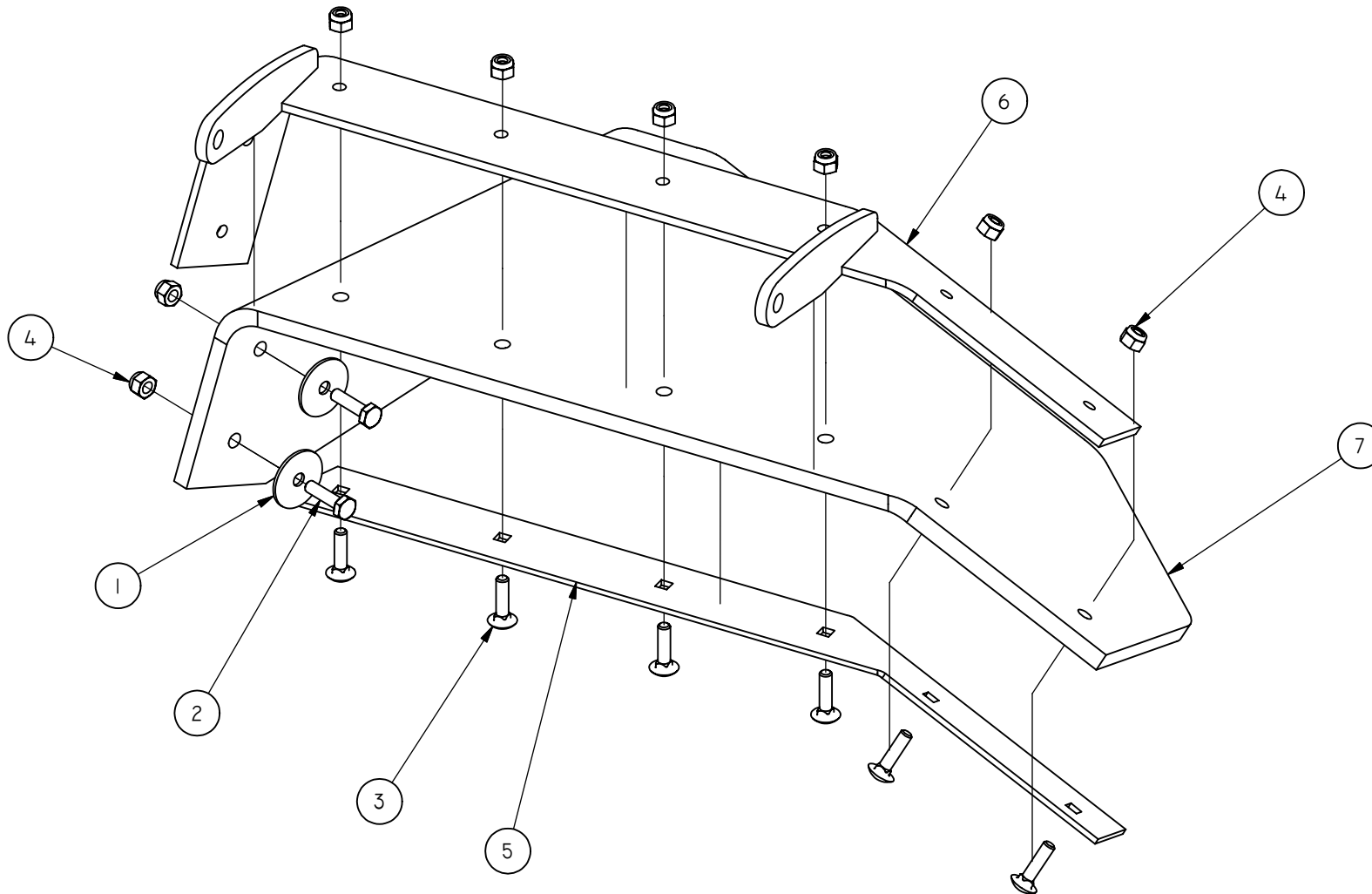
COMPLETE SPINDLE ASSY - # Y3862.

ITM	QTY	PART No.	DESCRIPTION
1	1	Y1074	INTERNAL RETAINING RING/MHO-62/ANSI METRIC
2	2	Y2755	6206 SEALED BEARING
3	1	Y2959M	MACHINED HUB FOR MOWER SPINDLE
4	1	Y3863	SPINDLE SHAFT FOR #3862 ASSY
5	1	Y3864	SPINDLE NUT FOR BOTTOM OF #3862 ASSY
6	3	Y3865	EXT RET RING MSR-30



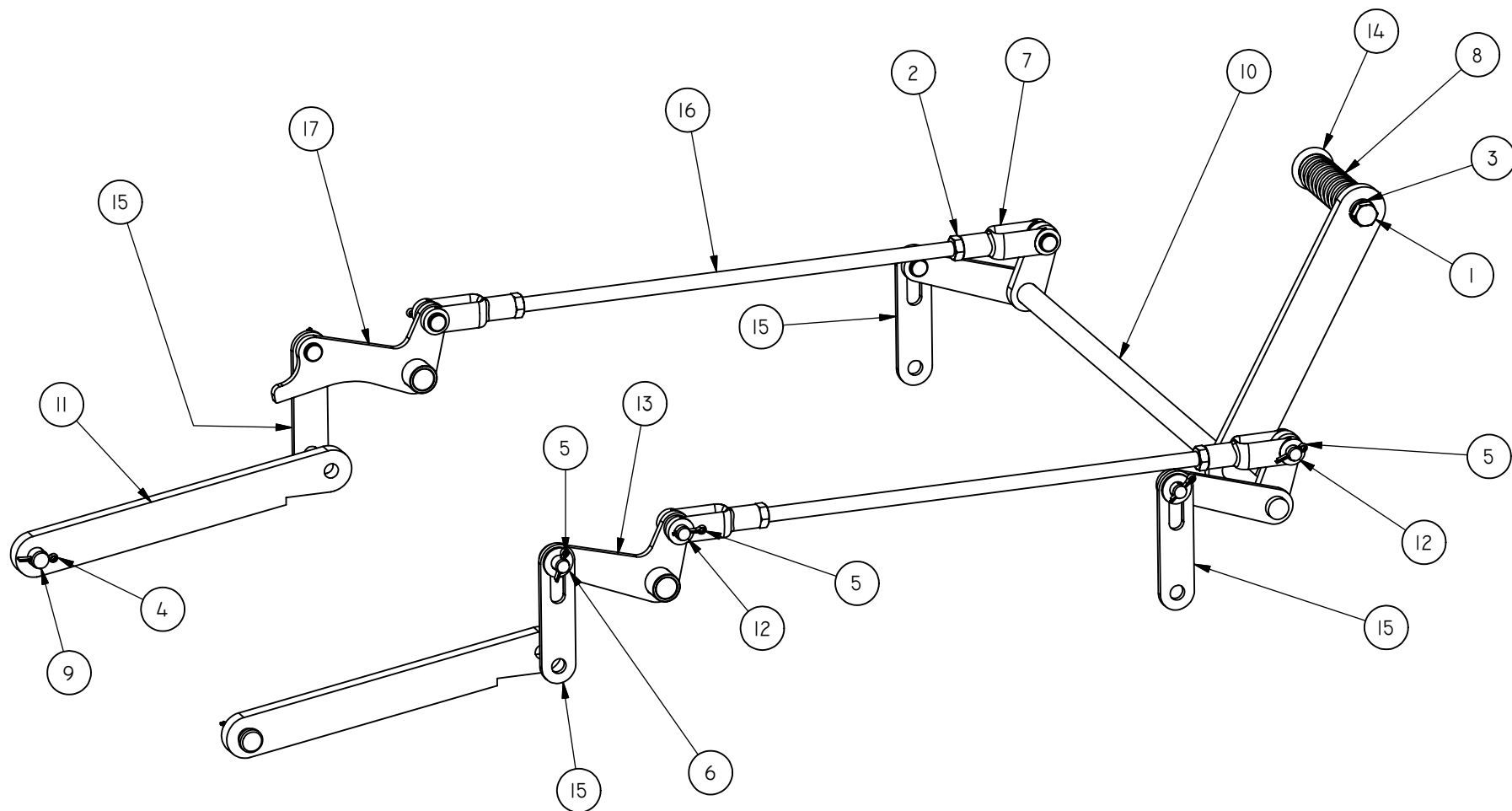
SPINDLE ASSEMBLY

ITM	QTY	PART NO.	DESCRIPTION
1	2	Y198046	1/4" FENDER WASHER
2	2	Y3624	1/4 x 1 HEX CAP SCREW
3	6	Y4060	1/4 x 1 CARR BOLT
4	8	Y4062	1/4 STD NC NYLOCK NUT
5	1	Y4730	DEFLECTOR BOTTOM CLAMP STRAP
6	1	Y4732	DEFLECTOR MOUNT WELDMENT
7	1	Y4734	RUBBER DEFLECTOR-TILTON

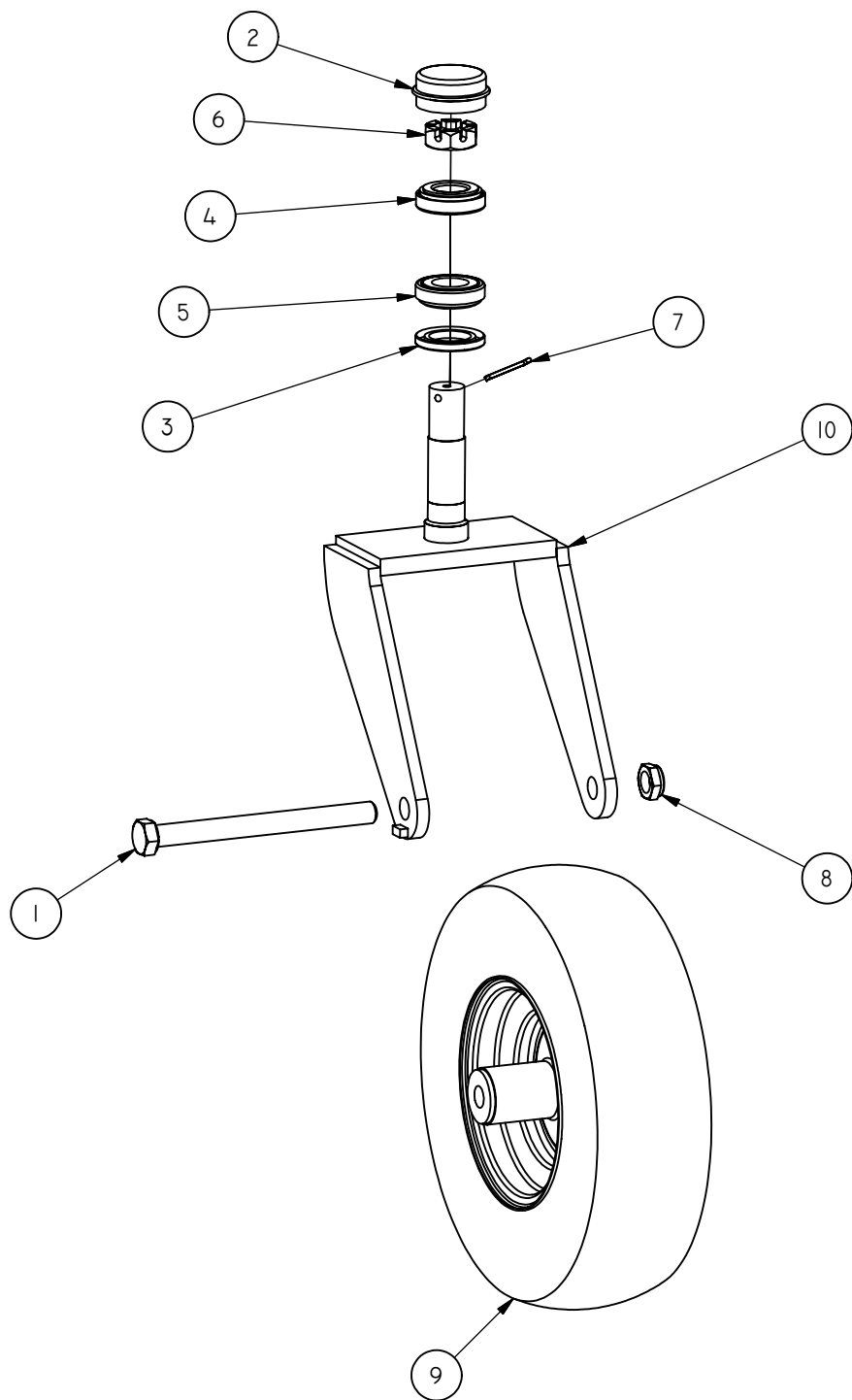


RUBBER DISCHARGE DEFLECTOR ASSY

ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	1	Y1019	HEX CAP 1-2X1-1-4 UNC	10	1	Y4274	DECK LIFT ROCK SHAFT WELDMENT
2	4	Y1045	1/2-13 UNC JAM NUT	11	2	Y4276	DECK PUSH ARM
3	1	Y1053	1/2" LOCK WASHER	12	4	Y4348	CLEVIS PIN, 1/2" DIA. x 1 27/64" LENGTH
4	2	Y2952	5/32 X COTTER PIN	13	1	Y4359	REAR DECK LIFT RH
5	8	Y2988	5/32 x 3/4 COTTER PIN	14	1	Y4360	FOOT PEG
6	4	Y3458	1/2" SAE FLAT WASHER	15	4	Y4362	DECK LIFT LINK
7	4	Y4153	1/2-13 UNC CLEVIS RH	16	2	Y4453	DECK LIFT ROD
8	10	Y4159	O-RING	17	1	Y4672	REAR LH DECK LIFT w/ LATCH HOOK
9	2	Y4170	CLEVIS PIN, 5/8 x 1 1/4				

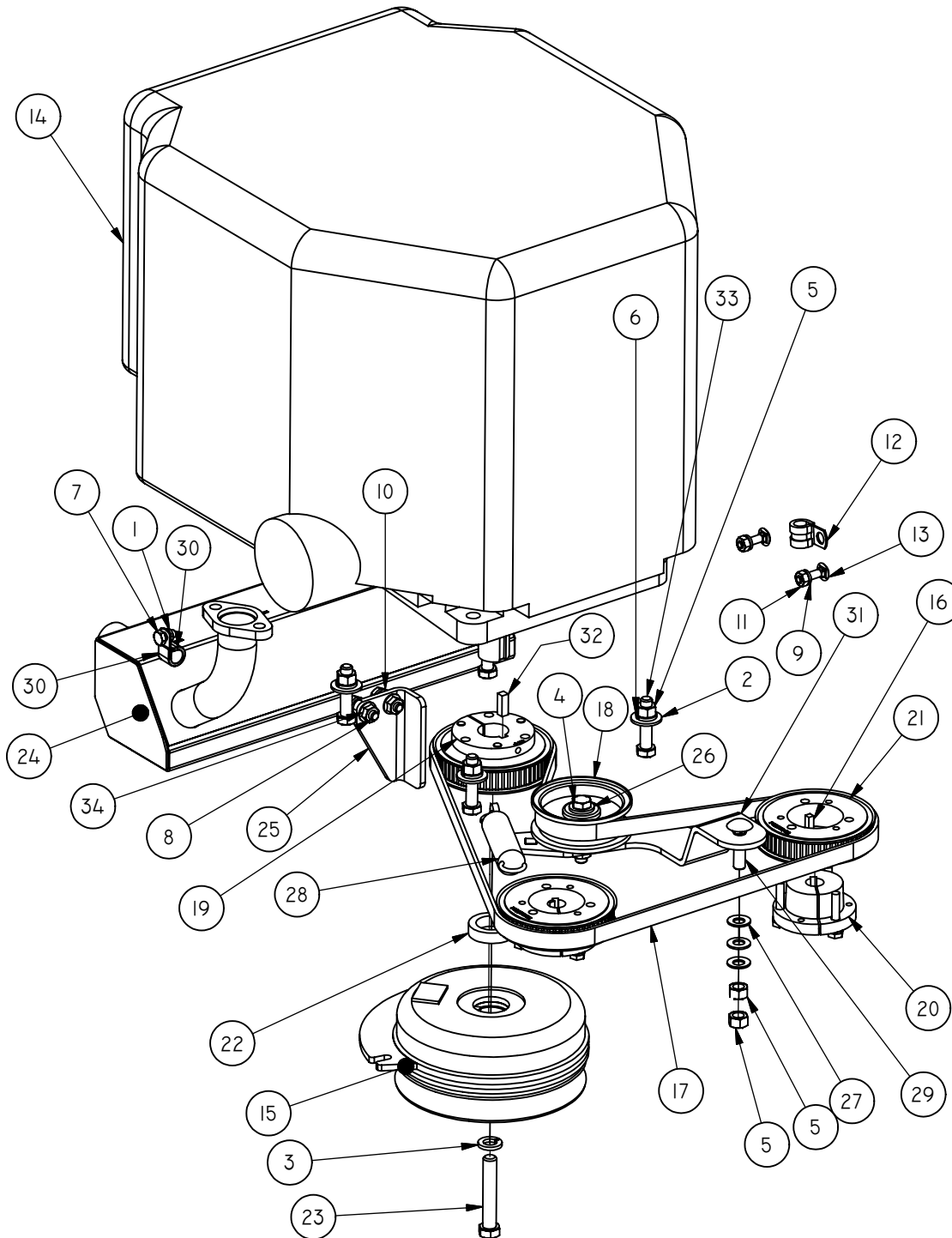


DECK LIFT GROUP



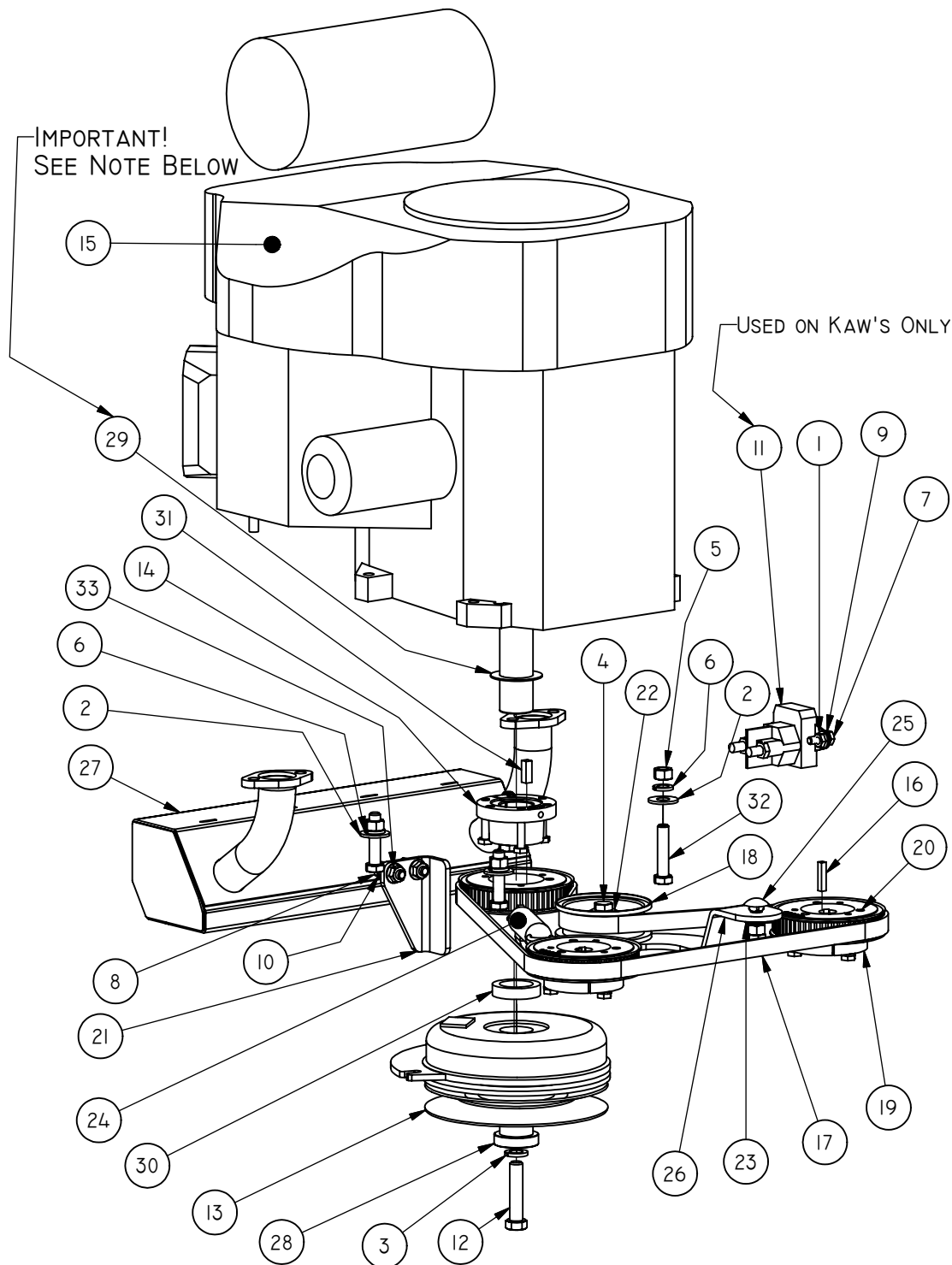
ITM	QTY	PART No.	DESCRIPTION
1	1	Y1029	HEX CAP 5-8x7 UNC
2	1	Y130083	DUST CAP - ZINC
3	1	Y150001	GREASE SEAL
4	1	Y1500031	BEARING-CUP&CONE 1" BORE
5	1	Y1500041	BEARING-CUP&CONE 1.0625" BORE
6	1	Y193185	1" SLOTTED NUT - THIN
7	1	Y196314	1/8 x 2 COTTER PIN
8	1	Y3064	5/8 THIN NC NYLOCK NUT
9	1	Y3990	13X5 WHEEL ASSY
10	1	Y4629	FRONT CASTER FORK WELDMNT

FRONT WHEEL GROUP



ITM	QTY	PART No.	DESCRIPTION
1	2	Y1006	1/4-20 TOP LOCK NUT
2	4	Y1047	3/8 USS FLAT WASHER
3	1	Y1052	7/16" LOCK WASHER
4	1	Y1658	HEX CAP 3-8x2 UNC
5	7	Y1826	3/8-16 UNC HEX NUT
6	5	Y1827	3/8" LOCK WASHER
7	2	Y191240	HEX CAP 1-4x1-2 UNC
8	2	Y191282	5-16x1 UNC HEX CAP
9	2	Y198042	1/4" LOCK WASHER
10	2	Y198064	5/16" LOCK WASHER
11	2	Y3625	1/4-20 HEX NUT
12	1	Y3781	LOOM CLAMP 1/2 DIA - 3/8 MOUNT
13	2	Y4060	1/4 x 1 CARR BOLT
14	1	Y4136	ENGINE, HONDA GXV20
15	1	Y4140	WARNER CLUTCH # 1-5218-52 B
16	2	Y4172	5MM x 25MM KEY
17	1	Y4199	BELT 5MM PITCH x 51.181 x 15MM WIDE
18	1	Y4202	2.75" IDLER PULLEY
19	1	Y4216	BUSHING-ENGINE, SH 1" BORE
20	2	Y4217	BUSHING-PUMPS, SH 15MM
21	3	Y4266	SPROCKET, 5MM PITCH, 60 GROOVE, SH BORE
22	1	Y4267	CLUTCH SPACER - 1" ID
23	1	Y4268	7/16 x 2-1/2 HEX CAP SCREW
24	1	Y4273	MUFFLER-HONDA
25	1	Y4275	CLUTCH STOP
26	2	Y4349	3/8 SAE FLAT WASHER
27	3	Y4350	3/8 X .056 BELLEVILLE WASHER
28	1	Y4353	PUMP DRIVE IDLER SPRING
29	1	Y4354	3/8 X 1-1/2 CARRIAGE BOLT
30	2	Y4462	LOOM CLAMP 1/2 DIA - 1/4" MOUNT
31	1	Y4474	PUMP DRIVE IDLER ARM
32	1	Y4852	1/4 KEY x 3/4 LONG
33	4	Y7194	HEX CAP 3-8x1_3-4 UNC
34	2	Y8230	5/16-18NC SERR FLANGE ZP

HONDA 20HP POWER GROUP

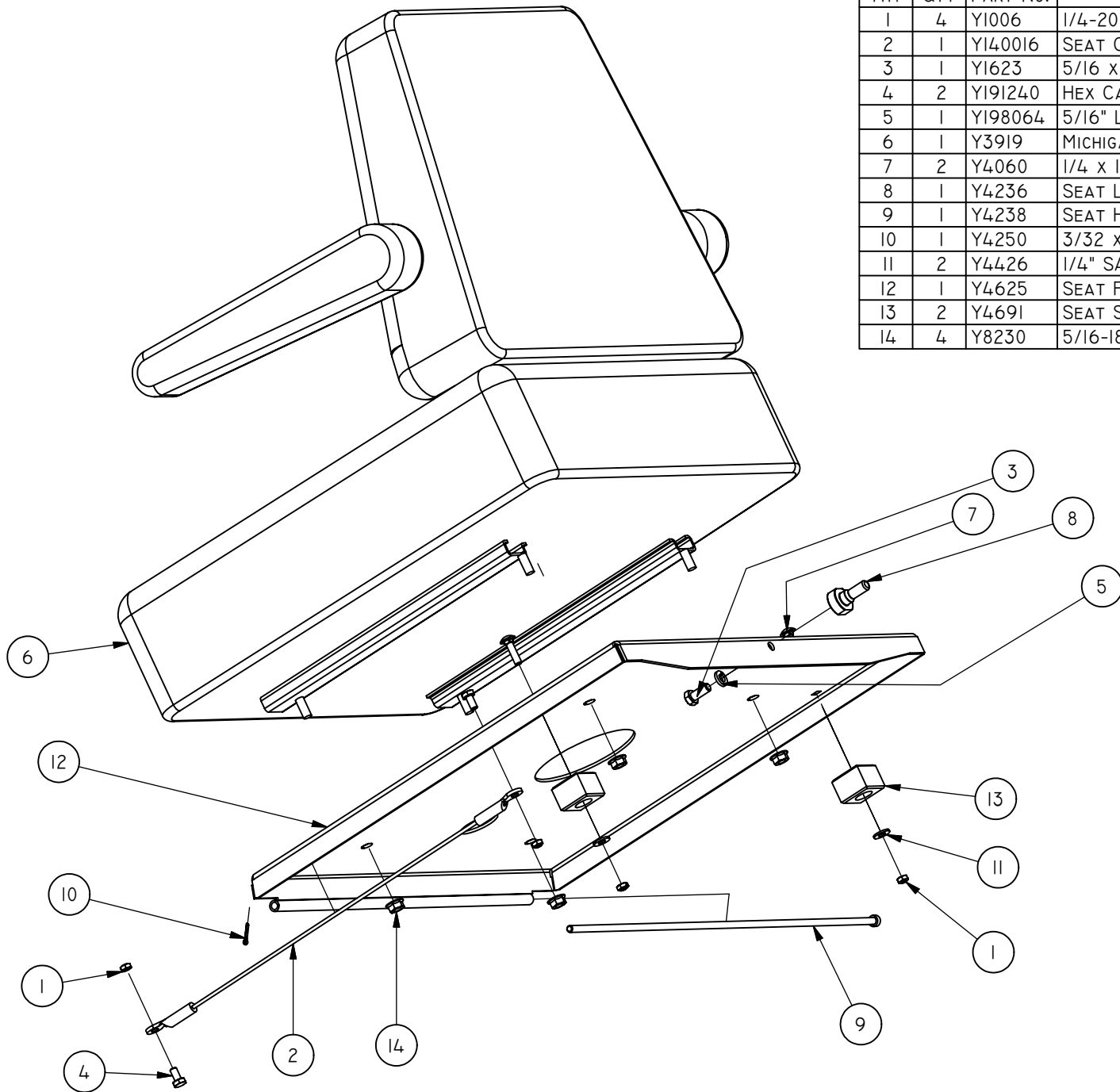


ITM	QTY	PART No.	DESCRIPTION
1	2	Y1012	NUT WHIZ 1/4-20NC ZP
2	4	Y1047	3/8 USS FLAT WASHER
3	1	Y1052	7/16" LOCK WASHER
4	1	Y1658	HEX CAP 3-8x2 UNC
5	7	Y1826	3/8-16 UNC HEX NUT
6	5	Y1827	3/8" LOCK WASHER
7	2	Y191242	HEX CAP 1-4x_3-4 UNC
8	2	Y191282	5-16x1 UNC HEX CAP
9	2	Y198042	1/4" LOCK WASHER
10	2	Y198064	5/16" LOCK WASHER
11	1	Y3313	12V SOLENOID
12	1	Y3326	7/16 X 2 HEX - UNF
13	1	Y3944	CLUTCH - 1-1/8" BORE
14	1	Y3948	BUSHING-ENGINE, SH 1-1/8" BORE
15	1	Y3966	KAWASAKI 21 HP
16	2	Y4172	5MM x 25MM KEY
17	1	Y4199	BELT 5MM PITCH x 51.181 x 15MM WIDE
18	1	Y4202	2.75" IDLER PULLEY
19	2	Y4217	BUSHING-PUMPS, SH 15MM
20	3	Y4266	SPROCKET, 5MM PITCH, 60 GROOVE, SH BORE
21	1	Y4275	CLUTCH STOP
22	2	Y4349	3/8 SAE FLAT WASHER
23	3	Y4350	3/8 X .056 BELLEVILLE WASHER
24	1	Y4353	PUMP DRIVE IDLER SPRING
25	1	Y4354	3/8 X 1-1/2 CARRIAGE BOLT
26	1	Y4474	PUMP DRIVE IDLER ARM
27	1	Y4652	MUFFLER-KAWASAKI
28	1	Y4667	CLUTCH MOUNT BUSHING - 1-1/8"
29	1	Y4668	1-1/8" x .050" NARROW RIM MACH BUSHING
30	1	Y4669	CLUTCH SPACER - 1-1/8" ID
31	1	Y4852	1/4 KEY X 3/4 LONG
32	4	Y7194	HEX CAP 3-8x1_3-4 UNC
33	2	Y8230	5/16-18NC SERR FLANGE ZP

IMPORTANT NOTE - PART #Y4668 (ITEM 29) IS USED ONLY ON KAWASAKI ENGINES. IT IS USED TO COMPENSATE FOR A SLIGHTLY LONGER CRANKSHAFT THAN THE HONDA 24HP. DO NOT USE ON HONDA'S !!

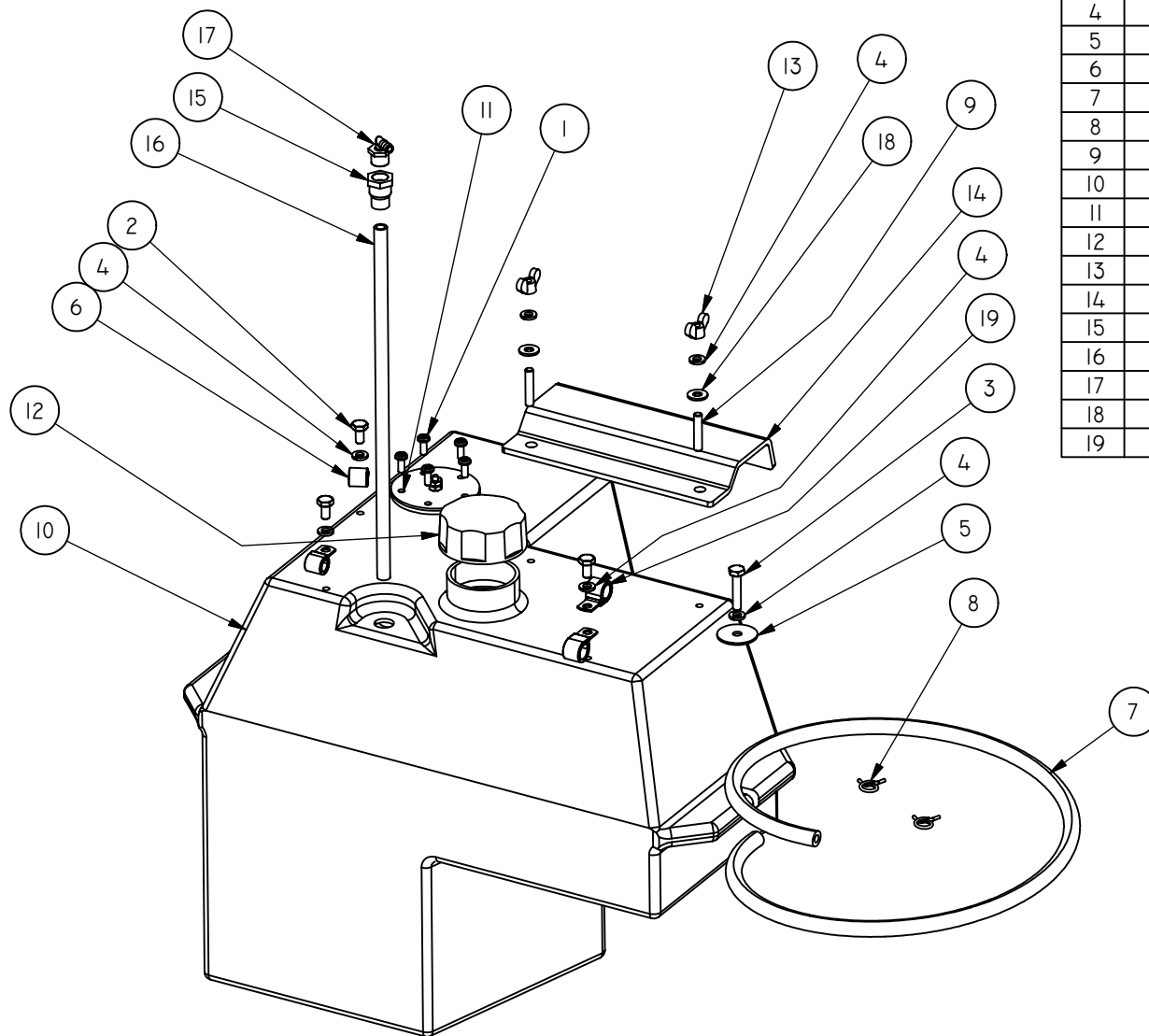
KAWASAKI 25 HP ENGINE PART #Y3965
HONDA 24 HP ENGINE PART #Y3960

KAW21/25 & HONDA24 ENGINE GROUP



ITM	QTY	PART No.	DESCRIPTION
1	4	YI006	1/4-20 TOP LOCK NUT
2	1	YI40016	SEAT CABLE - 1/8" x 18"
3	1	YI623	5/16 x 3/4 BOLT
4	2	YI91240	HEX CAP 1-4x1-2 UNC
5	1	YI98064	5/16" LOCK WASHER
6	1	Y3919	MICHIGAN SUSPENSION SEAT
7	2	Y4060	1/4 x 1 CARR BOLT
8	1	Y4236	SEAT LATCH PIN
9	1	Y4238	SEAT HINGE PIN - ZINC
10	1	Y4250	3/32 x 1/2 COTTER PIN
11	2	Y4426	1/4" SAE FLAT WASHER
12	1	Y4625	SEAT PLATE WELDMENT
13	2	Y4691	SEAT SUPPORT BUMPER
14	4	Y8230	5/16-18NC SERR FLANGE ZP

SEAT GROUP

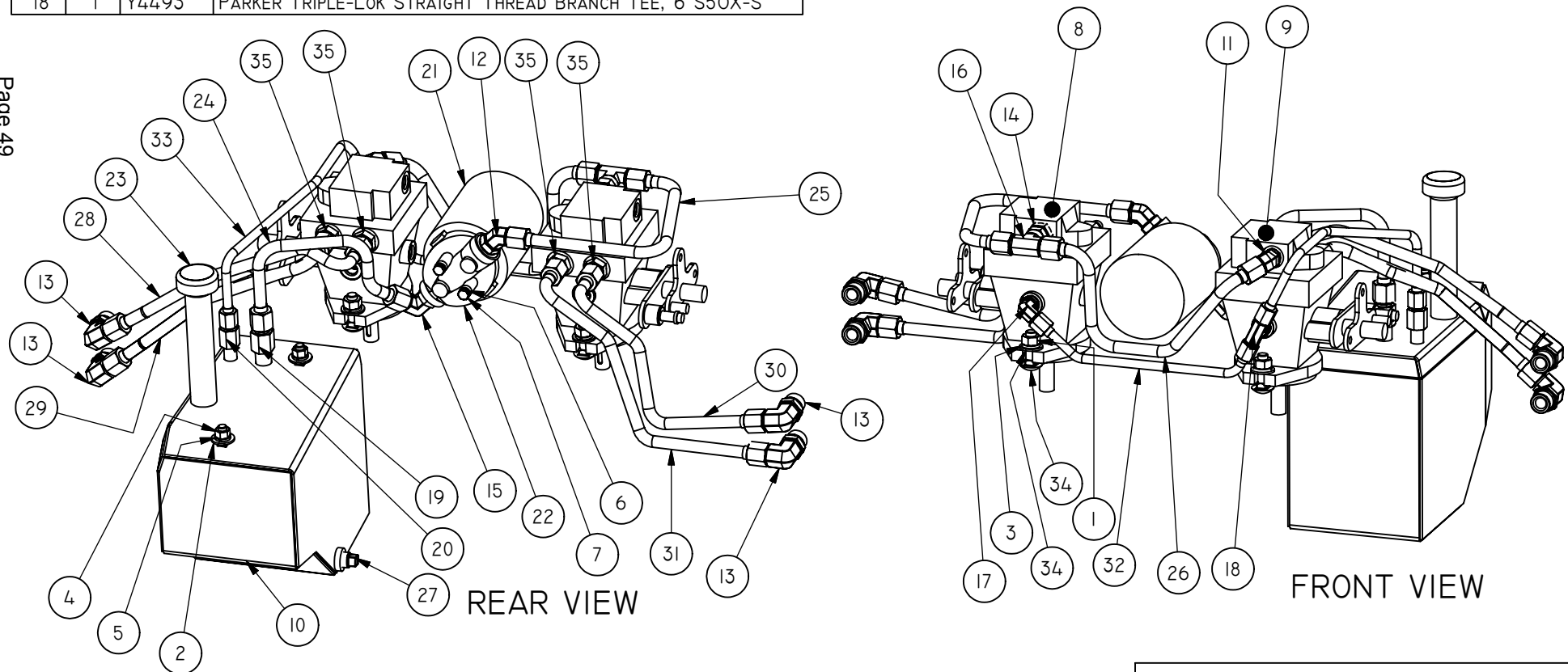


ITM	QTY	PART No.	DESCRIPTION
1	5	Y191211	10-32 UNF x 1-2 PHILLIPS PAN HEAD ZINC
2	3	Y191240	HEX CAP 1-4X_1-2 UNC
3	2	Y191246	1/4 x 1-1/4 UNC BOLT
4	7	Y198042	1/4" LOCK WASHER
5	2	Y198046	1/4" FENDER WASHER
6	2	Y3783	LOOM CLAMP 3/8 DIA - 1/4" MOUNT
7	1	Y3786	GAS LINE 1/4" SAE 30R7 - 43"
8	2	Y3787	CLAMP. TENSION SPRING 1/2"
9	2	Y3789	1/4-20 UNC x 1-1/4" STUD
10	1	Y4255	FUEL TANK, MOLDED PLASTIC
11	1	Y4341	FUEL SENDER
12	1	Y4342	GAS CAP
13	2	Y4343	WING NUT 1/4-20
14	1	Y4344	BATTERY TERMINAL COVER
15	1	Y4345	GAS TANK FITTING
16	1	Y4346	GAS TANK DRAW TUBE
17	1	Y4347	ELBOW, 1/4 PIPE, 1/4 HOSE BARB
18	2	Y4426	1/4" SAE FLAT WASHER
19	2	Y4462	LOOM CLAMP 1/2 DIA - 1/4" MOUNT

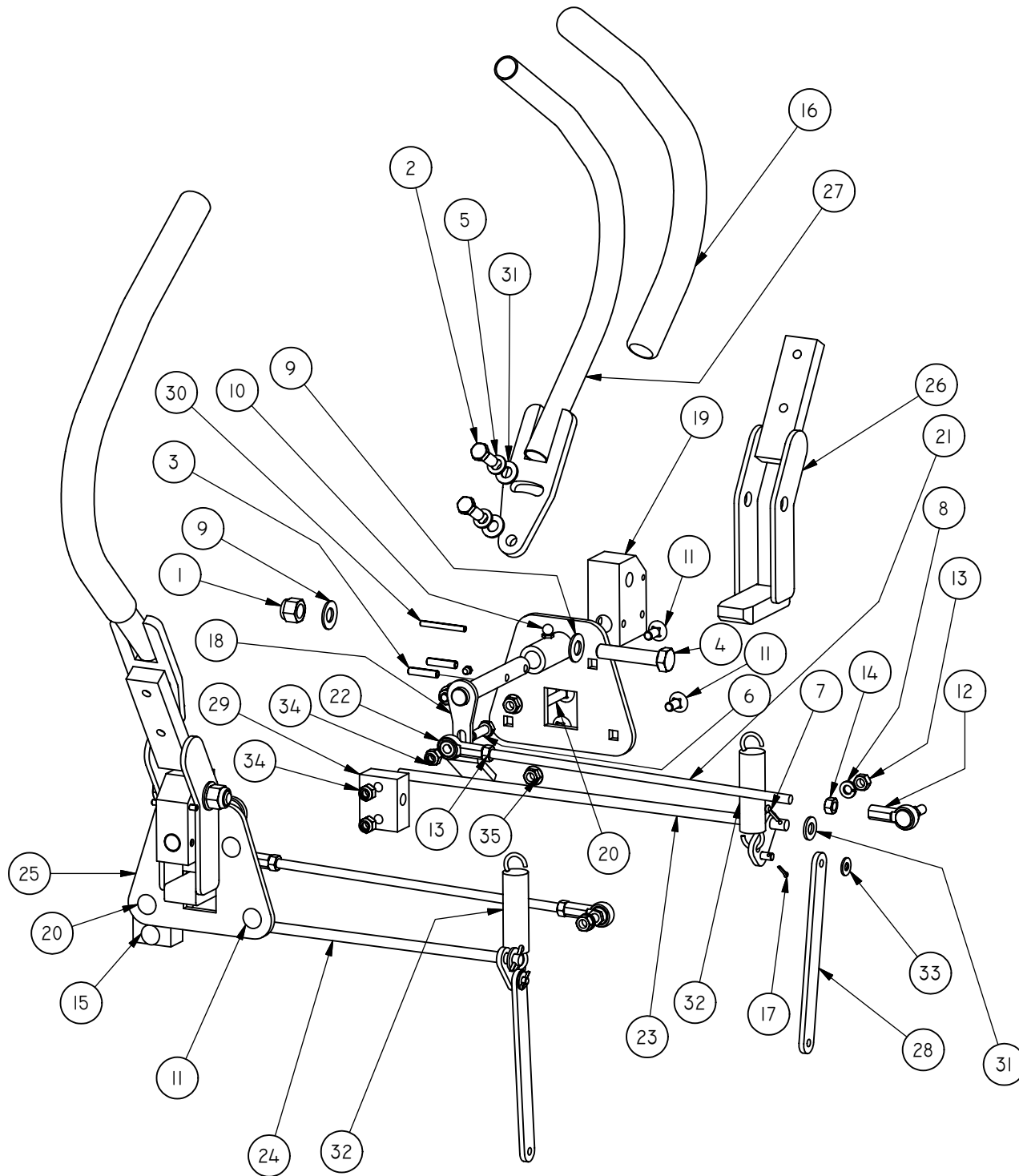
FUEL TANK GROUP

ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	4	Y1001	7/16 Hex NUT UNC	19	1	Y4494	8 GTX-S - (FEMALE ADAPTER,3/8 PIPE x 1/2"JIC)
2	6	Y1047	3/8 USS FLAT WASHER	20	1	Y4495	8 GTX-S - (FEMALE ADAPTER,1/4 PIPE x 3/8"JIC)
3	4	Y1052	7/16" LOCK WASHER	21	1	Y4496	OIL FILTER 10 MICRON
4	2	Y1826	3/8-16 UNC HEX NUT	22	1	Y4497	OIL FILTER HEAD SAE 8 PORTS
5	2	Y1827	3/8" LOCK WASHER	23	1	Y4498	OIL RESERVOIR DIPSTICK
6	2	Y198042	1/4" LOCK WASHER	24	1	Y4503	HYD OIL SUCTION LINE TO FILTER
7	2	Y3624	1/4 x 1 HEX CAP SCREW	25	1	Y4504	HYD LINE-FILTER TO RH PUMP
8	1	Y4231	WHITE LH PUMP (OUR RH)	26	1	Y4505	HYD LINE-PUMP TO PUMP
9	1	Y4232	WHITE RH PUMP (OUR LH)	27	1	Y4508	3/8" NPT MAGNETIC DRAIN PLUG
10	1	Y4393	HYDRAULIC OIL RESERVOIR	28	1	Y4631	LH TOP OIL LINE
11	1	Y4486	PARKER TRIPLE-LOK 45° STRAIGHT THREAD ELBOW, 8-6 V50X-S	29	1	Y4632	LH BOTTOM OIL LINE
12	1	Y4487	PARKER TRIPLE-LOK 45° STRAIGHT THREAD ELBOW, 8 V50X-S	30	1	Y4633	RH TOP OIL LINE
13	4	Y4488	PARKER TRIPLE-LOK STRAIGHT THREAD ELBOW, 8-10 C50X-S	31	1	Y4634	RH BOTTOM OIL LINE
14	1	Y4489	PARKER TRIPLE-LOK STRAIGHT THREAD CONNECTOR, 8-6 F50X-S	32	1	Y4685	OIL LINE-RETURN-CENTER
15	1	Y4490	6801-08-08 JIC(-8) TO MALE O-RING (-8), 90 DEGREES	33	1	Y4686	OIL RETURN LINE-TO TANK
16	1	Y4491	PARKER TRIPLE-LOK SWIVEL NUT BRANCH TEE, 8 S6X-S	34	4	Y7654	7/16 X 1-1/2 CARR BOLT
17	1	Y4492	6 C50X-S (ST THD EL.-3/8 JIC x 9/16 ORB)	35	4	Y7944	STR THRD CONN, 8 F50X-S,1/2 JIC x 3/4-16 ORB
18	1	Y4493	PARKER TRIPLE-LOK STRAIGHT THREAD BRANCH TEE, 6 S50X-S				

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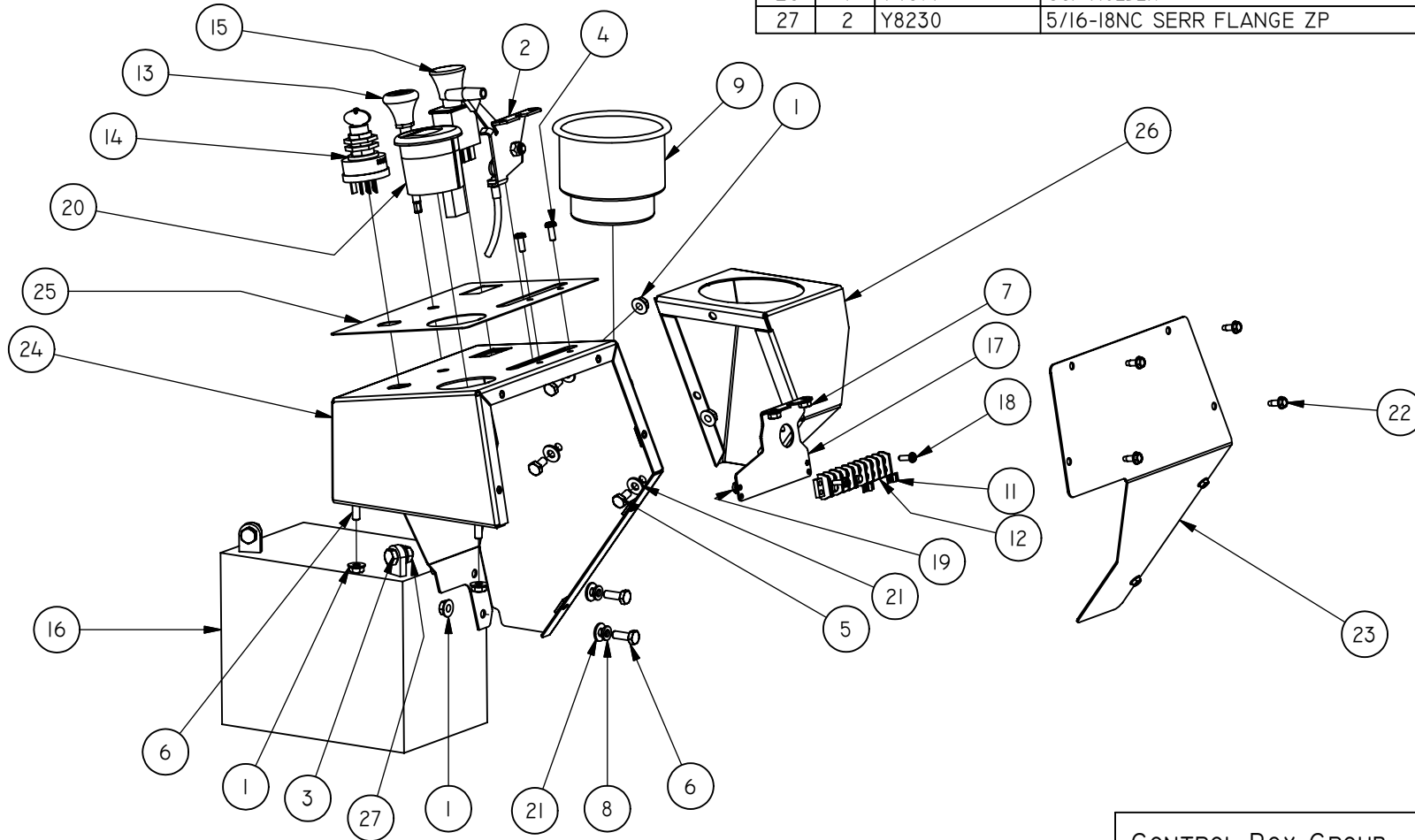
OIL FILTER/RESERVOIR GROUP



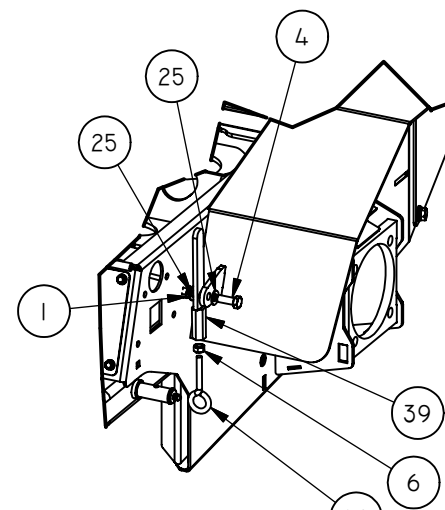
ITM	QTY	PART NO.	DESCRIPTION
1	2	Y1008	1/2 STD NC NYLOCK NUT
2	4	Y1018	HEX CAP 3-8X1 UNC
3	4	Y1073	1/4 X 1-1/8 ROLL PIN
4	2	Y1279	1/2 X 2-1/2 HEX CAP
5	4	Y1827	3/8" LOCK WASHER
6	2	Y191282	5-16X1 UNC HEX CAP
7	2	Y196304	1/8 X 3/4 COTTER PIN
8	2	Y198064	5/16" LOCK WASHER
9	4	Y198119	1/2 X .070 BELLEVILLE WASHER
10	2	Y3050	ZERK, 1/4-28 90 DEG.
11	6	Y4064	5/16 x 3/4 CARR BOLT
12	2	Y4151	5/16-24 NF ROD END W/ STUD, LH THD INSIDE ROD END
13	4	Y4193	5/16-24 UNF HEX NUT
14	2	Y4194	5/16-24 UNF LH HEX NUT
15	2	Y4208	5/16-18 UNC X 1-1/2 CARR BOLT
16	2	Y4226	FOAM GRIP,.875" x 17"
17	2	Y4250	3/32 x 1/2 COTTER PIN
18	2	Y4260	CONTROL SHAFT WELDMENT
19	2	Y4263	CONTROL ARM BLOCK
20	2	Y4271	5/16-18 x 1.75 CARR BOLT
21	2	Y4286	5/16-24 LH/RH ADJUSTMENT ROD - 12.50" OAL
22	2	Y4287	5/16-24 RH SPHERICAL ROD END
23	1	Y4289	RH BRAKE ACTUATOR WELDMENT
24	1	Y4292	LH BRAKE ACTUATOR WELDMENT
25	2	Y4294	CONTROL LEVER MOUNT
26	2	Y4297	CONTROL WELDMENT
27	2	Y4301	CONTROL HANDLE WELDMENT
28	2	Y4304	BRAKE LINKAGE
29	2	Y4305	BEARING BLOCK FOR BRAKE ROD
30	2	Y4331	3/16 x 1.75 ROLL PIN
31	6	Y4349	3/8 SAE FLAT WASHER
32	2	Y4353	PUMP DRIVE IDLER SPRING
33	2	Y4426	1/4" SAE FLAT WASHER
34	6	Y7731	5/16 STD NC NYLOCK NUT
35	6	Y8230	5/16-18NC SERR FLANGE ZP

CONTROL GROUP

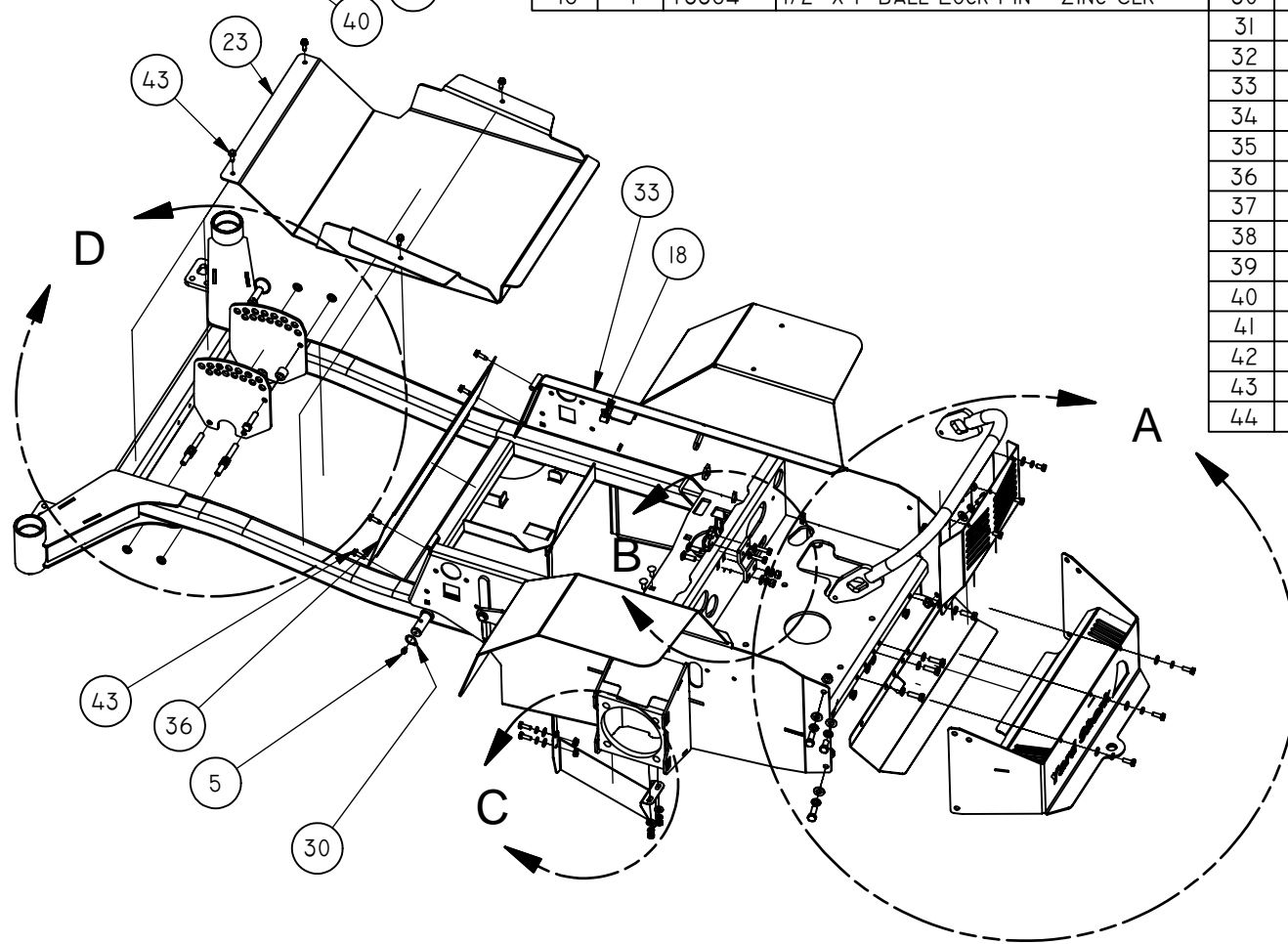
ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	7	Y1012	NUT WHIZ 1/4-20NC ZP	13	1	Y3970	CHOKE CABLE - 61-1/2"
2	1	Y140012-6FT	THROTTLE CABLE ASSY	14	1	Y4144	KEY SWITCH
3	2	Y1623	5/16 x 3/4 BOLT	15	1	Y4160	PTO SWITCH
4	2	Y191211	10-32 UNF x 1-2 PHILLIPS PAN HEAD ZINC	16	1	Y4213	BATTERY 12 V
5	3	Y191240	HEX CAP 1-4x_1-2 UNC	17	1	Y4243	BARRIER STRIP MOUNT - SS
6	4	Y191242	HEX CAP 1-4x_3-4 UNC	18	2	Y4245	8-32 x 1/2 PAN HD MACH SCREW
7	2	Y193004	10-32 NF SERR. FLANGE NUT	19	2	Y4377	NUT, 8-32 UNC KEPS
8	4	Y198042	1/4" LOCK WASHER	20	1	Y4383	FUEL GAUGE
9	1	Y3350	CUP HOLDER INSERT - BLACK PLASTIC	21	7	Y4426	1/4" SAE FLAT WASHER
10	1	Y3772	WIRE LOOM - 3/8 ID - 44"- NOT PICTURED-USE TO ROUTE THROTTLE & CHOKE CABLES	22	6	Y4485	#10-24 x 1/2" WASHER HEAD SCREW - ZP
11	2	Y3778	JUMPER, HOLE MOUNT	23	1	Y4622	CONTROL BOX COVER
12	1	Y3779	BARRIER STRIP - 10 TERMINAL	24	1	Y4623	CONTROL BOX WELDMENT
				25	1	Y4670	CONTROL PANEL OVERLAY
				26	1	Y4671	CUP HOLDER
				27	2	Y8230	5/16-18NC SERR FLANGE ZP



CONTROL BOX GROUP



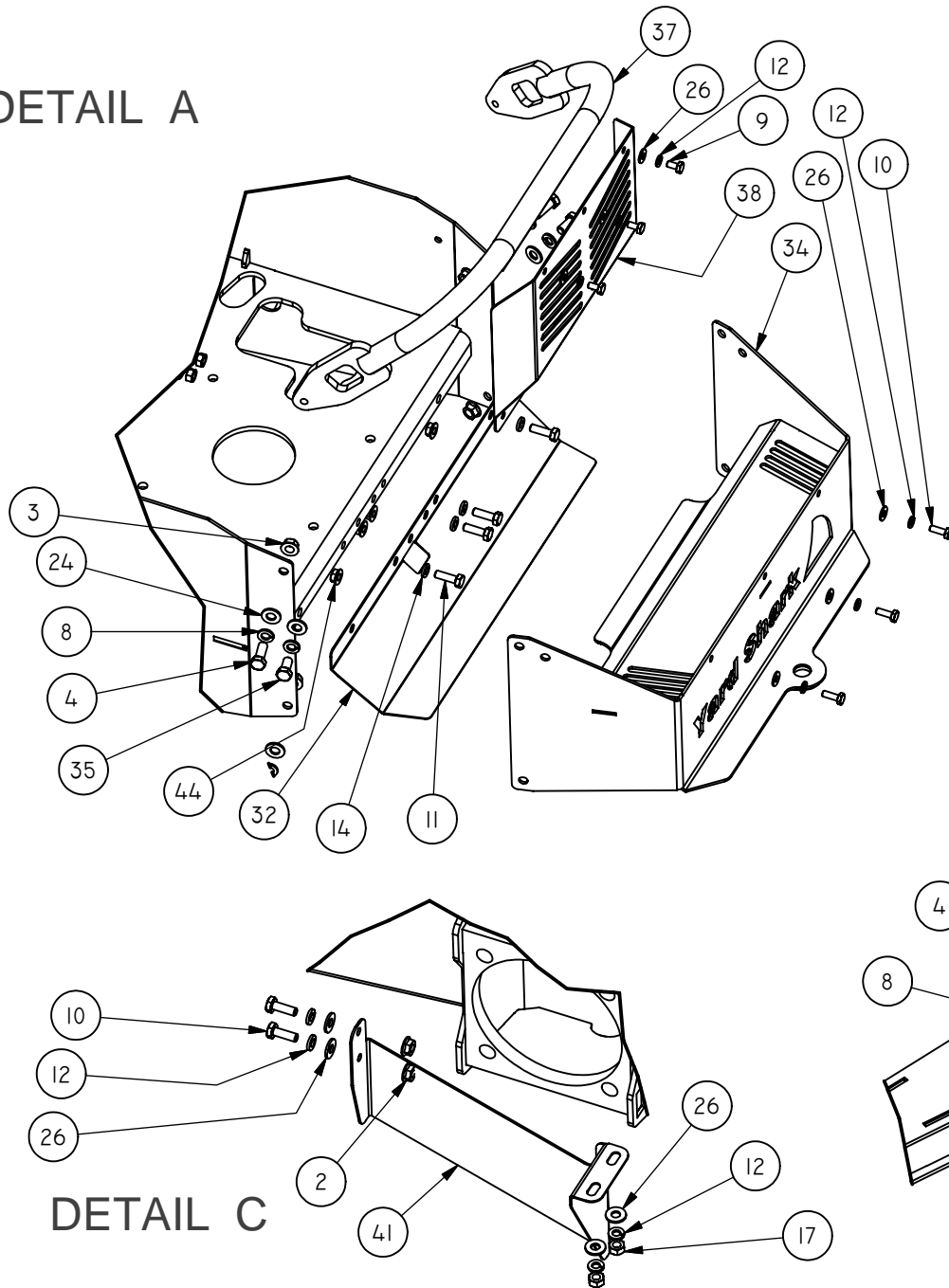
ITM	QTY	PART No.	DESCRIPTION	ITM	QTY	PART No.	DESCRIPTION
1	1	Y1010	3/8"-16 CNTRLOCK HEX NUT	16	2	Y3624	1/4 x 1 HEX CAP SCREW
2	2	Y1012	NUT WHIZ 1/4-20NC ZP	17	2	Y3625	1/4-20 HEX NUT
3	8	Y1013	NUT SERR FLANGE 3/8-16NC ZP	18	1	Y3867	LOOM CLAMP 1/2 DIA - 1/4" MOUNT
4	7	Y1018	Hex CAP 3-8x1 UNC	19	2	Y4059	5/16 x 1 CARRIAGE BOLT
5	2	Y1058	ZERK, 1/4-28 STRAIGHT	20	2	Y4063	1/4-20 x 3/4 CARR.BOLT
6	3	Y1624	5/16-18 HEX NUT UNC	21	1	Y4196	SEAT LATCH
7	1	Y1826	3/8-16 UNC HEX NUT	22	1	Y4206	HEX CAP 3-8x1-2 UNC
8	11	Y1827	3/8" LOCK WASHER	23	1	Y4285	FOOT PAN
9	3	Y191240	Hex CAP 1-4x1-2 UNC	24	6	Y4349	3/8 SAE FLAT WASHER
10	5	Y191242	Hex CAP 1-4x1-3-4 UNC	25	2	Y4350	3/8 X .056 BELLEVILLE WASHER
11	4	Y191282	5-16x1 UNC HEX CAP	26	10	Y4426	1/4" SAE FLAT WASHER
12	12	Y198042	1/4" LOCK WASHER	27	1	Y4454	DECK HT ADJUSTMENT PLATE, BOLT ON
13	2	Y198062	TYPE A PLAIN WASHER	28	3	Y4455	SPACER
14	6	Y198064	5/16" LOCK WASHER	29	2	Y4456	ROCKSHAFT HANGER
15	1	Y3354	1/2" x 1" BALL LOCK PIN - ZINC CLR	30	2	Y4457	EXTERNAL RETAINING RING SH-75
				31	1	Y4469	SEAT LATCH MOUNTING BRACKET
				32	1	Y4524	MUFFLER HEAT SHIELD
				33	1	Y4601	MOWER FRAME WLDMNT
				34	1	Y4657	REAR GUARD-YS
				35	2	Y4675	HEX CAP 3-8x1-3-4 UNC
				36	1	Y4683	FRONT FRAME PLATE
				37	1	Y4684	REAR BUMPER
				38	1	Y4693	REAR SHIELD WELDMENT
				39	1	Y4740	DECK LATCH HANDLE
				40	1	Y4743	EYE BOLT
				41	1	Y4746	GAS TANK GAURD
				42	2	Y7194	HEX CAP 3-8x1-3-4 UNC
				43	8	Y7790	1/4 X 3/4 TAPPING SCREW
				44	4	Y8230	5/16-18NC SERR FLANGE ZP



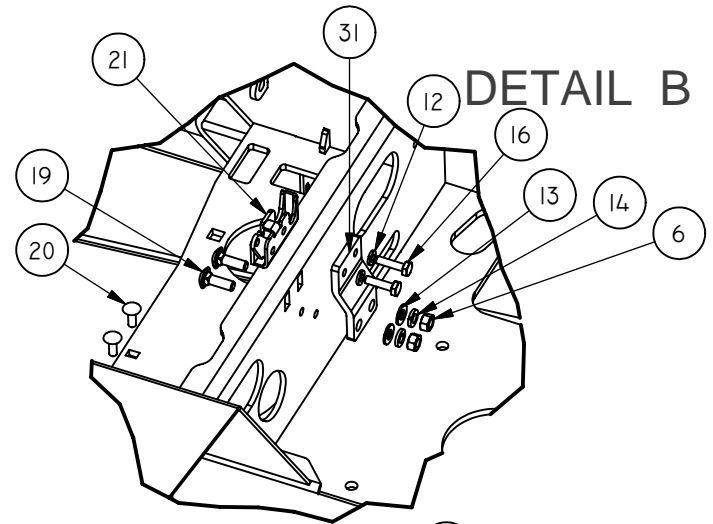
DETAIL DRAWINGS ON
NEXT PAGE.

FRAME GROUP

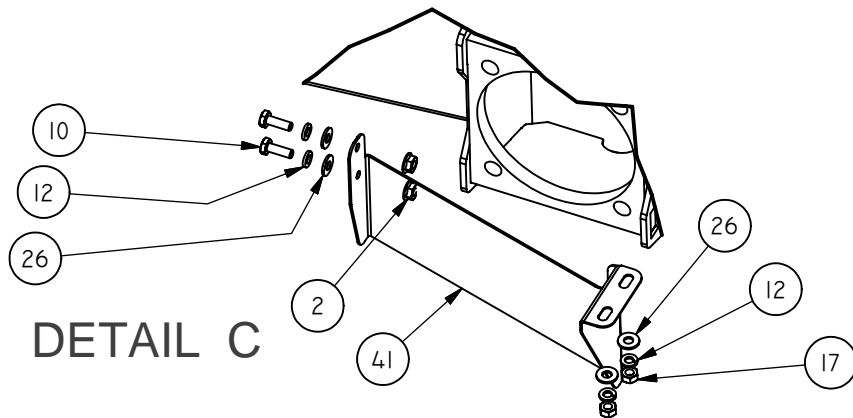
DETAIL A



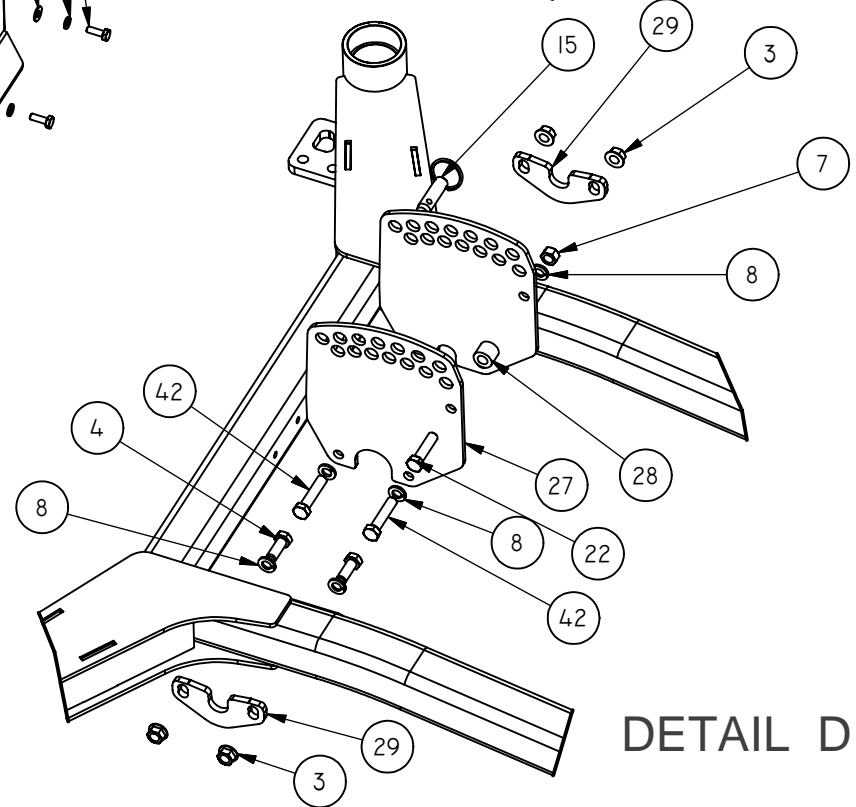
DETAIL B



DETAIL C



DETAIL D



FRAME GROUP