



SETUP, PARTS & MAINTENANCE MANUAL ESTATE SERIES

MODEL:

642220E BZT 219019HP KAW W/48 SIDE DISCHARGE
642221E BZT 2190 19HP KAW W/52 SIDE DISCHARGE
642233E BZT 2250 25HP KAW W/61 SIDE DISCHARGE
642244E BZT 2250 25HP KAW W/52 SIDE DISCHARGE
642237E BZT 2270 27HP KLR W/61 SIDE DISCHARGE
642248E BZT 2210 21HP KAW W/52 SIDE DISCHARGE



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.

4158119 REV A

Operation & Safety Manual: 4158120



**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



WARNING

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

**Californie Proposition 65
Avertissement**

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.



AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

**California Advertencia
de la Proposicion 65**

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.



ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos químicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

**CALIFORNIA
Proposition 65 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.

IMPORTANT MESSAGE

Thank you for purchasing this CGC, Inc. product. You have purchased a world class mowing product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual and a separate Setup, Parts and Maintenance Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand these manuals. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this CGC, Inc. product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manuals thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a CGC, Inc. dealer for any service or parts needed. CGC, Inc. service ensures that you continue to receive the best results possible from CGC, Inc. products. You can trust CGC, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

CGC, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manuals, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Commercial Grounds Care, Inc.
One Bob Cat Lane
Johnson Creek, WI 53038-0469

TABLE OF CONTENTS	FIGURES	PAGE
SAFETY		2
ASSEMBLY AND SETUP		3-5
MAINTENANCE CHART		6
MAINTENANCE RECORD		7
MAINTENANCE		8-13
ADJUSTMENTS		14-17
BELT REPLACEMENT		18, 19
SPECIFICATIONS		20-22
PART SECTION		23
UPPER ENGINE DECK ASSY	FIGURE 1	24, 25
LOWER ENGINE DECK ASSY/CLUTCH	FIGURE 2	26, 27
BUMPER	FIGURE 3	28, 29
FUEL TANKS/CONTROL PANEL	FIGURE 4	30, 31
BRAKES/REAR WHEEL	FIGURE 5	32, 33
OIL COOLER	FIGURE 6	34, 35
HYDRAULICS	FIGURE 7	36, 37
HYDROGEAR PUMP	FIGURE 8	38, 39
KOHLER WIRE HARNESS	FIGURE 9	40, 41
KAWASAKI WIRE HARNESS	FIGURE 10	42, 43
SEAT ASSEMBLY & ROPS	FIGURE 11	44, 45
STEERING/DECK LIFT	FIGURE 12	46, 47
CRADLE ASSEMBLY	FIGURE 13	48, 49
CRADLE & CASTER ASSEMBLY	FIGURE 14	50, 51
48" SIDE DISCHARGE	FIGURE 15	52, 53
52" SIDE DISCHARGE	FIGURE 16	54, 55
61" SIDE DISCHARGE	FIGURE 17	56, 57
BELTS-CUTTERDECK	FIGURE 18	58, 59
DECALS-POWER UNIT	FIGURE 19	60, 61
DECALS-CUTTERDECKS	FIGURE 20	62, 63

NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Commercial Grounds Care, Inc. strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by CGC, Inc.'s Engineering Department. Any CGC, Inc. product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by CGC, Inc.—will result in the CGC, Inc. Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by CGC, Inc. will be considered the responsibility of the individual(s) or company designing and/or making such changes. CGC, Inc. will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to CGC, Inc. machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

⚠ WARNING

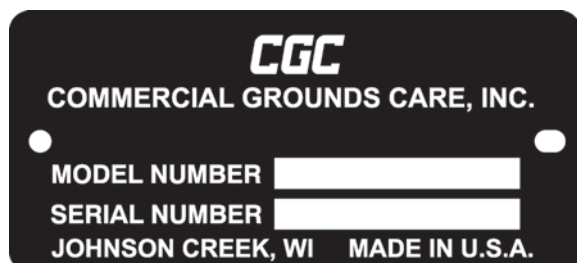
WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.



MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

TOOLS REQUIRED FOR ASSEMBLY

- Wrecking bar
- Claw hammer
- Ratchets: 3/8"
- Sockets: 3/8", 1/2", 17 mm
- Wrenches: 13 mm, 15 mm, 17 mm, 18 mm, 1-1/16", 1-1/8"
- Straight edge
- Tire pressure gauge
- Blocks (for deck leveling)

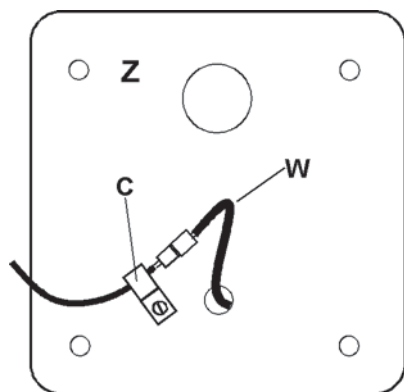
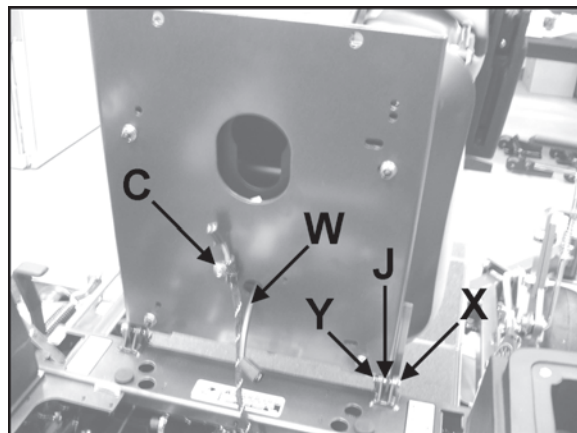
NOTE: All references below to the "right" or "left" are with respect to an operator at the controls.

1. UNCRATE UNIT

- a) Discard packing materials. Remove and discard shipping brackets. Tighten caster wheel axle bolts against caster axle spanner bushings.

2. INSTALL SEAT

- a) Install bushings **J** in seat plate **Z**.
- b) Install seat assembly onto the unit using (2) pins **X** and (2) E-clips **Y**.
- c) Secure seat wire **W** on the bottom of the seat plate with clip **C** and a 1/4-20 X 3/8 thread forming screw.
- d) Connect the tractor harness to the seat wire.

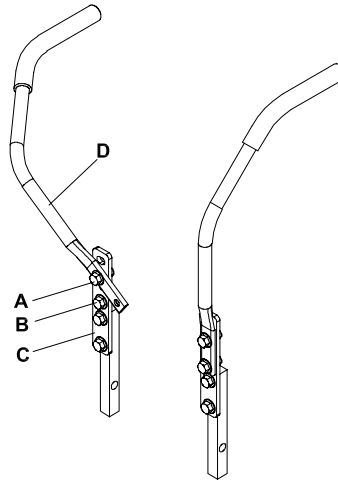


Bottom of seat plate **Z** showing clip **C**

3. Set tire pressures to 14 lbs/in² (1.0 kg/cm²). Tires are overinflated for shipping.

4. TRACTION LEVERS

- Loosen bolt **A** and remove bolt **B**.
- Rotate traction lever **D** into position and secure with bolts **A** and **B**. Repeat for the other lever.
- Tighten all fasteners.
- Sit on the machine. Levers may be adjusted in bracket **C** for a more comfortable reach, or moved to upper set of holes for a better operator fit.



5. DECK LEVELING

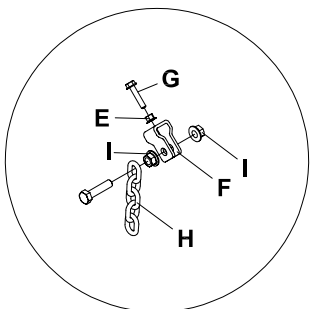
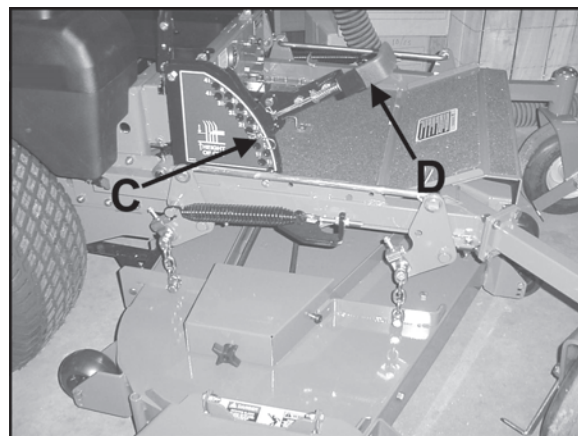
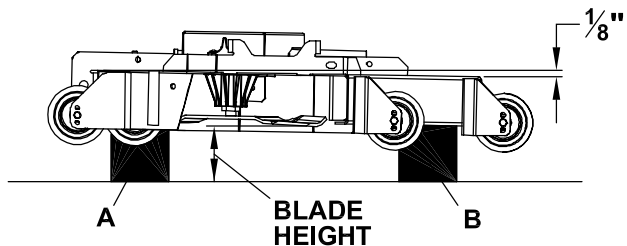
- Park the machine on a smooth, level surface. Raise the deck to the transport position.
- Lower the deck onto a set of equal height blocks **A** under the rear corners of the deck. Place another set of blocks **B** under the front of the deck so that the deck top is pitched forward 1/8".

NOTE: The front and rear of the deck are at different heights.

- Measure the height of the blade cutting edge above the ground. Remove pin **C** and set the height of cut lever **D** to that height.
- Loosen nuts **I** at all four corners of the deck.

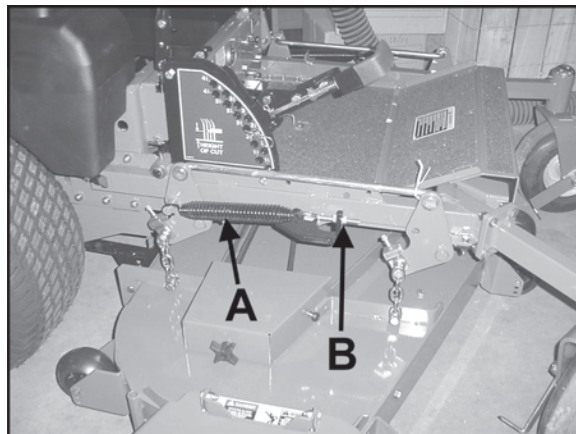
NOTE: This will relieve tension on chains **H**.

- Loosen the jam nuts **E** on the height of cut clips **F** and adjusting screws **G**. Turn the adjusting screws **G** until the play is taken out of the chains **H** at all four corners. Tighten the jam nuts **E** against the clips **F** and at the adjusting screws **G**. Retighten nuts **I** at this time.



6. COUNTERBALANCE SPRINGS

- a) Raise the cutterdeck all the way.
- b) Adjust the spring **A** with nut **B**:
52" cutterdecks to a length of 9-1/8" (232 mm)



7. FINAL PREPARATIONS

- Check the engine and hydraulic oil levels. Top off with the correct oil if necessary. Use 10W30 motor oil for the engine. Use fresh, clean 15W40 or 20W50 motor oil or 15W50 synthetic motor oil for the hydraulic system.
- Remove the battery from the machine. Fill the battery to the bottom of the vent wells with acid and trickle charge for several hours.



WARNING Battery acid is caustic and fumes are explosive and can cause serious injury or death.

Use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. Read and obey the battery manufacturer's instructions.

Be certain the ignition switch is OFF and the key has been removed before servicing the battery.

- a) Verify battery polarity before connecting or disconnecting the battery cables.
 - b) When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.
 - c) Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep terminal covers in place.
- Read Operation and Safety Manual before starting.
 - Run engine at full RPM for 5 minutes before engaging blades to allow the engine to be fully lubricated before load is applied.
 - Check the hydrostat neutral adjustment. Neutral is set at the factory but may require readjustment if air trapped during the initial oil fill has worked out of the system. See adjustments section later in this manual.
 - Do not use the machine without an approved grass collector, the grass discharge chute or mulching plates correctly fitted.

MAINTENANCE CHART

Estate
Series

MAINTENANCE OPERATION	Maintenance is an ongoing job. These intervals are maximum times between maintenance operations. Perform more often under severe conditions.						
	FIRST 5 HOURS	DAILY	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 200 HOURS	EVERY 500 HOURS
ENGINE							
Consult the engine manual for additional information and instructions							
Check/Top Off Engine Coolant Level (Where Applicable)		X					
Check/Top Off Oil Level		X					
Check For Leaks		X					
Clean Air Intake Screen		X					
Clean Air Cleaner Precleaner			X*				
Clean Air Cleaner Element					X	X**	
Clean Cooling Fins					X		
Change Oil And Filter	X	See engine manufacturer's manual					
Check/Replace Spark Plugs						X	
* N/A IF EQUIPPED WITH HEAVY DUTY CYCLONIC AIR CLEANER							
**IF EQUIPPED WITH HEAVY DUTY CYCLONIC AIR CLEANER							
HYDRAULICS							
Check For Leaks		X					
Check/Top Off Oil Level					X		
Change Oil And Filter	X						X
MACHINE							
Check Interlock Operation		X					
Check Tire Pressures		X					
Check/Top Off Battery					X		
Lubricate All Points				X			

[illegible]

NOTE: After first 5 hours of operation replace engine oil, hydraulic oil and both filters.

CHECK DAILY

Operator Presence Interlock System - Start Operation

For the engine to crank, the parking brake must be on, the PTO (blades) off and traction levers in the neutral lock position. Sit in the seat and check, one by one, if the engine will crank with the parking brake off, the blades on, and either traction lever out of neutral lock.

Operator Presence Interlock System - Run Operation

The operator must be in the seat for the engine to run with the parking brake off, the traction levers moved out of the neutral lock position, or the blades on. To check:

- 1. Start the engine and run at 1/2 throttle with the operator on the machine but raised off the seat.
- 2. One by one: move the parking brake to the OFF position, traction levers out of the neutral lock position (check each independently), and turn the blades on. Each check should kill the engine after 1/2 second. (A 1/2 second delay is built into the system to prevent engine cutout when traversing rough terrain.)

Repair machine before using if the Operator Presence Interlock System does not operate correctly in start or run. Contact your authorized Bunton dealer.

Hardware

Tighten any nuts and bolts found loose. Replace any broken or missing cotter pins. Repair any other problems before operating.

Tire pressure

Tires should be kept inflated at 14 lbs/in² (1.0 kg/cm²). Improper tire inflation can cause rapid tire wear and poor traction. Uneven inflation can cause uneven cutting.

BATTERY

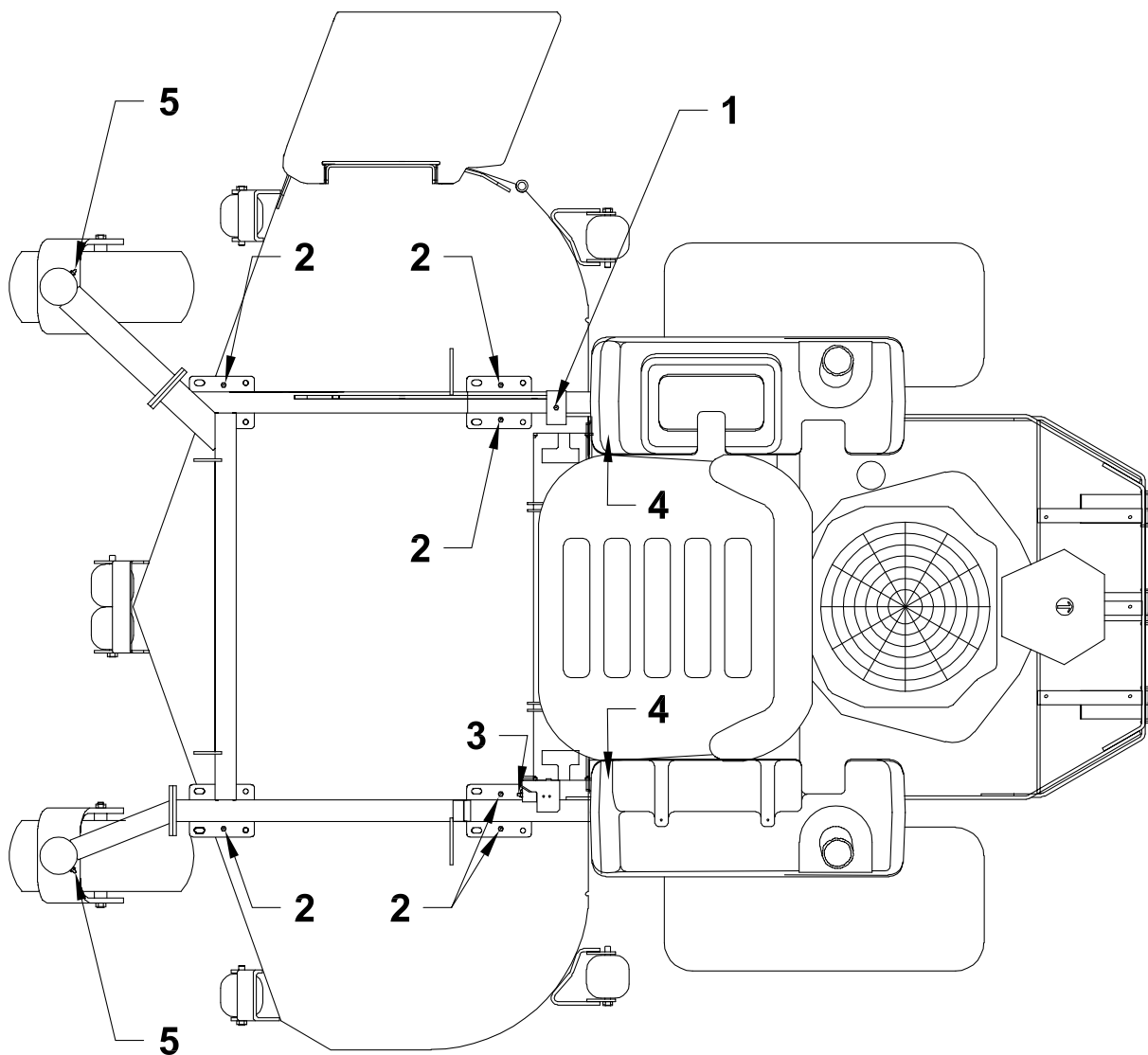
⚠ WARNING Battery acid is caustic and fumes are explosive and can cause serious injury or death.

Use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. Read and obey the battery manufacturer's instructions.

Be certain the ignition switch is "OFF" and the key has been removed before servicing the battery.

- 1. Verify battery polarity before connecting or disconnecting the battery cables.
- 2. When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.
- 3. When removing the battery, always remove the ground, negative (-) cable first and the red, positive (+) cable last.

- 4. Check the electrolyte level every 100 hours of operation.
- 5. Clean the cable ends and battery posts with steel wool. Use a solution of baking soda and water to clean the battery. Do not allow the solution to enter into the battery cells.
- 6. Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep terminal covers in place.



LUBRICATION

Every 50 hours of operation, lubricate the following points (1-4) with grease:

1. Deck lift rockshaft (1 point)
2. Deck lift pivots (6 points)
3. Brake lever pivot (1 point)
4. Push arms (2 points located at rear of cutterdeck under each fuel tank)
5. Caster wheel pivots (2 points)
(Lubricate every 500 hours or once a year)

NOTE ON BLADE SPINDLES - The blade spindles on these machines use a superior sealed bearing that does not require relubrication.

HYDRAULIC SYSTEM

Fluid level in the hydraulic system should be checked after the first 5 hours of operation, and every 100 hours thereafter, or when a leak has occurred. If the fluid is low, check all components for leaks.

To check, remove reservoir cap **M**. The fluid level should be at the bottom of the filler tube. If low, top off (do not overfill). Use one of the oils listed below:

- SAE 15W40 motor oil
- SAE 20W50 motor oil
- 15W50 synthetic motor oil

AFTER FIRST FIVE (5) HOURS

1. Remove plug **N** to drain hydraulic reservoir. Dispose of used oil in accordance with local requirements.
2. Clean and replace the plug.
3. Change hydraulic oil filter **G**.
4. Fill the reservoir with fresh oil to the bottom of the reservoir filler tube, using an oil from the list above. Do not overfill.

PERIODIC OIL CHANGES

Change the hydraulic fluid and hydraulic filter after each 500 hours of operation using the same procedure given above.

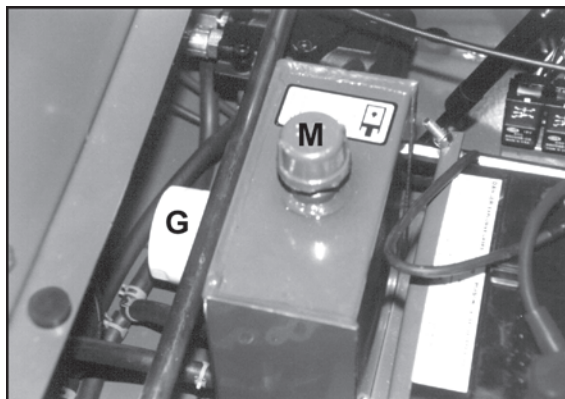
NOTES:

Before servicing the hydraulic system, stop the engine, disconnect spark plug wires and disengage the PTO.

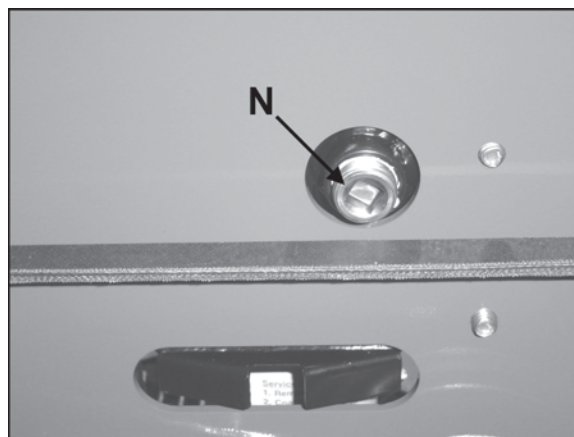
- After any hydraulic line is opened, plug or cap it promptly to reduce the risk of contamination.
- Do not use sealant tape on hydraulic pipe fittings. Use a liquid sealant that will dissolve into the system.
- Make sure all hydraulic connections are tight and hydraulic hoses and lines are in good condition before applying pressure to system.

⚠ WARNING

The machine's hydraulic system operates under high pressure. When checking for leaks, do not use your hands to attempt to find a leak. Instead, use cardboard or paper. Escaping hydraulic fluid can be under sufficient pressure to penetrate skin and cause serious injury. If hydraulic fluid is injected into the skin, it must be promptly removed by a doctor familiar with this form of injury or gangrene may result.



View from right side



View from below machine

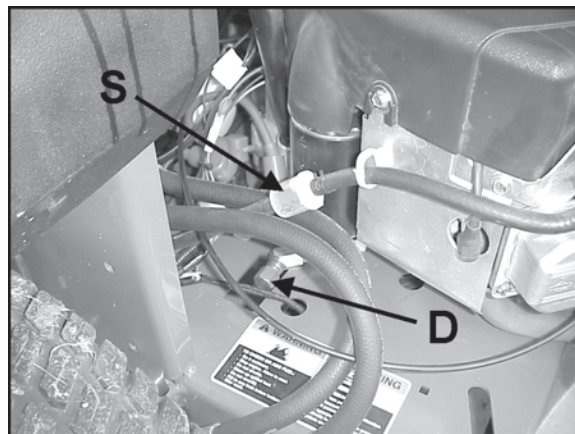
ENGINE OIL

Do not perform engine maintenance without the engine off, spark plug wires disconnected and PTO disengaged.

AFTER FIRST FIVE (5) HOURS

While the engine is warm:

1. Remove drain cap **D** and drain the crankcase. Dispose of used oil in accordance with local requirements.
2. Clean and replace the cap.
3. Change oil filter.
4. Fill the crankcase with fresh oil to the full mark. Do not overfill. See engine manual for oil specifications.



DAILY

1. Check oil level with the dipstick.
2. If oil is needed, add fresh oil of proper viscosity and grade. See engine manual for oil specifications. Do not overfill.
3. Replace dipstick before starting engine.

PERIODIC OIL CHANGES

1. See engine manual for oil and filter change intervals after the break-in period.
2. Follow instructions for first oil change, above.

FUEL FILTER

An inline fuel filter **S** is located in the fuel supply line. Inspect at every oil change to make sure it is clean and unobstructed. Replace if dirty.

SPARK PLUGS

Remove each plug and check condition.

- Good operating conditions are indicated if the plug has a light coating of grey or tan deposit.
- A white blistered coating indicates overheating. A black coating indicates an “over rich” fuel mixture. Both may be caused by a clogged air cleaner or improper carburetor adjustment.
- Do not sandblast, wire brush or otherwise attempt to repair a plug in poor condition. Best results are obtained with a new plug.
- Set plug gap as specified in engine manual.

DUAL ELEMENT AIR CLEANER

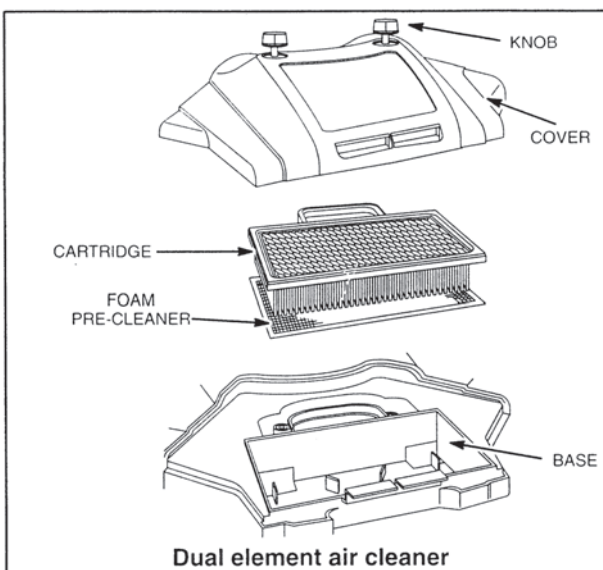
Engines equipped with dual element air cleaners have a paper air cleaner element with an oiled, foam precleaner element on the dirty side of the paper element. Both should be inspected regularly and maintained.

Clean and re-oil precleaner element every 25 hours (more often under dusty conditions).

1. Disassemble air cleaner cover.
2. Remove precleaner by sliding it off the paper cartridge.
3. Wash precleaner in kerosene or liquid detergent and water.
4. Wrap precleaner in cloth and squeeze to remove cleaner.
5. Saturate precleaner in engine oil. Squeeze to remove excess oil.
6. Re-install precleaner over paper cartridge. Reassemble air cleaner components and screw assembly down tight.

Every 100 hours (more often under very dusty or dirty conditions), check the paper cartridge.

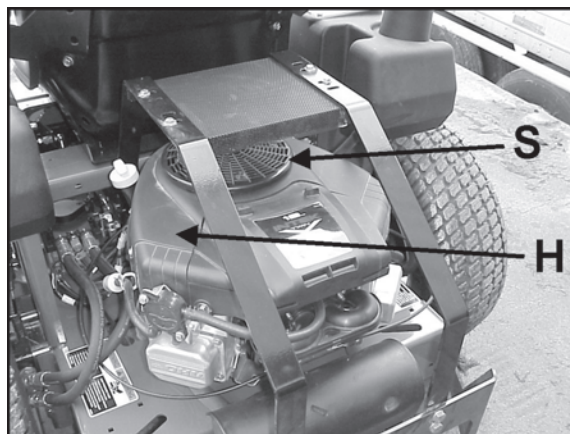
- Clean by tapping gently.
- Do not wash the cartridge or use compressed air which can cause damage.
- Replace when cartridge is dirty, bent or damaged.



ENGINE COOLING

Continued operation with a clogged cooling system will cause severe overheating and can result in engine damage.

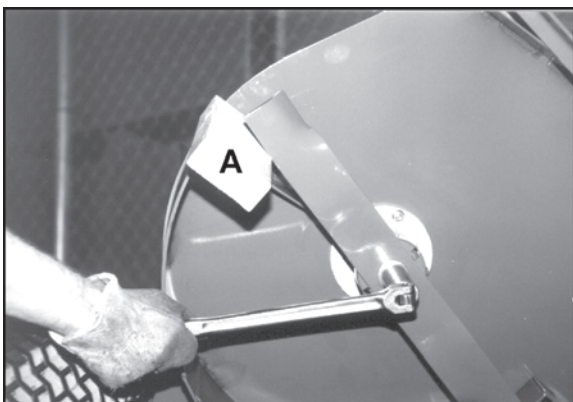
- **Daily:** Clean air intake screen **S**.
- **Every 100 hours:** Clean cooling fins beneath blower housing **H** with reference to information in the engine manufacturer's manual.



BLADE REMOVAL

Follow these instructions to prevent injury during blade removal:

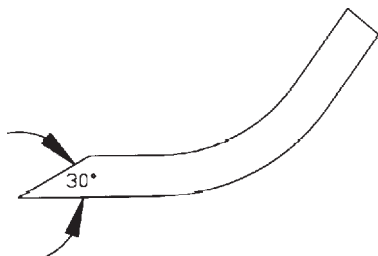
1. Loosen with a box wrench or a socket and long breaker bar. To gain additional leverage, slip a long pipe or thick-walled tube over breaker bar or wrench.
2. Insert wood block **A** as shown, with grain perpendicular to blade, to prevent blade from turning when loosening.
3. Wear thickly padded gloves. Keep hands clear of blade path. Blades may rotate when bolt releases.



SHARPENING

Blades may be sharpened by filing or grinding.

- Inspect blades before sharpening.
- Replace bent or cracked blades.
- Replace blades when the lift portion has worn thin.
- Maintain cut angle at 30°.
- Do not overheat blades when sharpening.
- Always use Bunton blades. Use of another manufacturer's blades may be dangerous.



BLADE BALANCE

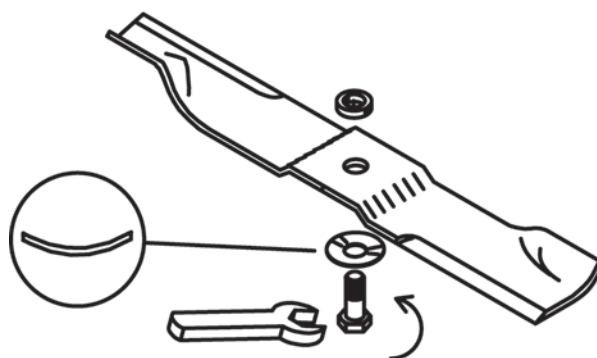
Blade balance must be maintained at 5/8 oz-in (19.4 g-cm) or less. Failure to keep blades balanced causes excess vibration, wear, and shortened life of most components of the machine.

To balance a blade:

1. Sharpen blade first.
2. Balance the blade at the center.
3. Attach a 1/8 oz (3.9 g) weight at a distance 5" (127 mm) from center on the light end. This should make the light end the heavy end:
 - If it does, the blade is balanced.
 - If does not, file or grind the heavy end until the addition of the weight makes the light end the heavy end.

BLADE INSTALLATION

1. Wear thickly padded gloves to prevent cuts from the sharp blade.
2. Insert the blade bolt, in order, through the conical washer (cup side toward the blade, as shown), the blade, and the blade spacer.
3. Install assembly on the blade spindle.
4. Torque the blade bolt to 70 ft-lbs.



DECK LEVELING

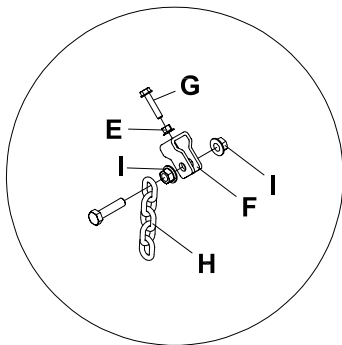
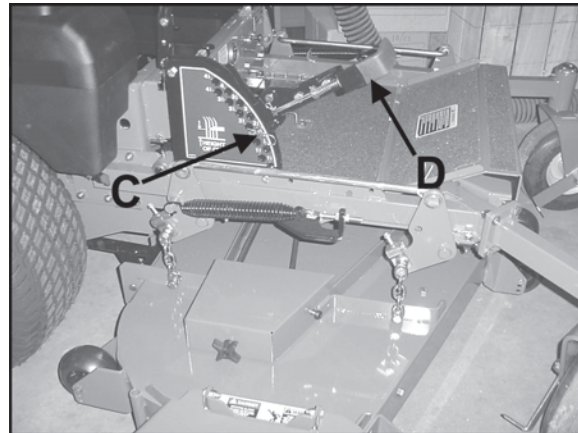
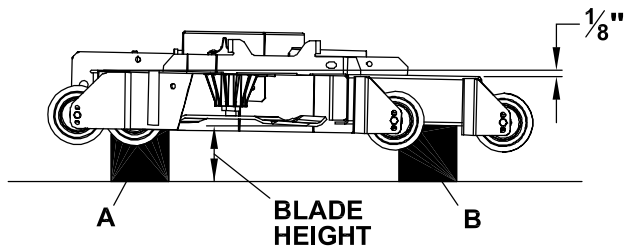
- Park the machine on a smooth, level surface. Raise the deck to the transport position.
- Lower the deck onto a set of equal height blocks **A** under the rear corners of the deck. Place another set of blocks **B** under the front of the deck so that the deck top is pitched forward 1/8".

NOTE: The front and rear of the deck are at different heights.

- Measure the height of the blade cutting edge above the ground. Remove pin **C** and set the height of cut lever **D** to that height.
- Loosen nuts **I** at all four corners of the deck.

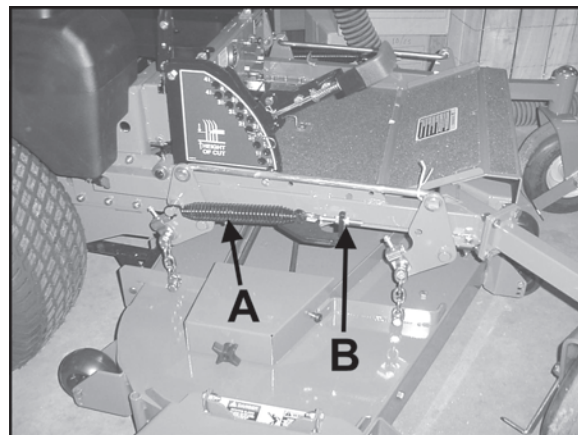
NOTE: This will relieve tension on chains **H**.

- Loosen the jam nuts **E** on the height of cut clips **F** and adjusting screws **G**. Turn the adjusting screws **G** until the play is taken out of the chains **H** at all four corners. Tighten the jam nuts **E** against the clips **F** and at the adjusting screws **G**. Retighten nuts **I** at this time.



COUNTERBALANCE SPRINGS

- Raise the cutterdeck all the way.
- Adjust the spring **A** with nut **B**:
52" cutterdecks to a length of 9-1/8" (232 mm)



HEIGHT OF CUT

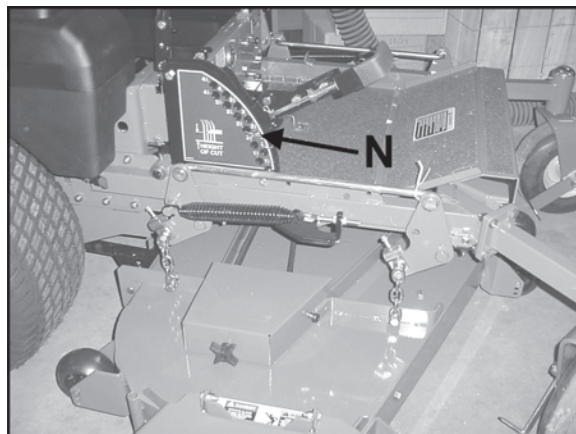
The height of cut is set by moving height of cut pin **N** to the hole designated for the height of cut desired.

To change the height of cut:

1. Lift the deck to the highest position.
2. Move pin **N** to the selected hole.
3. Lower the deck until the lift lever is stopped by the pin.

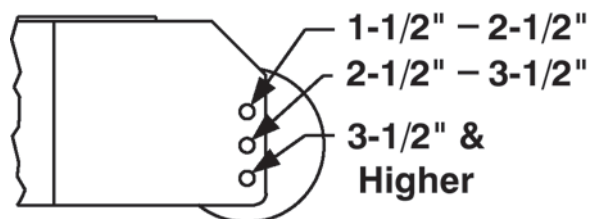
NOTES:

- Height of cut may vary due to the amount of tread on the tires, tire diameter or inflation pressure.
- For best results, adjust the rear deck rollers for the height of cut to be used (see below).



REAR DECK ROLLERS

The rear outside deck rollers are adjustable up and down to provide improved deck flotation and scalping protection at various heights of cut. They are not intended to ride continuously on the ground. Adjust no closer than 3/8" (10mm) to the ground.



Height of cut ranges for roller adjustment

BELTS

All belts are tensioned by spring loaded idlers. No adjustment is required.

CONTROL LEVERS

There are two mounting positions for the control levers, upper and lower. The lower position works well for most people. Taller operators may need the upper position.

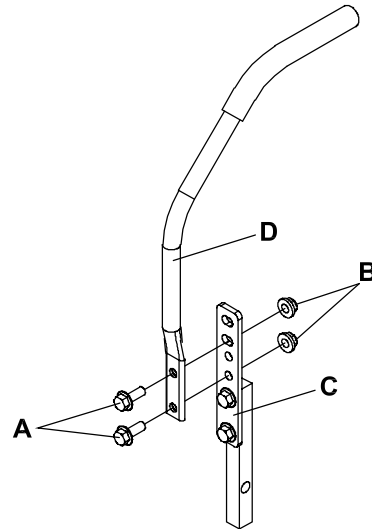
To adjust the height of the control levers:

- Remove bolts **A** and nuts **B**.
- Align holes in control lever **D** with appropriate holes in traction lever bracket **C**.
- Install bolts **A** and nuts **B**.

The upper mounting hole for the control levers is slotted to allow fore-aft adjustment and to allow alignment of the levers.

To adjust or align the control levers:

- Loosen nuts **B**.
- Adjust control lever position.
- Tighten nuts **B**.



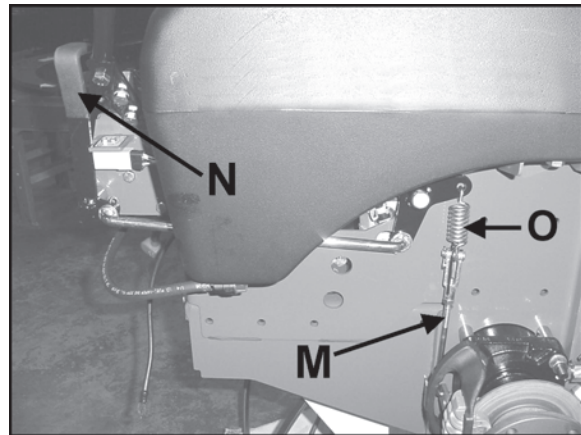
PARKING BRAKE

Park machine on a smooth level surface.

Support the machine with the rear wheels off the ground, using jack stands or equivalent. DO NOT rely on mechanical or hydraulic jacks.

1. Remove rear wheels.
2. Measure spring length **O** with parking brake **N** in the OFF position.
3. Move parking brake **N** to the ON position and measure length of spring **O** again. When spring deflects 3/8" it is properly adjusted.
4. If adjustment is required, return parking brake **N** to the OFF position.
5. Disconnect one end of rod **M** at the brake and loosen jam nut.
6. Adjust rod **M** in or out as required until 3/8" deflection in brake spring **O** is achieved with parking brake **N** in the ON position.
7. Reconnect rod **M** and retighten jam nut.
8. Repeat steps 2-7 on opposite side of machine.
9. Replace wheels and tighten wheel nuts.

This adjustment will cause the brake springs to stretch 3/8" when the parking brake is in the ON position, providing the correct parking brake force without overloading the brake arm.



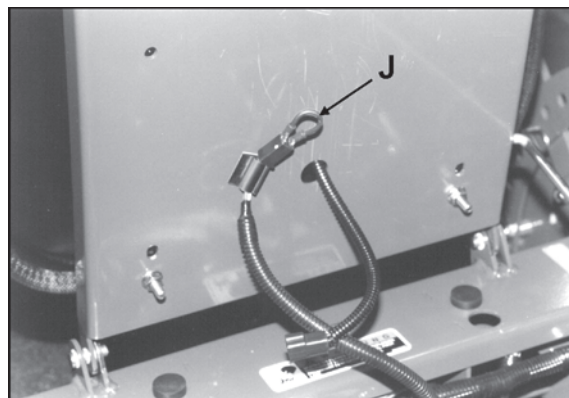
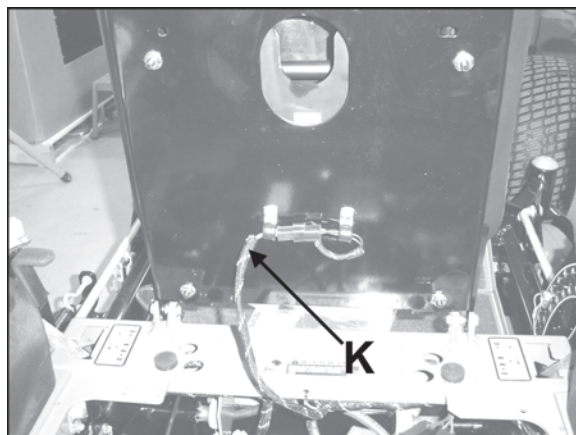
Parking brake assembly (tire and deck not shown for clarity - brake in ON position).

HYDROSTAT ADJUSTMENTS

A turnbuckle-style hydrostat neutral adjustment is provided.

Neutral:

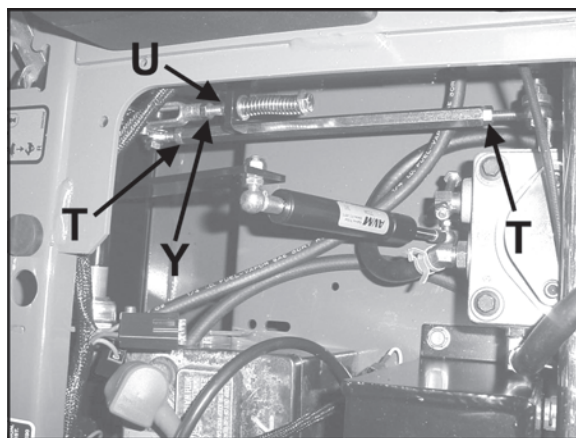
1. Support the machine with the rear wheels off the ground. Use jackstands or equivalent support. Do not rely only on mechanical or hydraulic jacks.
2. Move the traction levers out into the neutral lock position and raise the seat.
3. Disconnect the seat switch wire **K** and temporarily connect the two terminals with jumper wire **J** as shown.
4. Start the engine and run at low speed.
5. Loosen jam nuts **T** at both ends of the turnbuckle.
6. Rotate the turnbuckle until the corresponding wheel stops turning. Lock the turnbuckle jam nuts. Run the engine up to high idle to check the adjustment. Readjust if necessary.
7. Repeat steps 5 and 6 for the opposite side.
8. Remove the jumper wire and reconnect the seat switch.



Reverse Return:

1. Move traction levers out to the neutral lock position and raise the seat.
2. Locknut **U** should be run on the bolt as far as it will go.
3. Loosen jam nut **Y**. Adjust the clevis yoke by turning the head of the bolt until the clevis pin just makes contact with the rear of the slot in the lever it connects with. Tighten jam nut **Y**.
4. Repeat steps 2 and 3 for the opposite side.

NOTE: A slight creep in reverse is acceptable provided the wheel does not turn and the hydrostat pump does not whine when the parking brake is on.

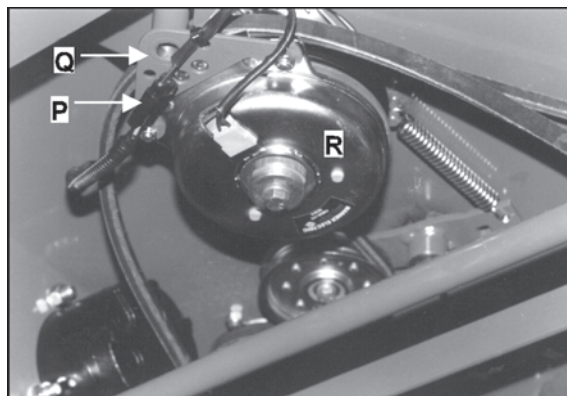
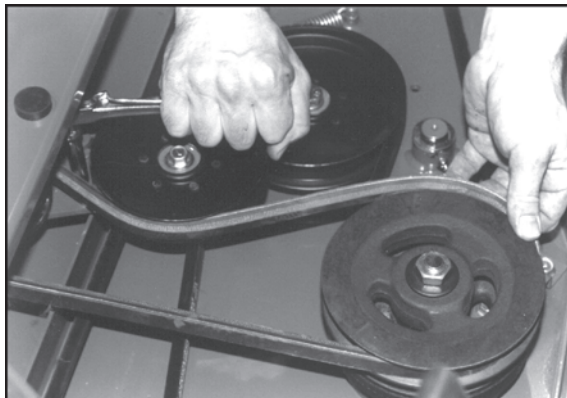


Right side adjustments
(wiring harness and seat rod removed for clarity)

Note: Always use Bunton replacement belts, not general purpose belts. Bunton belts are specially designed for use on commercial mowers and will normally last longer.

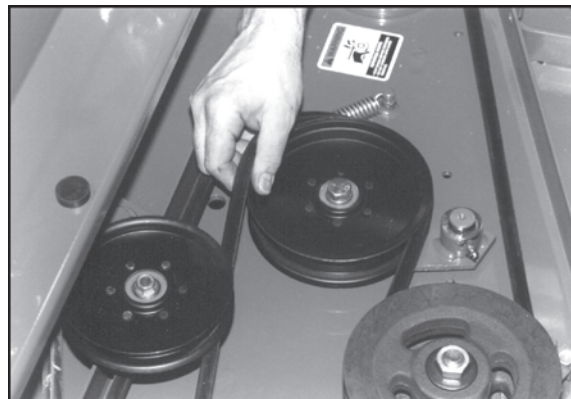
ENGINE-CUTTERDECK (PTO) BELT

1. Set the cutterdeck in the lowest height-of-cut position.
2. Attach a short extension to a 3/8" drive ratchet. Insert the ratchet extension into the square hole in the idler arm and use the ratchet to rotate the idler assembly enough to remove the belt. Remove the belt from the idlers and center cutterdeck pulley. Push belt back under engine deck.
3. Disconnect the electric clutch from the wire harness at plug **P**.
4. Remove the bolts securing torque restraint **Q** to clutch **R**. Remove torque restraint.
5. Remove old belt from the machine.
6. Install a new belt by performing the these steps in reverse order.



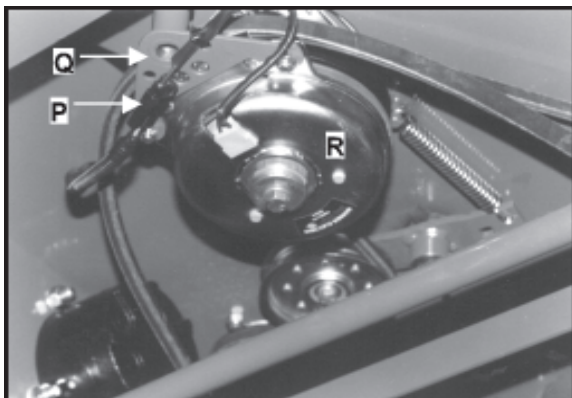
CUTTERDECK BELT

1. Set the cutterdeck in the lowest height-of-cut position.
2. Remove the engine-cutterdeck belt from the deck idlers and pulley (see engine-cutterdeck belt replacement). Push it aside but don't remove it from the machine.
3. Run the cutterdeck belt off the idler as shown. Remove it from the deck.
4. Install the new belt by performing these steps in reverse order. Take care to get the new belt on the correct side of the belt guides.
5. Re-install engine-cutterdeck belt (see engine-cutterdeck belt replacement).



PUMP-DRIVE BELT

1. Remove engine-cutterdeck belt (see engine-cutterdeck belt replacement).
2. Attach an extension to a 3/8" drive ratchet. Insert the ratchet extension in the square hole of the pump drive idler arm. Use the ratchet handle to rotate it enough to remove the pump drive belt.
3. Install a new pump drive belt in the same manner as it was removed.
4. Re-install engine-cutterdeck belt (see engine-cutterdeck belt replacement).



POWER UNITS

ENGINES:

Construction: Aluminum block with cast-in cast iron sleeves. Aluminum head.

Configuration: 4-stroke, vertical shaft, V-twin cylinder, overhead valve, air-cooled.

DRIVE SYSTEM:

Full hydrostatic pump and wheel motor combination for independently controlled drive wheels.

Pump: Hydrogear BDP-10A with shock valves 10cc variable displacement piston pump.

Motors: Parker/Ross 15 cu.in. displacement MB series. Direct drive 1-1/4" (31.8mm) diameter output shaft.

Turn Radius: True Zero

OPERATOR PRESENCE

INTERLOCK SYSTEM:

Start: The PTO (blades) must be off, traction levers in neutral lock, and parking brake on for engine to crank.

Run: Operator must be in seat to take parking brake off, to move traction levers out of the neutral lock position, or to turn the PTO (blades) on or the engine will kill. The parking brake must be off for the traction levers to move out of the neutral lock position.

The operator may leave the seat with the engine running if the parking brake is on, the PTO (blades) is off, and the traction levers are in the neutral lock position. A time delay eliminates annoying engine cutout from operation over rough terrain.

WEIGHT:

1025 lbs (465 kg)

CONTROLS:

Throttle; choke; power takeoff (PTO) clutch switch; traction levers; parking brake lever; lift lever.

FUEL SYSTEM:

One tank on each side of operator, each with a shutoff (1/4 turn). Total capacity 12 gallons (46 liters). Fuel selector/shutoff switch on front panel (1/4 turn). Replaceable fuel filter.

MAXIMUM GROUND SPEEDS:

Forward: 8.5 mph (13.7 km/h)

Reverse: 4 mph (6.4 km/h)

WHEELS & TIRES:

Drive wheels:

642220E: 23 X 8.50-12 4-Ply Turf Tread Tires

642244E, 642221E,
642248E: 23 X 10.5-12 4-Ply Turf Tread Tires

642233E, 642237E: 24 X 12.00-12 4-Ply Turf Tread Tires

Casters: 13 X 5.00-6 4-Ply Smooth Tread Tires (USED ON 52" DECKS)
13 X 6.5-6 4-Ply Smooth Tread Tires (USED ON 61" DECKS)

Pressure: 14 p.s.i. (1 kg/cm²)

BRAKING:

Parker brakes. Spring applied for overload protection.

SEAT:

High back, foam padded full suspension seat with standard armrests. Fore and aft adjusters, hinged for easy tilt-up access to pumps and battery. Internally mounted seat switch.

ENGINES				
MODEL NUMBERS	642220E, 642221E	642233E,642244E	642237E	642248E
MANUFACTURER	Kawasaki	Kawasaki	Kohler	Kawasaki
MODEL	FHV19	FHV25	CV740	FHV21
CYLINDERS	2	2	2	2
COOLING	Air	Air	Air	Air
BORE/STROKE	2.96 X 2.99" (75.2 X 76 mm)	2.96 X 2.99" (75.2 X 76 mm)	3.27 X 2.64" (83 X 67mm)	2.96 X 2.99" (75.2 X 76 mm)
DISPLACEMENT	41.2 cu.in. (675 cc)	41.2 cu.in. (675 cc)	44 cu. in. (725cc)	41.2 cu. in. (675cc)
COMPRESSION	8.5:1	8.1:1	9:1	8.5:1
OUTPUT POWER	19 hp (14.2 kw) @ 3600 rpm	25 hp (18.6 kw) @ 3600 rpm	27hp (20.1kw) @ 3600 rpm	21hp (15.6.1kw) @ 3600 rpm
OUTPUT TORQUE	37.0 ft-lb (50.2 J) @ 2500 rpm	41.3 ft-lb (56.0 J) @ 2400 rpm	42.7 ft-lb (57.9 J) @3000 rpm	
LUBRICATION	FULL PRESSURE	FULL PRESSURE	FULL PRESSURE	FULL PRESSURE
GOVERNOR	Mechanical	Mechanical	Mechanical	Mechanical
AIR CLEANER	Dual element	Heavy duty cyclonic	Heavy duty cyclonic	Dual element
IGNITION SYSTEM	Electronic	Electronic	Electronic	Electronic
CHARGING SYSTEM	15 amp, regulated	15 amp, regulated	15 amp, regulated	15 amp, regulated
BATTERY	BCI group U1	BCI group U1	BCI group U1	BCI group U1
FUSES	Two, 20 amp blade	Two, 20 amp blade	Two, 20 amp blade	Two, 20 amp blade
FUEL CONSUMPTION @ MAX LOAD/ SPEED	1.7 gal./hr (6.5 l/hr)	2.3 gal./hr (8.8 l/hr)	2.2 gal./hr (8.3 l/hr)	

FLUID CAPACITIES	QUANTITY	TYPE	FILTER
FUEL	9.5 gal. (40 l)	REGULAR, UNLEADED GASOLINE	REPLACEABLE
ENGINE OIL	2.0 qts (1.9 l)	SAE 10W30	SPIN-ON REPLACEABLE
HYDRAULIC OIL	2.6 qts (2.46 l)	SAE 15W40 MOTOR OIL SAE 20W50 MOTOR OIL 15W50 SYNTHETIC	25 MICRON SPIN-ON REPLACEABLE

CUTTERDECKS			
MODEL NUMBER	642220E	642221E, 642244E, 642248E	642233E, 642237E
TYPE	Side Discharge	Side Discharge	Side Discharge
CUTTING WIDTH	47.25" (120 cm)	52.5" (133 cm)	61" (155 cm)
WIDTH	N/A	N/A	N/A
WIDTH (CHUTE UP)	54" (137 cm)	56.25" (143 cm)	62" (157 cm)
WIDTH (CHUTE DOWN)	59" (150 cm)	64.5" (164 cm)	73" (185 cm)
BLADE	high lift (low lift optional)	high lift (low lift optional)	high lift (low lift optional)
NUMBER OF BLADES	3	3	3
BLADE LENGTH	16.25" (41 cm)	18" (46 cm)	21" (53 cm)
BLADE THICKNESS	.205" (5.2 mm)	.205" (5.2 mm)	0.25" (6.35 mm)
TIP SPEED	16778 ft/min 5114 m/min @3600 Engine RPM	18585 ft/min 5665 m/min @ 3600 Engine RPM	18850 ft/min 5745 m/min @ 3500 Engine RPM
DAILY PRODUCTION (8 hr @ 6 mph)	Up to 22.9 acres (9.3 ha)	Up to 25.5 acres (10.3 ha)	Up to 29.5 acres (11.9 ha)

CONSTRUCTION:

Fabricated and welded 10-gauge, double-layer steel top with 7-gauge side skirts. Full floating design.

CUTTERDECK DRIVE SYSTEM:

Electric clutch/brake drives belt directly from engine to center spindle of cutterdeck. No twists in drive belt.

SPINDLES:

Top mounted and maintenance free, with 1" shaft in precision machined, aluminum housing

ANTI-SCALP ROLLERS:

52" Cutterdecks - 6 Rollers

CUTTING HEIGHT & PRODUCTION:

Height: Spring assisted lift lever allows easy setting of cut heights from 1-1/2" to 4-1/2" in 1/4" increments. "Set and forget" feature allows height of cut to be set and returned to without searching from operator position.

SPECIFIC TORQUES

BLADE BOLT TORQUE: 70 FT-LBS (95 Nm)

WHEEL HUB NUTS: 225 FT-LBS (237 Nm)

ENGINE CRANKSHAFT BOLT: 50 FT-LBS (68 Nm)

PARTS SECTION

UPPER ENGINE DECK ASSY

Estate
Series

FIGURE 1

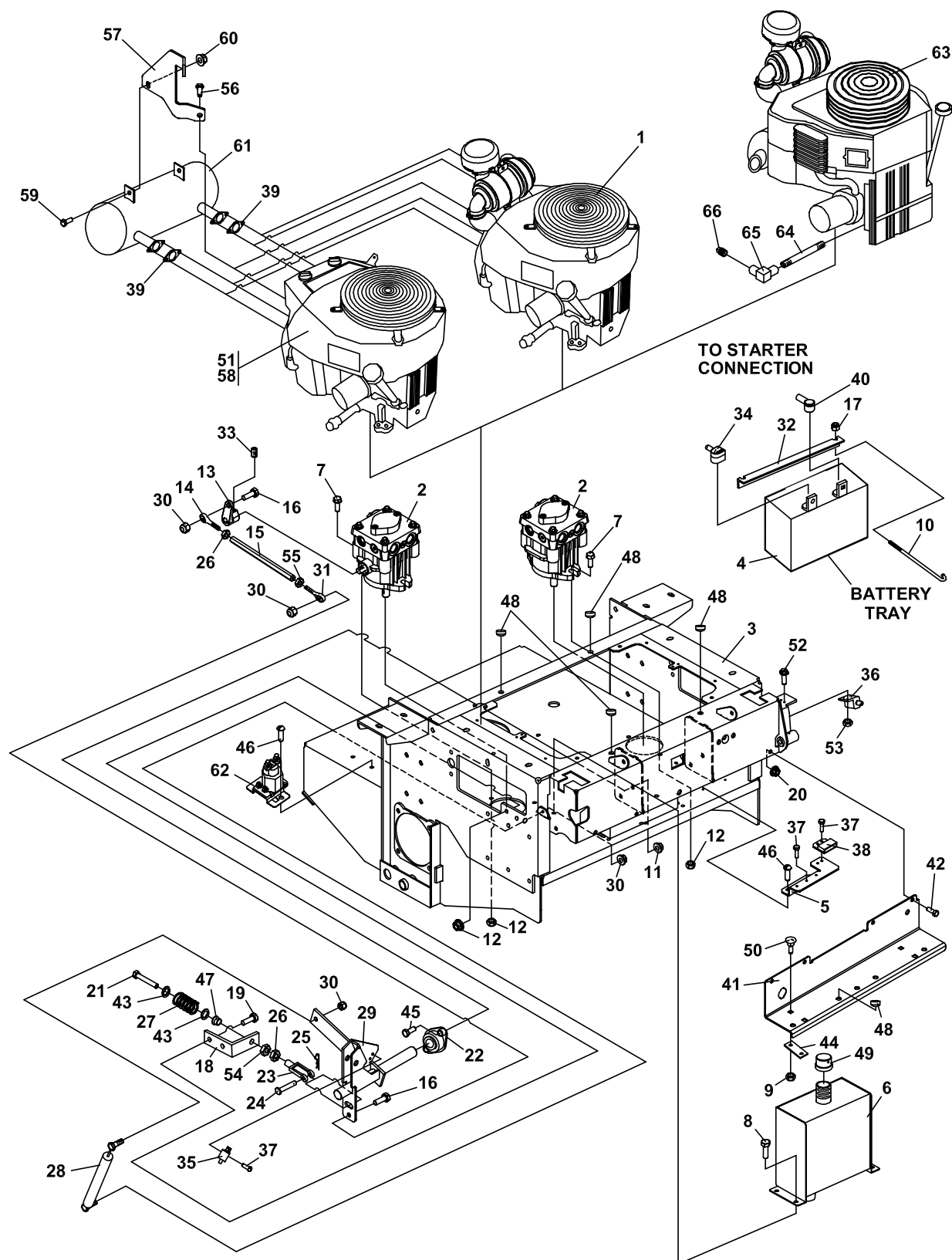


FIGURE 1

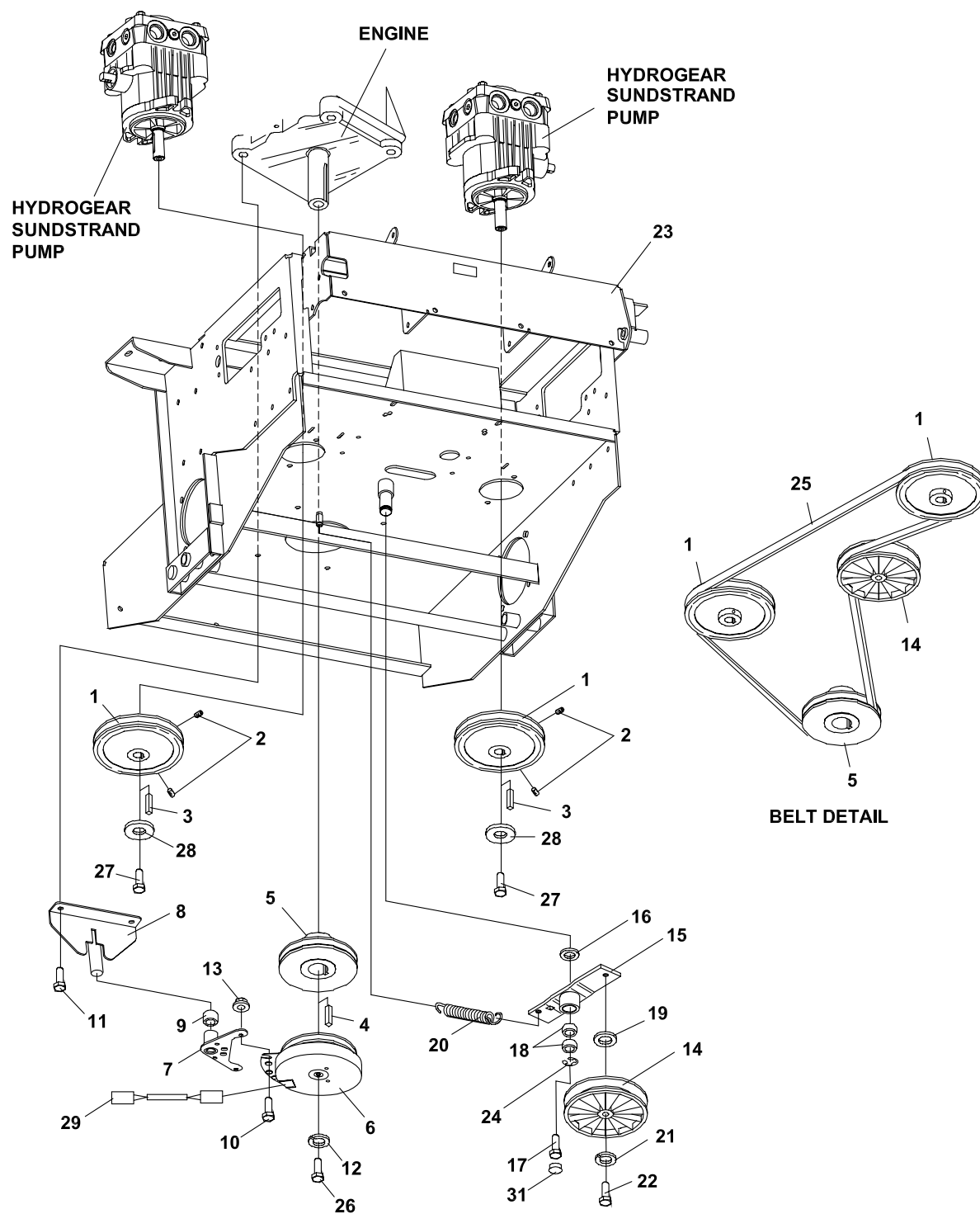
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1-1	4118340	ENG-KAW FHV 25 HDAC	1	1-37	64197-015	BLT-TDFM 10-32X1/2 TORX	8
	4114746	S-AIR FILTER PRIMARY	1	1-38	2188154	MODULE-DELAY	1
	4114747	S-AIR FILTER SAFETY	1	1-39	11060-9016	GASKET-MUFFLER	2
	2722214	FILTER-OIL	1	(AVAILABLE THROUGH KAWASAKI DEALER)			
	38666	FILTER-FUEL	1	1-40	2308095	COVER-TERMINAL	1
1-2	4137278	PUMP-HYDROSTATIC 12CC 2 (SEE FIGURE 8 FOR BREAKDOWN)	2	1-41	4158086.7	PLATE-KICK	1
1-3	4136781	S-ENGINE DECK W/LABS	1	1-42	64263-011	BLT-FLG HD M10-1.5 X 20	4
1-4		BATTERY (OBTAIN LOCALLY)	1	1-43	64163-55	WASHER .328X.75X14 GA	4
1-5	4138859.7	BRACKET-RELAY MNTG	1	1-44	2188146	STRIP, WEAR	2
1-6	2186211	S HYD RESERVOIR W/LABS	1	1-45	64123-15	BOLT-3/8-16X3/4 HEX	8
1-7	64263-013	BLT-FLG HD M10-1.5 X 30	4	1-46	64152-23	1/4-20X3/8 LG SP SCREW	4
1-8	64197-016	BLT-TDFM 3/8-16X1/2	4	1-47	38304-02	BRG, FLGD PLASTIC	2
1-9	64268-03	LOCKNUT-3/8-16	4	1-48	810149	BUMPER-RUBBER	8
1-10	831861	BOLT,BENT BATT HOOK	2	1-49	69216.7	CAP-RESERVOIR	1
1-11	64141-4	NUT-WLF 3/8-16	8	1-50	64018-23	BLT-CRG 3/8-16X3/4	4
1-12	64237-03	LOCKNUT-NYLON M10-1.5	8	1-51	4159840	ENGINE-21HP KAW	1
1-13	4118430	ARM-PUMP	2	1-52	64152-46	SCREW-SLT HH 10-24X1/2	2
1-14	38369-02	ROD END BALL JOINT LH	2	1-53	64025-15	NUT-HEX #10-24 KEPS	2
1-15	2188140	TURNBUCKLE	2	1-54	64229-08	LOCKNUT NYLON 5/16-24	2
1-16	64205-003	BLT-MET M8-1.25X30	4	1-55	64025-33	NUT-HEX 5/16-24 LH	2
1-17	64229-02	LOCKNUT-NYLON 5/16-18	2	1-56	64263-002	BLT-FLG HD M6-1.0 X 16	4
1-18	2182405.7	BRKT-REVERSE RETURN	2	1-57	4118507.7	BRKT-MUFFLER LH	1
1-19	A1104057	BOLT-M10-1.50X25	4		* 4118508.7	BRKT-MUFFLER RH	1
1-20	64246-03	NUT-WHIZ M10-1.50	4	1-58	2720607	ENGINE-KAWASAKI FHV 19	1
1-21	64123-205	BLT-HEX 5/16-24X4	2		4114746	S-AIR FILTER PRIMARY	1
1-22	2188145	BEARING-.75IDSELF-ALIGN	4		4114747	S-AIR FILTER SAFETY	1
1-23	38020N	CLEVIS YOKE, 5/16 PLATE	2		2722214	FILTER-OIL	1
1-24	64188-02	PIN, CLEVIS 5/16X1	2		38666	FILTER-FUEL	1
1-25	64168-2	COTTER-HAIRPIN.08X1.19	2	(ITEMS 39, 46, 56 & 59-62 FOR USE WITH KAWASAKI ENGINES ONLY)			
1-26	64025-03	NUT-HEX 5/16-24	4	1-59	64263-007	BLT-FLG HD M8-1.25 X 20	2
1-27	2188139	SPRING-COMPRESSION	2	1-60	64266-02	NUT-FL LOCK M8-1.25	2
1-28	2721246	DAMPENER	2	1-61	2188226	ASSY-MUFFLER	1
1-29	4112105.7	WLDMT-MOTION CTRL RH	1	1-62	38665	SOLENOID	1
	* 4112104.7	WLDMT-MOTION CTRL LH	1	1-63	4123374	ENGINE-KOHLER CV740S	1
1-30	64237-05	LOCKNUT-NYLON M8-1.25	8	(SERVICE MANUAL KOHLER #TP-2475-A)			
1-31	38369-01	ROD END BALL JOINT RH	2		4114746	S-AIR FILTER PRIMARY	1
1-32	2182427.7	HOLDDOWN-BATTERY	1		4114747	S-AIR FILTER SAFETY	1
1-33	64192-06	SETSCR SQHD 5/16-18X3/4	2		842502	FILTER-OIL	1
1-34	112386	BOOT,BAT TERM POS	1		38666	FILTER-FUEL	1
1-35	108208	SWITCH DBL POLE	2	1-64	48024-17A	NIPPLE-PIPE 3/8 X 5	1
1-36	2188156	SWITCH-NONO DBL POLE	1	1-65	2690033-01	ELBOW 3/8 PIPE, 90 DEG	1
				1-66	69051-01	PLUG-PIPE 3/8	1

* NOT ILLUSTRATED

LOWER ENGINE DECK ASSY/CLUTCH

Estate
Series

FIGURE 2



TORQUE TO 50 FT/LBS +/-10%

FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
2-1	4158360	PULLEY-PUMP	2				
2-2	64044-18	SCREW-SET 1/4-20 X 5/16	4				
2-3	64238-03	KEY-MET 5MM SQX28MM	2				
2-4	64164-10	1/4X1/4X1-1/4 MACH KEY	1				
2-5	4157860	PULLEY-5.25 ENGINE	1				
2-6	2721337	CLUTCH-ELECTRIC	1				
		(USED ON ALL MODELS EXCEPT 19HP)					
		(INCLUDES ITEMS 29 & 30)					
	2722016	CLUTCH-ELECTRIC 19HP	1				
		(USED ON 19HP MODELS ONLY)					
		(INCLUDES ITEMS 29 & 30)					
2-7	2721338.7	WLDMT-CLUTCH STOP	1				
		(USED ON ALL MODELS EXCEPT 19HP)					
	2721331.7	WLDMT-CLUTCH STOP	1				
		(USED ON 19HP MODELS ONLY)					
2-8	2186147.7	WLDMT-CLUTCH BRACKET	1				
2-9	38304-03	BEARING-FLANGED PLSTC	1				
2-10	64205-001	BLT-MET M8-1.25X20	2				
2-11	64197-005	BLT-TDFM 3/8-16X1-1/4	4				
2-12	64006-06	LCKWSHER-HELICAL 7/16	1				
2-13	64265-04	NUT-FL NYL LOCK M8-1.25	2				
2-14	2308000	PULLEY-IDLER 4.00 EOD	1				
2-15	4128923	S-ASSY-IDLER ARM PUMP	1				
		(INCLUDES ITEMS 16, 18 & 24)					
2-16	4127999	SEAL	1				
2-17	64270-01	BOLT-MET HEX M10-1.5X30	1				
2-18	4128004	BEARING	1				
2-19	33148-01	SPACER-0.379X0.750X0.25	1				
2-20	38219	SPRING-TENSION	1				
2-21	64006-03	WSHR, 3/8 HELICAL LOCK	1				
2-22	64123-21	BLT-HEX 3/8-24X1-1/4	1				
2-23	4136781	S-ENGINE DECK W/LABS	1				
2-24	64144-40	SNAP RING	1				
2-25	4124830	BELT-TRACTION DRIVE	1				
2-26	64123-155	BLT-HEX 7/16-20X3	1				
2-27	64205-013	BLT-MET M6-1X12	2				
2-28	64209-09	WASHER-CONICAL SPRING	2				
2-29	2720949	ASSY-CLUTCH WIRE	1				
2-30	*4121560	KIT-BRAKE POLE RPLCMNT	1				
2-31	4128002	END CAP	1				

* NOT ILLUSTRATED

FIGURE 3

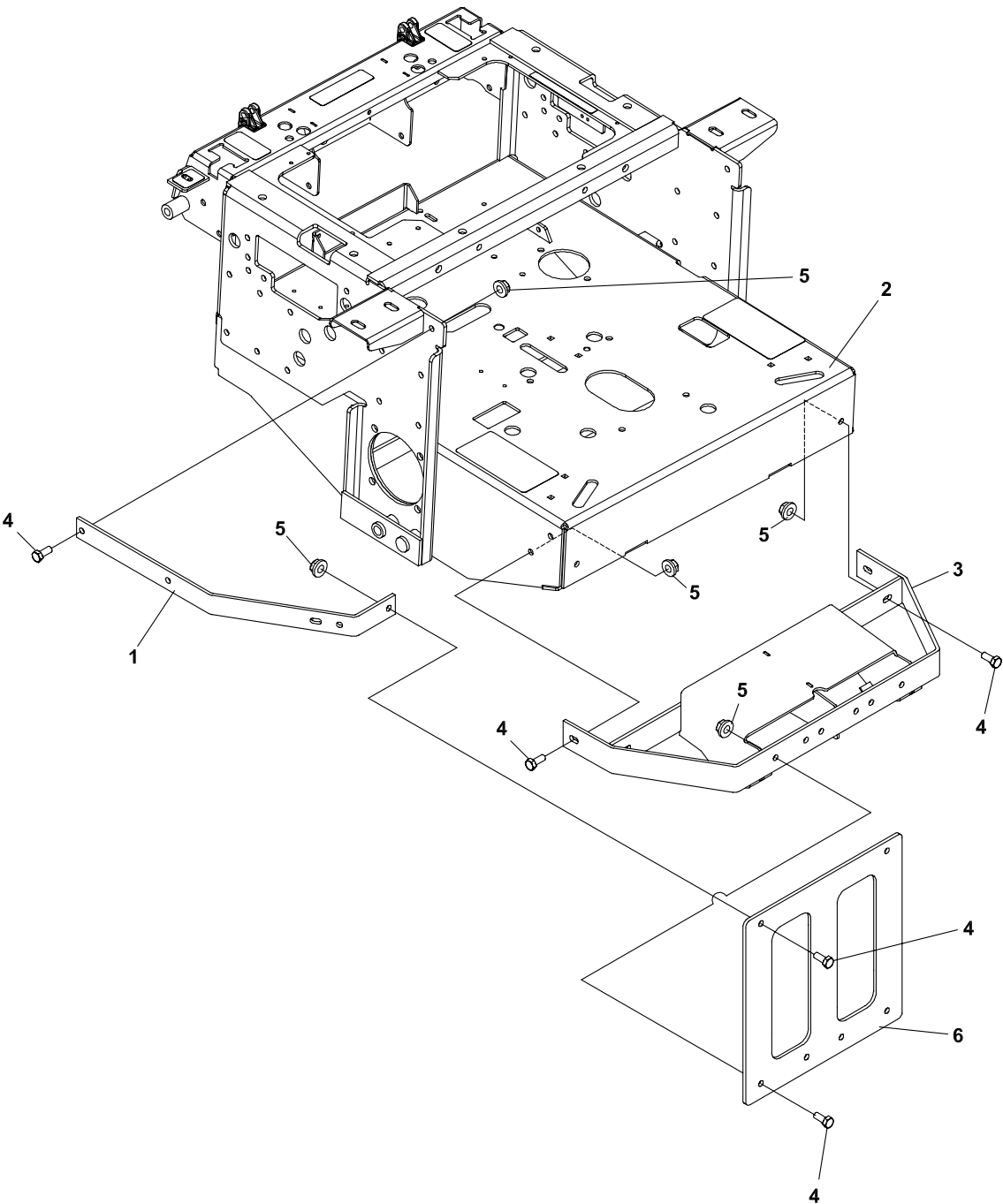


FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	2722296.7	ARM-BUMPER	2				
3-2	4136781	S ENG DECK W/LABS	1				
3-3	2721324.7	WLDMT-BUMPER	1				
3-4	64263-013	BLT-FLG HD M10-1.5 X 30	10				
3-5	64265-05	NUT-FL NYL LOCK M10-1.5	10				
3-6	2721932.7	BRACE-VERTICAL	1				

FIGURE 4

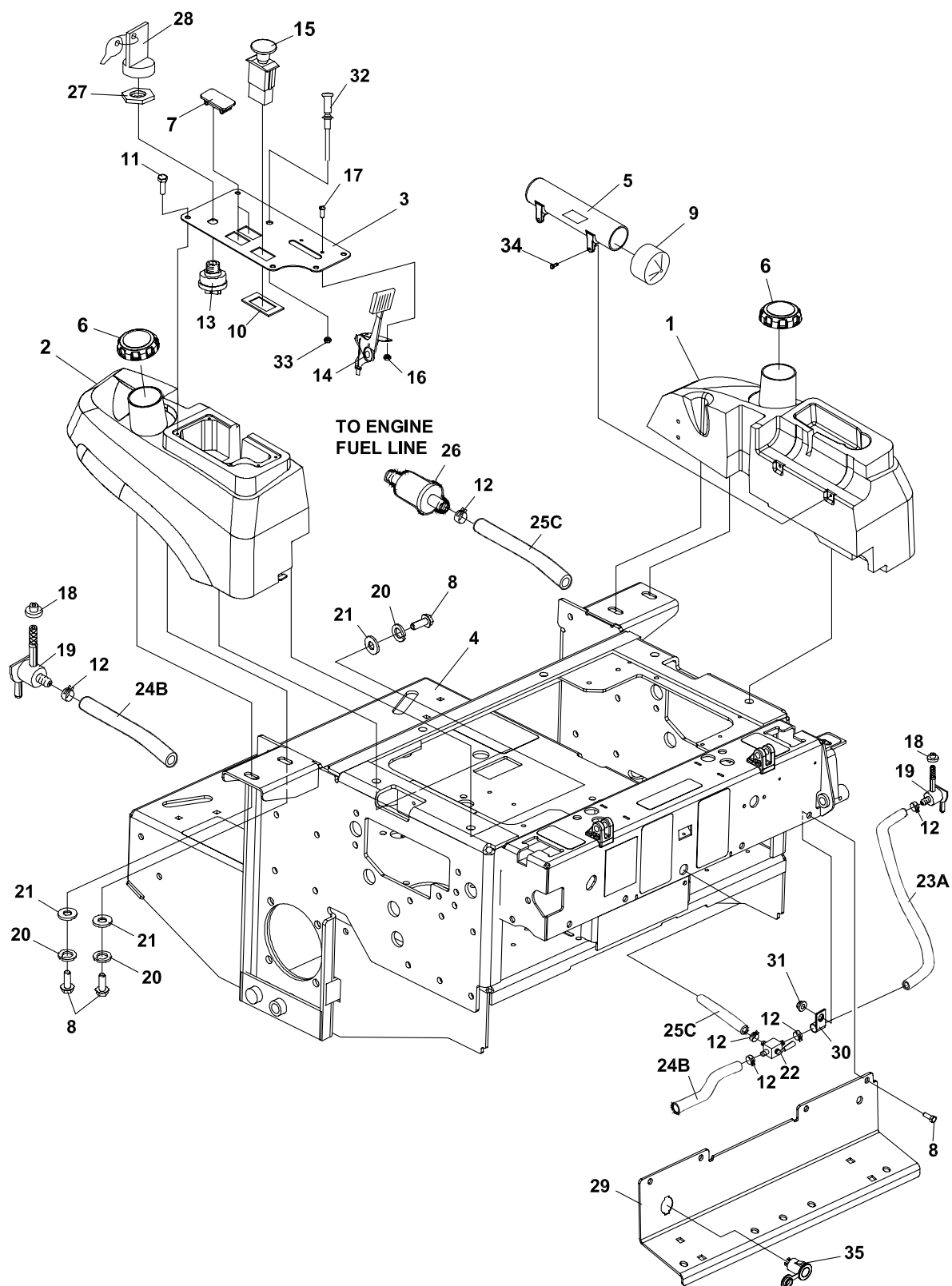


FIGURE 4

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4-1	2721510	TANK-FUEL LH (INCLUDES ITEMS 18 & 19)	1				
4-2	2721509	TANK-FUEL RH (INCLUDES ITEMS 18 & 19)	1				
4-3	4159162	S-CONTROL PANEL	1				
4-4	4136781	S ENG DECK W/LABS	1				
4-5	4160281	S DOC TUBE W/LABEL	1				
4-6	4130320	CAP-FUEL GASOLINE 3.5	2				
4-7	4110023	PLUG-SWITCH HOLE	2				
4-8	64205-007	BLT MET M10-1.50X20	12				
4-9	38061A	VINYL CAP	1				
4-10	2188178	SWITCH-RETAINER	1				
4-11	64263-001	BLT-FLG HD M6-1.0 X 12	5				
4-12	88042N	HOSE CLAMP	6				
4-13	128010	KEY-SWITCH	1				
4-14	118020-16	CONTROL-THROTTLE 48.0	1				
4-15	2721505	SWITCH-PTO	1				
4-16	64025-15	NUT-HEX #10-24 KEPS	2				
4-17	64152-46	SCR.-SLT HH #10-24X1/2	2				
4-18	4132325	GROMMET-FUEL TANK	2				
4-19	38540	VALVE-FUEL W/FILTER	2				
4-20	800488	LOCKWASHER M10	8				
4-21	64251-004	WASHER-M10	8				
4-22	2188161	VALVE-TANK SELECTOR	1				
4-23A	48016-17	HOSE,.25IDX.50OD X 20.5"	1				
4-24B	48016-17	HOSE-.25IDX.50OD X 26"	1				
4-25C	48016-17	HOSE-.25IDX.50OD X 41.3"	1				
4-26	38666	FILTER, FUEL B&S	1				
4-27	128010-01	S-KEY SWITCH NYLON NUT	1				
4-28	128010-03	S-COVERED KEY	1				
4-29	4158086.7	PLATE-KICK	1				
4-30	48228-2A	CLAMP	1				
4-31	64246-03	NUT-WHIZ M10-1.50	4				
4-32	108009-05	CONTROL-CHOKE 55"	1				
4-33	64025-04	NUT-3/8-24 HEX	1				
4-34	64263-002	BLT-FLG HD M6-1.0 X 16	2				
4-35	4142266	CONNECTOR, 12V RECEPT	1				

Diagram illustrating the assembly of a motorized vehicle chassis, showing various components and their assembly points. The components are numbered 1 through 33.

Key components and assembly points include:

- 1**: Main chassis frame.
- 2**: Bolt for mounting the motor.
- 3**: Washer for the motor mounting.
- 4**: Nut for the motor mounting.
- 5**: Lever arm for the clutch mechanism.
- 6**: Cable for the clutch mechanism.
- 7**: Bracket for the clutch mechanism.
- 8**: Pin for the clutch mechanism.
- 9**: Pulley for the clutch mechanism.
- 10**: Bolt for the motor mounting.
- 11**: Motor housing.
- 12**: Motor.
- 13**: Tire.
- 14**: Wheel hub.
- 15**: Nut for the wheel hub.
- 16**: Pin for the clutch mechanism.
- 17**: Pin for the clutch mechanism.
- 18**: Lever arm for the clutch mechanism.
- 19**: Cable for the clutch mechanism.
- 20**: Tire.
- 21**: Bolt for the motor mounting.
- 22**: Washer for the motor mounting.
- 23**: Nut for the motor mounting.
- 24**: Bolt for the motor mounting.
- 25**: Pin for the clutch mechanism.
- 26**: Washer for the motor mounting.
- 27**: Pin for the clutch mechanism.
- 28**: Pin for the clutch mechanism.
- 29**: Pin for the clutch mechanism.
- 30**: Pin for the clutch mechanism.
- 31**: Pin for the clutch mechanism.
- 32**: Washer for the motor mounting.
- 33**: Washer for the motor mounting.

TORQUE TO 225 FT/LBS

FIGURE 5

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
5-1	4136781	S-ENGINE DECK W/LABS	1				
5-2	4158803.7	WLDMT-BRAKE ARM LH	1				
5-3	4158801.7	WLDMT-BRAKE ARM RH	1				
5-4	128102	SPRING,EXTENSION	2				
5-5	4159241.7	WLDMT-BRAKE LEVER	1				
5-6	4159701	ROD-BRAKE CONTROL	2				
5-7	2182387.7	GUIDE-SPRING	2				
5-8	38020N	CLEVIS YOKE, 5/16 PLATE	2				
5-9	4159281	BRAKE-PARKER	2				
5-10	64163-06	WSHR,.768/.756X1.25X14	A/R				
5-11	4159000	BAR-PARKING BRAKE	1				
5-12	4159280	MOTOR-PARKER	2				
		(INCLUDES ITEMS 32 & 33)					
5-13	4158422	ASSY-WHEEL 24 X 12-12	2				
	1985085-02	TIRE 24X12.00-12NHS 4PLY2					
		(ITEM 34 USED ON 642233E & 642237E)					
5-14	4158460	ASSY-WHEEL 23 X 8.5-12	2				
		(ITEM 14 USED ON 642220E)					
5-15	64187-03	WHEEL NUT-1/2-20	8				
5-16	64188-02	PIN, CLEVIS 5/16X1	2				
5-17	64061-25	ROLL PIN-1/4X1-1/4	2				
5-18	2188155	GRIP, 1/4X1X4-1/2	1				
5-19	2183063-01	SPACER, 32MM LONG	8				
5-20	4158421	ASSY-WHEEL 23 X 10.5-12	2				
		(ITEM 34 USED ON 642221E, 44E & 48E)					
5-21	85010N	ZERK, 1/4-28 STR SLFTHRD	1				
5-22	64144-34	SNAP RING.50	1				
5-23	2188145	BEARING-.75ID SELF ALIGN	2				
5-24	64123-15	BOLT-3/8-16X3/4 HEX	4				
5-25	64141-4	NUT-WLF 3/8-16	4				
5-26	64207-07	NUT-HEX M12-1.75	8				
5-27	64168-2	COTTER-HAIRPIN.08X1.19	4				
5-28	64025-03	NUT-HEX 5/16-24	2				
5-29	64006-05	LOCKWSHR-HELICAL 1/2	8				
5-30	4159242	WLDMT-PRK BRAKE ROD	1				
5-31	450767	CAPSCREW 12-1.75X110	8				
5-32	64164-08	S-KEY FOR WHEEL MOTOR	2				
5-33	64025-31	NUT 1-20 UNSLOTTED TRW	2				

FRONT

REAR

HOSES TO PUMP CASE DRAINS

1, 2, 3, 4, 5, 6, 7A, 7B, 8, 9, 10, 11, 12, 13, 14, 15

This exploded view diagram illustrates the assembly of the front and rear chassis. The front chassis (1) is shown with various mounting points and components like the pump (6) and hoses (7A, 7B) for case drains. The rear chassis (11) is shown with mounting brackets (13) and screws (14, 15). The diagram includes a detailed view of the pump and hose assembly, showing how the hoses connect to the pump and the case drains. The front chassis is shown with a top cover (2) and a rear cover (11). The rear chassis is shown with a top cover (13) and a rear cover (11). The diagram includes a detailed view of the pump and hose assembly, showing how the hoses connect to the pump and the case drains. The front chassis is shown with a top cover (2) and a rear cover (11). The rear chassis is shown with a top cover (13) and a rear cover (11).

FIGURE 6

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
6-1	4136781	S ENGINE DECK W/LABS	1				
6-2	4139443.7	BRKT-COOLER FRONT	1				
6-3	64263-002	BLT-FLG HD M6-1.0 X 16	4				
6-4	2720891.7	SCREEN-OIL COOLER	1				
6-5	2188173	COOLER-OIL	1				
6-6	2186211	S HYD RSRVR W/LABS	1				
(69053-05 IS A SERVICEABLE LENGTH OF 55")							
6-7A	69053-05	3/8 HIGH TEMP HOSE 26"	1				
6-7B	69053-05	3/8 HIGH TEMP HOSE 22"	1				
6-8	48228-2A	CABLE-CLIP 3/4 W/INSTN	2				
6-9	88042-04	CLAMP-3/4 CLIP	4				
6-10	58026-01	3 WAY CONNECTOR 3/8	1				
6-11	2722296.7	ARM-BUMPER	2				
6-12	64237-02	LOCKNUT-NYLON M6-1.00	4				
6-13	4139367.7	BRACKET-REAR COOLER	2				
6-14	64265-05	NUT-FL NYL LOCK M10-1.5	9				
6-15	64263-013	BLT-FLG HD M10-1.5 X 30	9				

FIGURE 7

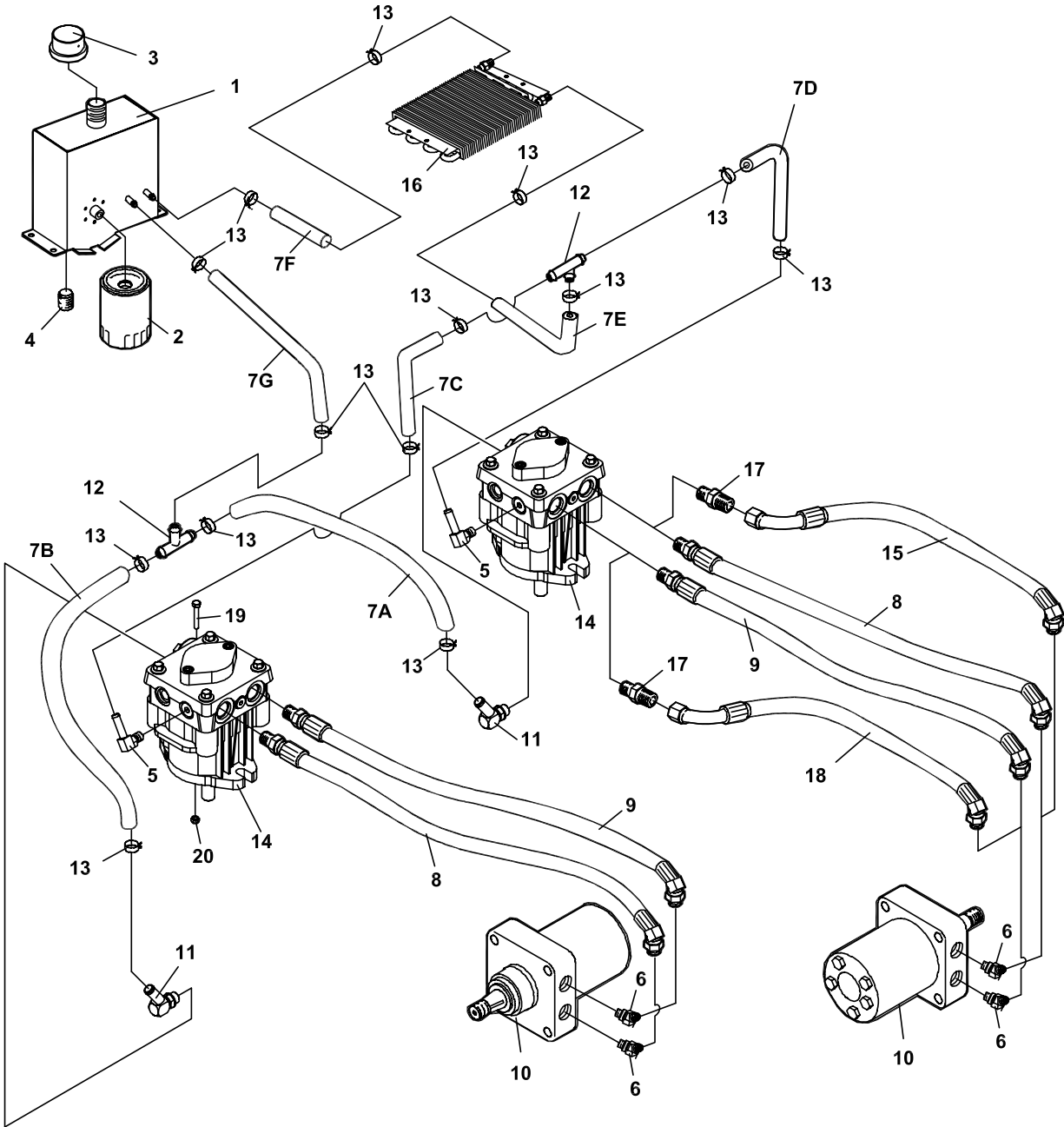
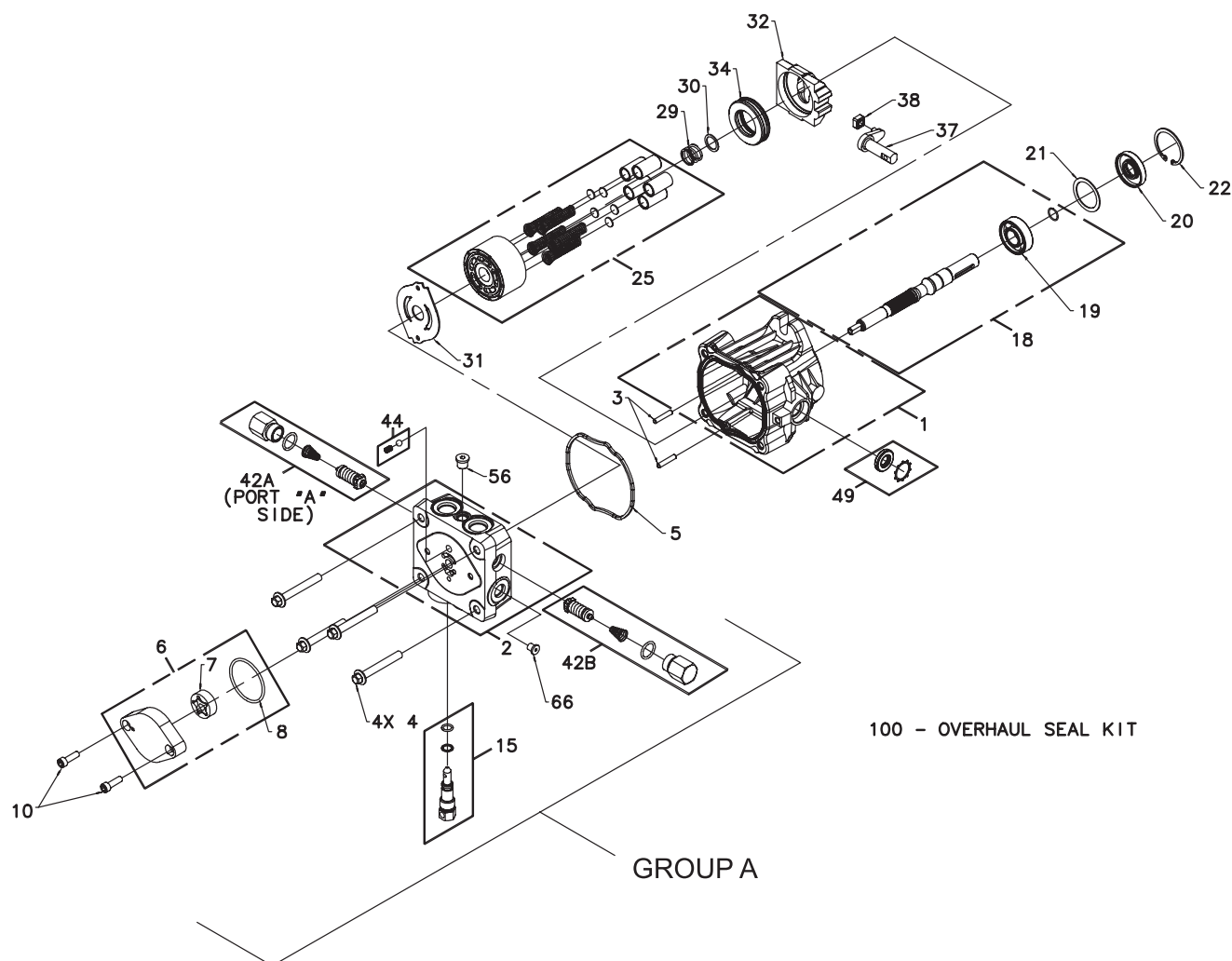


FIGURE 7

ITEM	PART NO.	DESCRIPTION	QTY
7-1	2186211	S HYD RESERVOIR W/LAB	1
7-2	2720396	FILTER 25 MICRON	1
7-3	69216.7	CAP-RESERVOIR	1
7-4	4160243	PLUG-HYDRAULIC TANK	1
7-5	158058-04	FTG-90 BRB 9/16-18X.38	2
7-6	108205-03	ELBOW-MALE 45 37-ORB	4
(69053-05 IS A SERVICEABLE LENGTH OF 55")			
7-7A	69053-05	3/8 HIGH TEMP HSE 18"	1
7-7B	69053-05	3/8 HIGH TEMP HSE 15"	1
7-7C	69053-05	3/8 HIGH TEMP HSE 19"	1
7-7D	69053-05	3/8 HIGH TEMP HSE 12"	1
7-7E	69053-05	3/8 HIGH TEMP HSE 22"	1
7-7F	69053-05	3/8 HIGH TEMP HSE 26"	1
7-7G	69053-05	3/8 HIGH TEMP HSE 5"	1
7-8	2188157-01	HOSE HYD ORB 37-22.38 (USE QTY 1 ON 19HP & 25HP KAW) (USE QTY 2 ON 27HP KLR)	2
7-9	2188157-02	HOSE HYD ORB 37-25.00 (USE QTY 1 ON 25HP KAW) (USE QTY 2 ON 19HP KAW & 27HP KLR)	
7-10	4159280	MOTOR-PARKER	2
7-11	2690030-01	FTG 9/16-18 ORB X 3/8	2
7-12	58026-01	3 WAY CONNECTOR 3/8	2
7-13	88042-04	CLAMP-HOSE 5/8	14
7-14	4137278	PUMP-HYDRO 12cc	2
7-15	2720320-02	HOSE-1/2 37/45 37	1
7-16	2188173	OIL COOLER	1
7-17	48089-03	FTG-STRGHT 8 ORB X 8 JIC (USE QTY 1 ON 19HP KAW) (USE QTY 2 ON 25HP KAW)	
7-18	2720320-01	HOSE-1/2 37/45 37 26.25 (USED ON 19HP & 25HP KAW ONLY)	1
7-19	64123-60	BOLT, 1/4-20X2 HEX	2
7-20	64229-01	LOCKNUT-NYL 1/4-20	2

SAE PORT 'O' RING		
PART NUMBER	THREAD SIZE	AS-568#
158061-10	9/16-18	-906
158061-11	3/4-16	-908
158061-12	7/8-14	-910
158061-13	1-1/16-12	-912
158061-14	1-5/16-12	-916
158061-16	1-5/8-12	-920
158061-03	1-7/8-12	-924

FIGURE 8



ZT 200 Series

HYDROGEAR PUMP

FIGURE 8

ITEM	HYDROGEAR PART NO.	CGC, INC. PART NO.	DESCRIPTION	QTY
8-1	70516	-----	HOUSING KIT	1
8-2	70517	-----	END CAP KIT	1
8-3	50641	-----	STRAIGHT HEADLESS PIN	2
8-4	50969	2721615-01	FLANGE BOLT M8-1.25 X 60	4
8-5	51232	2721615-02	HOUSING O-RING	1
8-6	2513027	38345-06	CHARGE PUMP KIT	1
8-7	50273	38345-07	STD GEROTOR ASSEMBLY	1
8-8	9004101-1340	38345-08	O-RING	1
8-10	50095	38345-10	SOCKET SCREW M6-1.0 x 20	2
8-15	2513030	-----	BYPASS VALVE KIT (BLANK)	1
8-18	70521	2721615-07	PUMP SHAFT KIT	1
8-19	50315	-----	BALL BEARING 17 X 40 X 12	1
8-20	51161	-----	LIP SEAL 17 x 40 x 12	1
8-21	50951	-----	SPACER	1
8-22	50329	-----	RETAINING RING	1
8-25	70331	38345-12	CYLINDER BLOCK KIT	1
8-29	2003014	-----	BLOCK SPRING	1
8-30	2003017	-----	BLOCK THRUST WASHER	1
8-31	51246	2721615-09	VALVE PLATE	1
8-32	2003087	188059-11	SWASH PLATE	1
8-34	50551	2721615-11	BALL THRUST BEARING	1
8-37	2003005	188059-15	ARM-TRUNION	1
8-38	2000015	2721615-13	SLOT GUIDE	1
8-42A	70743	4121354	SHOCK VALVE KIT (.031")	1
8-42B	70741	4121355	SHOCK VALVE KIT (BLANK)	1
8-44	70403	2721615-16	CHARGE RELIEF VALVE KIT	1
8-49	2513043	2721615-17	TRUNNION SEAL/RETAIN KIT	1
8-56	9005110-4400	-----	STRAIGHT THREAD PLUG	1
8-66	9005110-3100	-----	5/16 SAE PLUG	1
8-100	70525	2721615-18	OVERHAUL SEAL KIT	1

KOHLER WIRE HARNESS

Estate Series

FIGURE 9

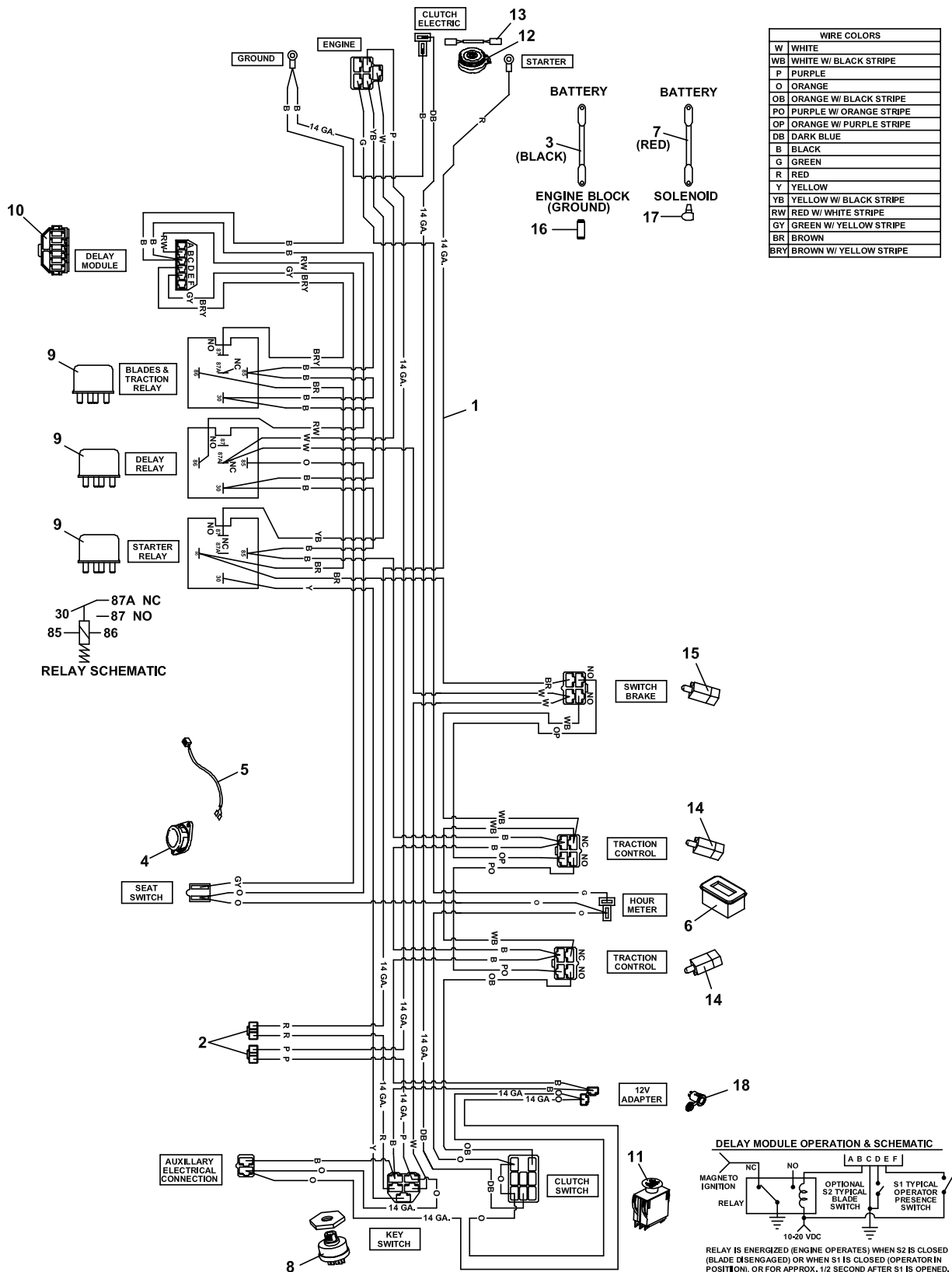


FIGURE 9

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
9-1	4158085	HARNESS-WIRING MAIN	1				
9-2	148082-20	FUSE-20 AMP	2				
9-3	108061-13	CABLE-BATTERY 36 BLACK	1				
9-4	4124009	SWITCH-SEAT, NO	1				
9-5	4143068	JUMPER-SEAT SWITCH	1				
9-6	4136792	METER-HOUR	1				
9-7	2722227-02	CABLE-BATT W/CONDUIT (INCLUDES ITEMS 16 & 17)	1				
9-8	128010	KEY-SWITCH	1				
9-9	2722325	RELAY-40AMP SEALED	3				
9-10	2188154	MODULE-DELAY	1				
9-11	2721505	SWITCH-PTO	1				
9-12	2721337	CLUTCH-ELECTRIC (INCLUDES 2720949 WIRE ASSY)	1				
9-13	2720949	ASSY-CLUTCH WIRE	1				
9-14	108208	SWITCH DBL POLE	2				
9-15	2188156	SWITCH-NONO DBL POLE	1				
9-16	112386	BOOT-BAT TERM POS	1				
9-17	2308095	COVER-TERMINAL	1				
9-18	4142266	CONNECTOR-12V	1				

FIGURE 10

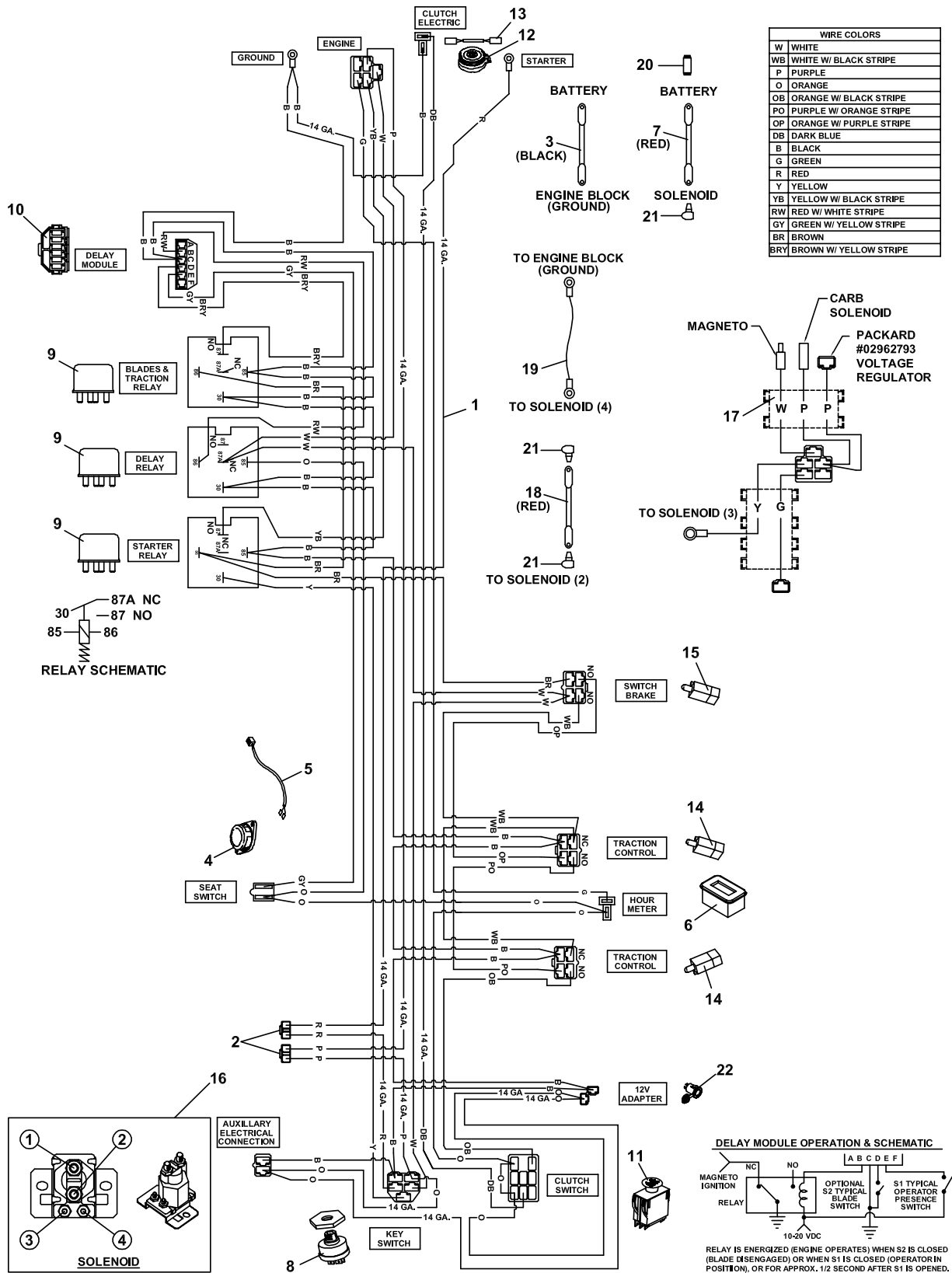


FIGURE 10

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
10-1	4158085	HARNESS-WIRING MAIN	1				
10-2	148082-20	FUSE-20 AMP	2				
10-3	108061-13	CABLE-BATTERY 36 BLACK	1				
10-4	4124009	SWITCH-SEAT, NO	1				
10-5	4143068	JUMPER-SEAT SWITCH	1				
10-6	4136792	METER-HOUR	1				
10-7	2722227-01	CABLE-BATT W/CONDUIT (INCLUDES ITEMS 20 & 21)	1				
10-8	128010	KEY-SWITCH	1				
10-9	2722325	RELAY-40AMP SEALED	3				
10-10	2188154	MODULE-DELAY	1				
10-11	2721505	SWITCH-PTO	1				
10-12	2721337	CLUTCH-ELECTRIC (USED ON 25HP & 27HP ONLY) (INCLUDES 2720949 WIRE ASSY)	1				
	2722016	CLUTCH-ELECTRIC 19HP (USE ON 19HP MODELS ONLY) (INCLUDES 2720949 WIRE ASSY)	1				
10-13	2720949	ASSY-CLUTCH WIRE	1				
10-14	108208	SWITCH-DBL POLE	2				
10-15	2188156	SWITCH-NONO DBL POLE	1				
10-16	38665	SOLENOID	1				
10-17	2188224	HARNESS-JUMPER	1				
10-18	108061-04	CABLE-BATTERY 20 RED	1				
10-19	2188225	WIRE-GROUND	1				
10-20	112386	BOOT-BAT TERM POS	1				
10-21	2308095	COVER-TERMINAL	3				
10-22	4142266	CONNECTOR-12V	1				

FIGURE 11

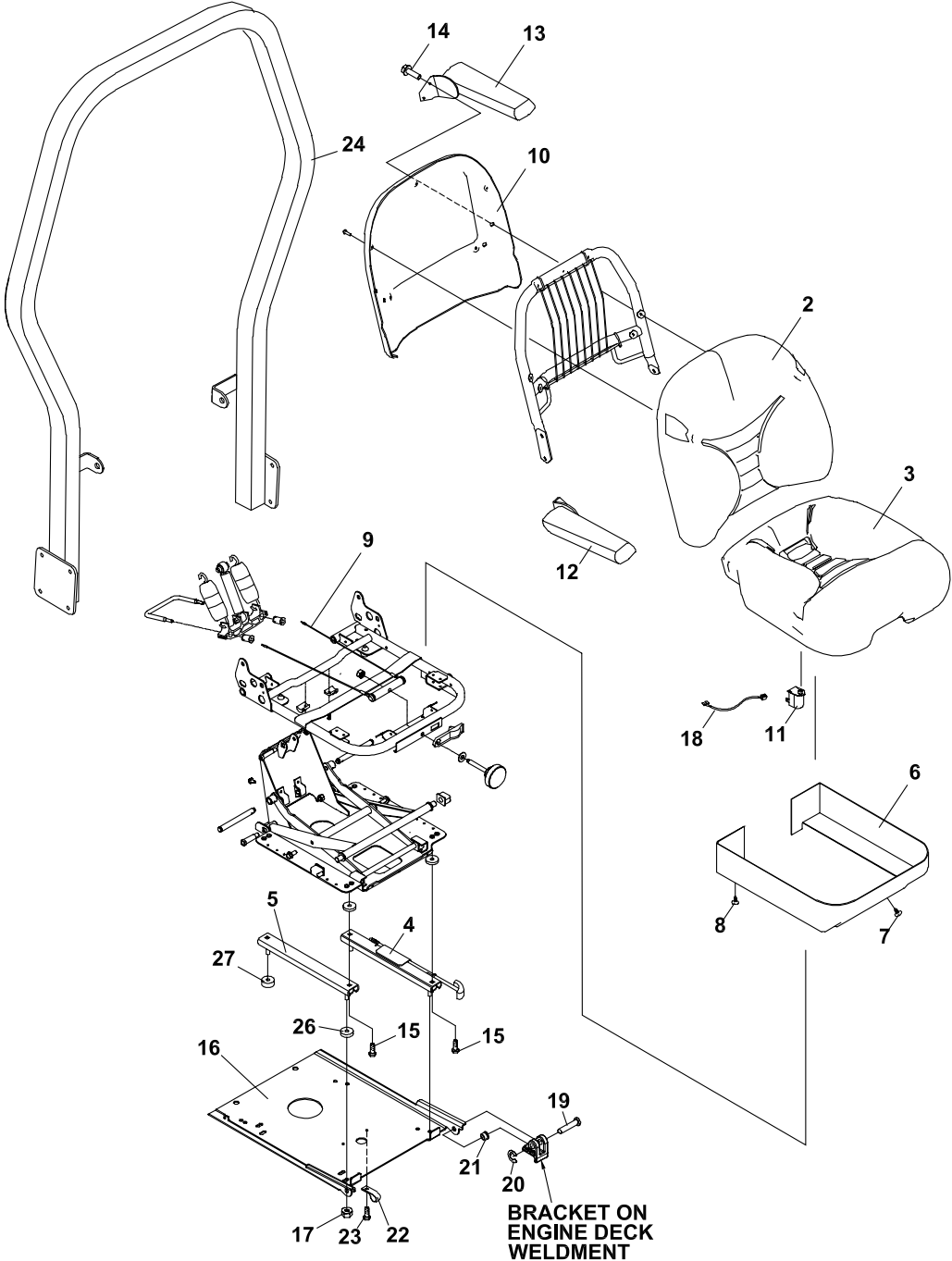


FIGURE 11

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
11-1	4122479	SEAT-SUSPENSION (INCLUDES ITEMS 2-15)	1				
11-2	4122479-01	CUSHION-SEAT BACK	1				
11-3	4122479-02	CUSHION-SEAT BOTTOM	1				
11-4	4122479-03	SLIDE RAIL-ADJUSTER	1				
11-5	4122479-04	SLIDE RAIL-SLAVE	1				
11-6	4122479-05	SKIRT-SEAT ASSY	1				
11-7	4122479-06	CLIP-SMALL XMAS TREE	3				
11-8	4122479-07	CLIP-LARGE XMAS TREE	4				
11-9	4122479-08	ASSY-CABLE	1				
11-10	4122479-09	BACK PANEL-SEAT	1				
11-11	4124009	SWITCH-SEAT NO	1				
11-12	4122481	ARMREST-RH	1				
11-13	4122480	ARMREST-LH	1				
11-14	64123-68	BOLT-HEX 5/16-18X1	4				
11-15	64123-54	BOLT, 5/16-18X3/4 HEX	4				
11-16	4121386.7	PLATE-SEAT	1				
11-17	64141-6	NUT-WLF 5/16-18	4				
11-18	4143068	JUMPER-SEAT SWITCH	1				
11-19	33138-09	PIN-CLEVIS	2				
11-20	64144-30	SNAP RING	2				
11-21	38371-01	BRG-NYLINER 3/8	2				
11-22	48228A	CABLE CLIP-INSULATED	2				
11-23	64152-23	SCREW 1/4-20X3/8	2				
OPTIONAL ROPS:							
11-24	970162	ATT-ROPS (INCLUDES ITEM 22)					
11-25	*2208260	S-SEAT BELT	1				
11-26`	2720975-07	SPACER-NYLON 3/8"	2				
11-27	2720975-09	SPACER-NYLON 1/4"	2				

* NOT ILLUSTRATED

This technical drawing is an exploded view of a mechanical assembly, likely a piece of industrial machinery. The main body of the assembly is a rectangular frame (1) with various internal components. The diagram shows the following parts and their assembly relationships:

- Top Assembly:** A curved pipe (5) is connected to a vertical support (6) via a flange (8). The support (6) is secured with bolts (16). A bracket (12) is attached to the top of the frame (1) using a pin (13) and a nut (15). A roller (9) is mounted on a shaft (10) at the rear of the frame.
- Front Assembly:** A front panel (2) is attached to the frame (1) using a bracket (3) and a pin (11). A small component (14) is also visible near the front panel.
- Internal Components:** A central shaft (20) runs through the assembly, supported by bearings (21) and secured with nuts (15). A pulley (22) is mounted on the shaft, connected to a drive mechanism (23) via a belt (24). A motor (25) is connected to the drive mechanism.
- Base and Support:** The entire assembly is mounted on a base (26) using a bracket (17) and a pin (15). A support arm (27) is attached to the base using a pin (15) and a nut (15). A component (28) is connected to the base via a pin (15) and a nut (15).
- Other Components:** A component (29) is attached to the base using a pin (15) and a nut (15). A component (30) is attached to the base using a pin (15) and a nut (15). A component (31) is attached to the base using a pin (15) and a nut (15). A component (32) is attached to the base using a pin (15) and a nut (15). A component (33) is attached to the base using a pin (15) and a nut (15). A component (34) is attached to the base using a pin (15) and a nut (15). A component (35) is attached to the base using a pin (15) and a nut (15). A component (36) is attached to the base using a pin (15) and a nut (15). A component (37) is attached to the base using a pin (15) and a nut (15). A component (38) is attached to the base using a pin (15) and a nut (15). A component (39) is attached to the base using a pin (15) and a nut (15). A component (40) is attached to the base using a pin (15) and a nut (15). A component (41) is attached to the base using a pin (15) and a nut (15). A component (42) is attached to the base using a pin (15) and a nut (15).

FIGURE 12

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
12-1	4136781	S ENGINE DECK W/LABS	1				
12-2	4136792	METER-HOUR	1				
12-3	2188161	VALVE-TANK SELECTOR	1				
12-4	64265-05	NUT-FL NYL LOCK M10-1.5	8				
12-5	4122172.7	LEVER-TRACTION CNTRL	2				
12-6	4122173.7	BRKT-TRACTION LEVER	2				
12-7	2183074	BRKT-HANDLE	2				
12-8	4144705	GRIP-HANDLE	2				
12-9	2188145	BEARING-.75ID SELF ALIGN	4				
12-10	64123-15	BOLT-3/8-16X3/4 HEX	8				
12-11	64141-4	NUT-WLF 3/8-16	8				
12-12	4112105.7	WLDMT-MTN CONTRL RH	1				
	* 4112104.7	WLDMT-MTN CONTRL LH	1				
12-13	64205-011	BLT-MET M10-1.50X40	2				
12-14	A110406	SCREW,M10X1.5X30 HH	12				
12-15	64237-03	LOCKNUT-NYLON M10-1.5	20				
12-16	64263-013	BLT-FLG HD M10-1.5 X 30	8				
12-17	A1104057	BOLT-M10-1.50X25	3				
12-18	64163-43	WSHR.443/.454X1X11GA	1				
12-19	2183073	SPACER	2				
12-20	4159920.7	WLDMT-CRADLE	1				
12-21	64168-2	COTTER-HAIRPIN.08X1.19	4				
12-22	2720551.7	WLDMT-DECK LIFT LEVER	1				
12-23	2720511.7	WLDMT-LVR STOP LATCH	1				
12-24	2720517.7	BRKT-INNER DECK LIFT	1				
12-25	2720516.7	BRKT-OUTER DECK LIFT	1				
12-26	4116590.7	BRACKET-LIFT LINK	2				
12-27	2720501.7	HANDLE-LIFT ARM	1				
12-28	4159060	ASSY-PIN AND LANYARD	1				
12-29	64188-53	PIN-CLEVIS 1/2X1.0	1				
12-30	64205-008	BLT-MET M10-1.5 X 55	2				
12-31	85010N	ZERK, 1/4-28 STR SELF TH	1				
12-32	64221-04	E-RING .875	1				
12-33	64175-05	NUT-PUSH 1/2	1				
12-34	64188-36	PIN, CLEVIS 7/16X1-1/4	2				
12-35	2188143	GRIP	1				
12-36	2183071-03	SPACER-15.88X10.32X24	2				
12-37	64163-29	WASHER-21/64 X 1 X 11GA	1				
12-38	2720544	SPRING-COMPRESSION	1				
12-39	4159284	ROD-LIFT STOP	1				
12-40	64163-65	WSHR .890X1.375X18GA	2				
12-41	2720742	LBL-HT CUT OUTER	1				
12-42	2720743	LBL-HT CUT INNER	1				

* NOT ILLUSTRATED

FIGURE 13

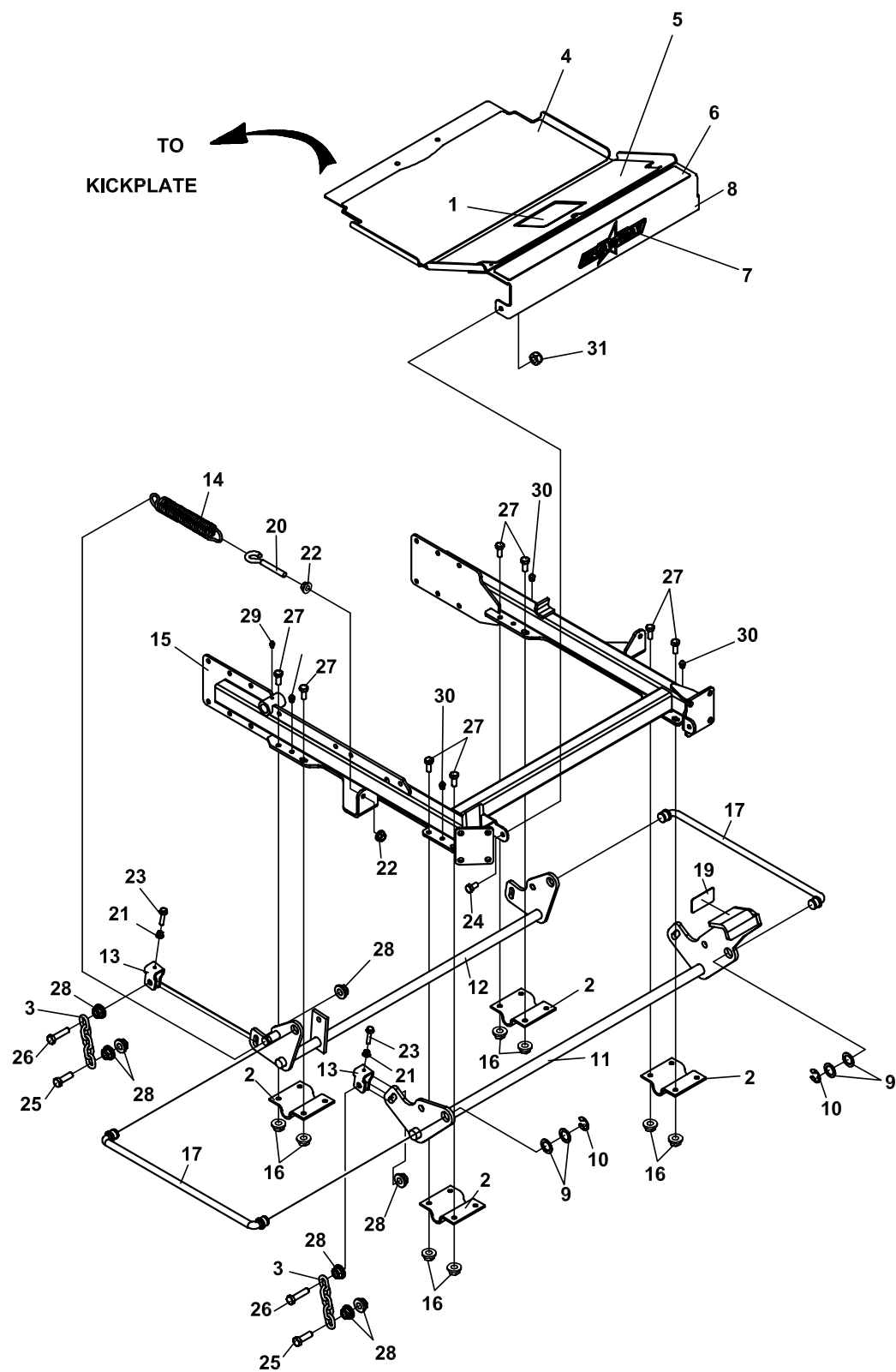


FIGURE 13

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
13-1	4118843	LABEL-WARNING	1				
13-2	2182356.7	BRACKET-SHAFT HANGER	4				
13-3	2188127	CHAIN-6.35 (.250) 5 LINKS	4				
13-4	4139065	MAT-FOOT PLATE LOWER	1				
13-5	4129955	MAT-FOOT PLATE MIDDLE	1				
13-6	2721861	MAT-FOOT PLATE UPPER	1				
13-7	4158440	LABEL-BUNTON	1				
13-8	4109800	S-FOOT PLATE	1				
		(INCLUDES ITEMS 4-7)					
13-9	64163-65	WASHER	8				
13-10	64221-04	E-RING.875	4				
13-11	4159283.7	WLDMT-DECK LIFT, FRONT	1				
13-12	2722559.7	WLDMT-DECK LIFT, REAR	1				
13-13	2722630	CLIP-DECK HEIGHT ADJ	4				
13-14	2722719	SPRING-DECK LIFT	2				
		(NOT USED ON 48" DECKS)					
13-15	4159920.7	WLDMT-CRADLE	1				
13-16	64265-05	NUT-FL NYLN LCK M10-1.5	15				
13-17	4109960	WLDMT-DECK LIFT ROD	2				
13-18	*4111842.7	BRKT-SPRING ANCHOR LH	1				
13-19	4139785	MAT-FOOT LIFT	1				
13-20	4113682	ROD-SPRING MOUNT	2				
13-21	64141-2	NUT-WLF 1/4-20	4				
13-22	64141-4	NUT-WLF 3/8-16	4				
		(ITEMS 18, 19, 20 & 22 NOT USED ON 48" DECKS)					
13-23	64197-020	BLT-TDFM 1/4-20X1-1/2	4				
13-24	64205-007	BLT MET M10-1.50X20	2				
13-25	64205-029	BLT-MET M12X1.75X40	4				
13-26	64205-060	BOLT-MET M12-1.75X50	4				
13-27	64263-013	BLT-FLG HD M10-1.5 X 30	15				
13-28	64246-04	NUT-WHIZ M12-1.75	16				
13-29	85010N	ZERK, 1/4-28 STR SLFTHRD	1				
13-30	85051	ZERK-1/8 PIPE	6				
13-31	64237-03	LOCKNUT-NYLON M10-1.5	2				
		(USED ON 48" ONLY)					

***NOT ILLUSTRATED**

FIGURE 14

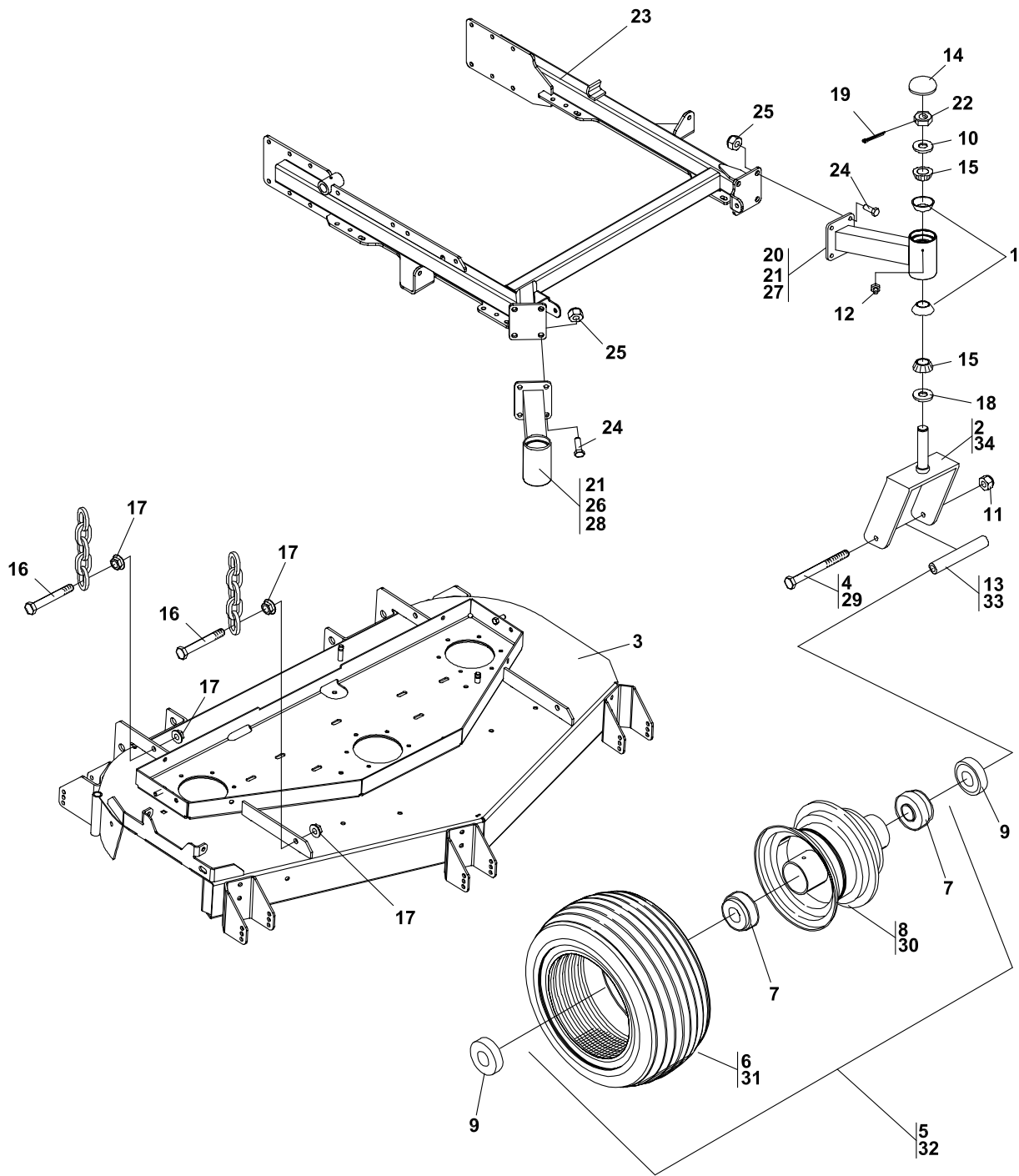


FIGURE 14

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
14-1	48043-03C	CUP, OUTER BEARING	4	14-27	2722401.7	WLDMT-CASTER ARM 48 LH1	
14-2	2721306.7	WLDMT-CASTER YOKE	2	14-28	2722400.7	WLDMT-CASTER ARM 48 RH1 (USED WITH 48" DECKS)	
14-3		DECK/W LABS					
14-4	64123-215	BOLT-HEX 3/4-10X7 1/2	2	14-29	64123-223	BOLT-3/4-10 X 10	2
14-5	2722228	WHEEL-13X5.00-6 ASSY (INCLUDES ITEMS 6-8) (USED ON 48" & 52" DECKS ONLY)	2	14-30	2722326-02	RIM ASM-W/VALVE STEM	2
				14-31	2722326-01	TIRE-13X6.50-6 SMOOTH	2
				14-33	2722326	ASSY-WHL 13X6.5-6 (INCLUDES ITEMS 7, 31 & 32)	2
14-6	2720475-01	TIRE-13X5.00-6 SMOOTH	1				
14-7	2722228-03	BEARING	2	14-33	2722230-03	SPANNER	2
14-8	2722228-01	RIM-13" ASSY W/VALVE	1	14-34	2722452.22	WLDMT-CASTER YOKE (ITEMS 29-34 USED ON 61" DECKS)	2
14-9	2722231	SPACER-END	4				
14-10	64163-26	WASHER	2				
14-11	64229-07	LOCKNUT-NYLON 3/4-10	2				
14-12	85010N	ZERK, 1/4-28 STR SLF THD	2				
14-13	2722230-02	SPANNER-13" WHEEL (USED ON 48" & 52" DECKS ONLY)	2				
14-14	2188135	DUST COVER	2				
14-15	48043-04C	CONE, OUTER BEARING	4				
14-16	64205-029	BLT-MET M12X1.75X40	4				
14-17	64246-04	NUT-WHIZ M12-1.75	8				
14-18	48480	SEAL CR 12411	2				
14-19	64140-5	COTTER PIN	2				
14-20	2722399.7	WLDMT-CSTR ARM 52L (USED WITH 52" DECKS)	1				
14-21	2722398.7	WLDMT-CSTR ARM 52R/61L	1				
14-22	64025-20	NUT-HEX 3/4-16 SLOT U	2				
14-23	4159920.7	WLDMT-CRADLE	1				
14-24	A1105061	BOLT-M12-1.75X30	8				
14-25	64237-06	LOCKNUT-NYLON M12-1.75	8				
14-26	4113902.7	WLDMT-CASTER ARM 61R (USED WITH 61" DECKS)	1				

FIGURE 15

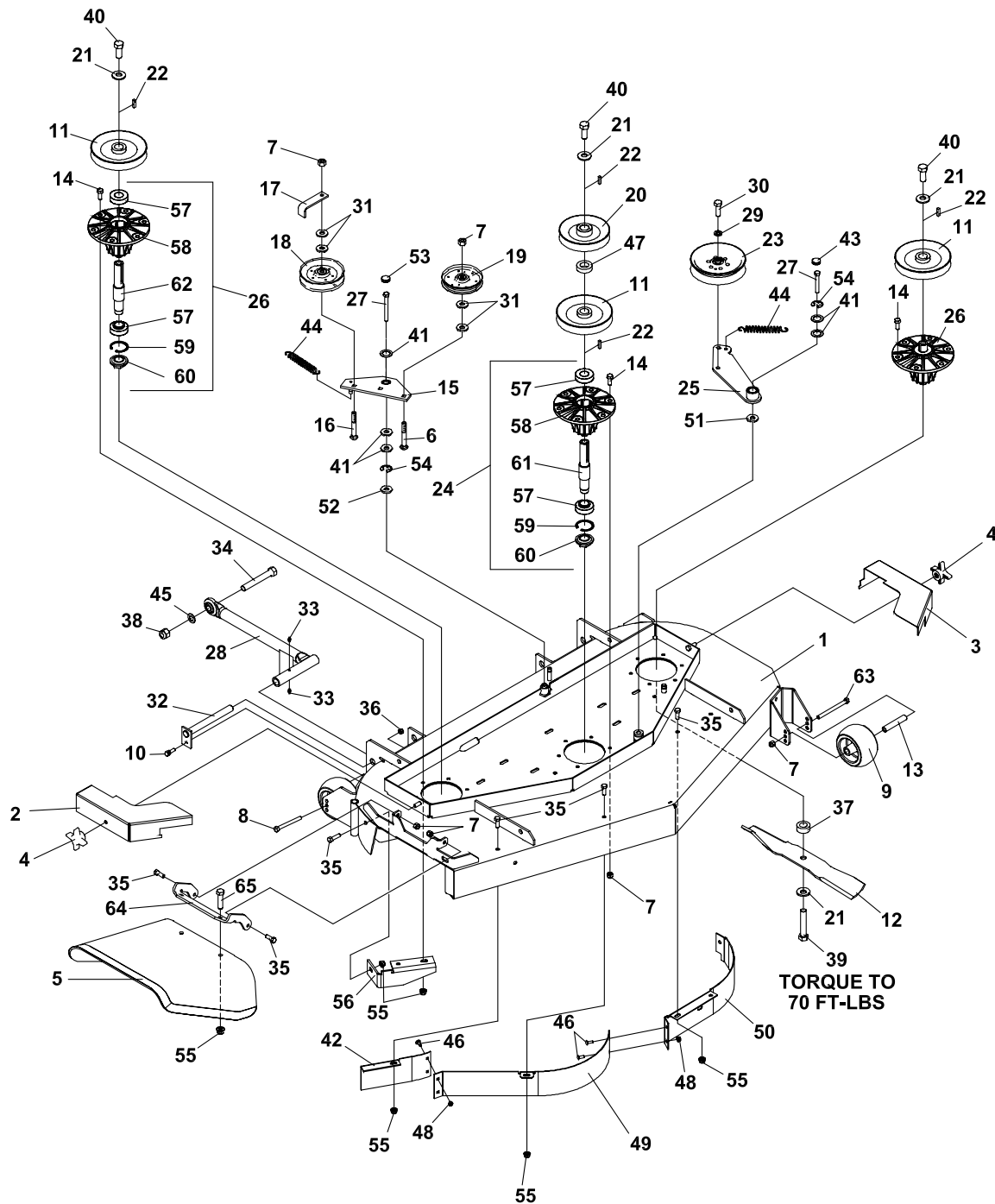


FIGURE 15

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
15-1	4131522	S-48INCH DECK W/LABELS	1	15-42	4134342.7	BAFFLE-RIGHT FRONT 48	1
15-2	4127853.2	COVER-BELT RH 48	1	15-43	4128002	END CAP	1
15-3	4127852.2	COVER-BELT LH 48	1	15-44	2188131	SPRING-EXTENSION	2
15-4	38524	KNOB-4 PRONG 3/8-16	2	15-45	64163-73	WSHR-.625IDX1.12ODX.06 A/R	
15-5	4147115	CHUTE-RUBBER ASSY	1	15-46	64018-2	BLT-CRG 1/4-20X3/4	4
15-6	64018-5	BLT-CRG 3/8-16X1-3/4	1	15-47	64163-64	WSHR 1.015X1.500X14	1
15-7	64229-03	LOCKNUT NYLON 3/8-16	25	15-48	64229-01	LOCKNUT-1/4-20 NYLON	4
15-8	64123-173	BLT-HEX 3/8-16X4-1/2	2	15-49	4134336.7	BAFFLE-FRONT CTR 48	1
15-9	2721512	ROLLER-5X2.75 CENTERED	3	15-50	4120175.7	BAFFLE-48 FRONT LH	1
15-10	64123-68	BOLT-5/16-18 X 1 HEX	2	15-51	4127999	SEAL	1
15-11	2308140	PULLEY ENGINE	3	15-52	4128000	SEAL	1
15-12	112111-01	BLADE 16.25 OFFST HLFT	3	15-53	4128001	END CAP	1
15-13	2720685	SPACER-ROLLER	3	15-54	64144-40	SNAP RING	2
15-14	64262-012	BLT-FLG HD 3/8-16 X 1-1/4	18	15-55	64268-03	NUT-FL NYLON LOCK 3/8-16	9
15-15	4129074	ASSY-IDLER ARM PTO (INCLUDES ITEMS 41 & 52 - 54)	1	15-56	4120208.7	BAFFLE-DISCHARGE 32-48	1
				15-57	38348-01	BEARING-SPINDLE SEALED	6
15-16	64018-18	BOLT-CARRIAGE 3/8-16X2	1	15-58	2721096	HOUSING-SPINDLE 6 HOLE	3
15-17	2302125.7	GUIDE-BELT	1	15-59	64144-38	SNAP RING	3
15-18	48393	PULLEY, V IDLER	1	15-60	38315	NUT-SPINDLE	3
15-19	38297	IDLER, 5.0 OD FLNGD	1	15-61	2183070-01	SHAFT-SPINDLE LONG (USED ON 4115849 CENTER SPINDLE ONLY)	1
15-20	2228034	PULLEY-5.25 DEEP GRV	1				
15-21	64209-03	SPRING WSHR .67 ID	6	15-62	2183070-02	SHAFT-SPINDLE (USED ON 4115850 OUTER SPINDLE ONLY)	2
15-22	64164-12	1/4X1/4X1 SQ END KEY	4				
15-23	128169	PULLEY, IDLER 5.50	1	15-63	64018-30	BOLT-CRG 3/8-16 X 4-1/2	1
15-24	4115849	S-ASSYSPNDL ZT200 CNTR (INCLUDES ITEMS 57-61)	1	15-64	4149017.7	HINGE-CHUTE RUBBER	1
				15-65	64262-013	BLT-FLG HD 3/8-16 X 1-1/2	2
15-25	4129075	ASSY-DECK IDLER 48-52 (INCLUDES ITEMS 41, 51, 53 & 63)	1				
15-26	4115850	S-ASSYSPNDL ZT200 OUTR (INCLUDES ITEMS 57-60 & 62)	2				
15-27	64270-01	BOLT-M10-1.5x30	2				
15-28	4133155.7	WLDMT-PUSHBAR	2				
15-29	64006-05	LOCKWSHR-HELICAL 1/2	1				
15-30	64123-05	BLT-HEX 1/2-20X1-1/2	1				
15-31	64163-46	WASHER.383/.393X.88X7	4				
15-32	2186125	WLDMT-LOCK, PUSHBAR	2				
15-33	85010N	ZERK, 1/4-28 STR	4				
15-34	64123-152	BLT-HEX 5/8-11X5	2				
15-35	64123-50	BOLT-HEX 3/8-16X1	8				
15-36	64229-02	LOCKNUT-NYLON 5/16-18	2				
15-37	4118314	SPACER-BLADE 16MM	3				
15-38	64229-06	LOCKNUT, NYLON 5/8-11	2				
15-39	64123-187	BLT-HEX 5/8-18X3.75	3				
15-40	64123-208	BLT-HEX 5/8-18X1.5	3				
15-41	4128004	BEARING	4				

Estate Series

[illegible]

FIGURE 16

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
16-1	4131502	S-52INCH DECK W/LABELS	1	16-42	4134343.7	BAFFLE-RT FRT 52-54	1
16-2	2722574.2	COVER-BELT RH	1	16-43	4128002	END CAP	1
16-3	2722575.2	COVER-BELT LH	1	16-44	2188131	SPRING-EXTENSION	2
16-4	38524	KNOB-4 PRONG 3/8-16	2	16-45	64163-73	WSHR-.625IDX1.12ODX.06A/R	
16-5	4147115	CHUTE-RUBBER ASSY	1	16-46	64018-2	BLT-CRG 1/4-20X3/4	4
16-6	4149017.7	HINGE-CHUTE_RUBBER	1	16-47	64163-64	WSHR 1.015X1.500X14	1
16-7	64229-03	LOCKNUT NYLON 3/8-16	32	16-48	64229-01	LOCKNUT-1/4-20 NYLON	4
16-8	64123-173	BLT-HEX 3/8-16X4-1/2	2	16-49	4134338.7	BAFFLE-FRT CTR 52-54	1
16-9	2721512	ROLLER	6	16-50	4118427.7	BAFFLE-FRONT LH	1
16-10	64123-68	BOLT-HEX 5/16-18X1	2	16-51	4127999	SEAL	1
16-11	2308140	PULLEY ENGINE	3	16-52	4128000	SEAL	1
16-12	112111-02	BLADE 18.00 OFFST HLFT	3	16-53	4128001	END CAP	1
16-13	2720685	SPACER-ROLLER	6	16-54	64144-40	SNAP RING	2
16-14	64262-012	BLT-FLG HD 3/8-16 X 1-1/4	18	16-55	64018-3	BOLT-3/8-16X1 CARRIAGE	1
16-15	4129074	ASSY-IDLER ARM PTO (INCLUDES ITEMS 41 & 52 - 54)	1	16-56	64268-03	NUT-FL NYLN LOCK 3/8-16	8
16-16	64018-18	BOLT-CARRIAGE 3/8-16X2	1	16-57	4115864.7	BAFFLE-DISCHARGE	1
16-17	2302125.7	GUIDE-BELT	1	16-58	38348-01	BEARING-SPINDLE SEALED	6
16-18	48393	PULLEY, V IDLER	1	16-59	2721096	HOUSING-SPINDLE 6 HOLE	3
16-19	38297	IDLER, 5.0 OD FLNGD	1	16-60	64144-38	SNAP RING	3
16-20	2228034	PULLEY-5.25 DEEP GRV	1	16-61	38315	NUT-SPINDLE	3
16-21	64209-03	SPRING WSHR .67 ID	6	16-62	2183070-01	SHAFT-SPINDLE LONG (USED ON 4115849 CENTER SPINDLE ONLY)	1
16-22	64164-12	1/4X1/4X1 SQ END KEY	4	16-63	2183070-02	SHAFT-SPINDLE (USED ON 4115850 OUTER SPINDLE ONLY)	2
16-23	128169	PULLEY, IDLER 5.50	1	16-64	64018-30	BOLT-CRG 3/8-16 X 4-1/2	3
16-24	4115849	S-ASSYSPNDL ZT200 CNTR (INCLUDES ITEMS 58-62)	1	16-65	64018-5	BLT-CRG 3/8-16X1-3/4	1
16-25	4129075	ASSY-DECK IDLER 48-52 (INCLUDES ITEMS 41, 51, 43 & 54)	1	16-66	64262-013	BLT-FLG HD 3/8-16 X 1-1/2	2
16-26	4115850	S-ASSYSPNDL ZT200 OUTR (INCLUDES ITEMS 58-61 & 63)	2	16-67	64268-03	NUT-FL NY LOCK 3/8-16	2
16-27	64270-01	BOLT-MET M10-1.5x30	2	16-68 *	64123-217	BLT-HEX 3/8-16X4-1/4 CTR	1
16-28	4133155.7	WLDMT-PUSHBAR	2				
16-29	64006-05	LOCKWSHR-HELICAL 1/2	1				
16-30	64123-05	BLT-HEX 1/2-20X1-1/2	1				
16-31	64163-46	WASHER.383/.393X.88X7	4				
16-32	2186125	WLDMT-LOCK, PUSHBAR	2				
16-33	85010N	ZERK, 1/4-28 STR SLF THD	4				
16-34	64123-152	BLT-HEX 5/8-11X5	2				
16-35	64123-50	BOLT-HEX 3/8-16X1	9				
16-36	64229-02	LOCKNUT-NYLON 5/16-18	2				
16-37	4118314	SPACER-BLADE 16MM	3				
16-38	64229-06	LOCKNUT, NYLON 5/8-11	2				
16-39	64123-187	BLT-HEX 5/8-18X3.75	3				
16-40	64123-208	BLT-HEX 5/8-18X1.5	3				
16-41	4128004	BEARING	4				

* NOT ILLUSTRATED

FIGURE 17

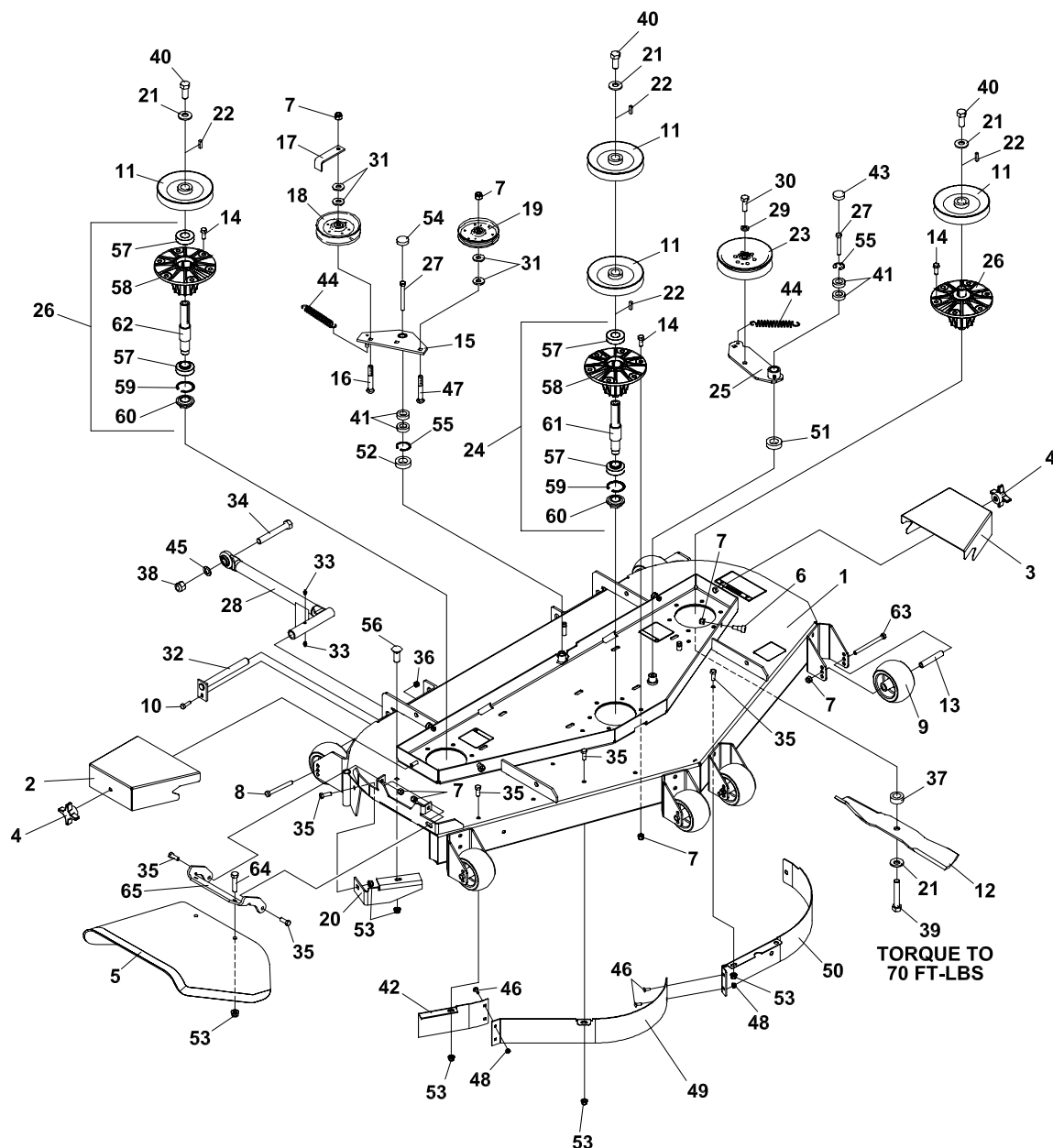


FIGURE 17

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
17-1	4131518	S-61INCH DECK W/LABELS	1	17-42	4134344.7	BAFFLE-RIGHT FRONT 61	1
17-2	2182352.2	BELT COVER RH	1	17-43	4128002	END CAP	1
17-3	2182351.2	BELT COVER LH	1	17-44	2188131	SPRING-EXTENSION	2
17-4	38524	KNOB-4 PRONG 3/8-16	2	17-45	64163-73	WSHR-.625IDX1.12ODX.06A/R	
17-5	4147115	CHUTE-RUBBER ASSY	1	17-46	64018-2	BLT-CRG 1/4-20X3/4	4
17-6	64166-17	BLT-SHLDR 3/8-16X1.12	4	17-47	64018-5	BLT-CRG 3/8-16X1-3/4	1
17-7	64229-03	LOCKNUT NYLON 3/8-16	35	17-48	64229-01	LOCKNUT-1/4-20 NYLON	4
17-8	64123-173	BLT-HEX 3/8-16X4-1/2	2	17-49	4134340.7	BAFFLE-FRONT CTR 61	1
17-9	2721512	ROLLER-5X2.75 CENTERED	7	17-50	4117663.7	BAFFLE-FRONT LH	1
17-10	64123-68	BOLT-HEX 5/16-18X1	2	17-51	4127999	SEAL	1
17-11	2308140	PULLEY ENGINE	4	17-52	4128000	SEAL	1
17-12	112111-03	BLADE 21.00 OFFST HLFT	3	17-53	64268-03	NUT-FL NYLN LOCK 3/8-16	10
17-13	2720685	SPACER-ROLLER	7	17-54	4128001	END CAP	1
17-14	64262-012	BLT-FLG HD 3/8-16 X 1-1/4	18	17-55	64144-40	SNAP RING	2
17-15	4129074	ASSY-IDLER ARM PTO (INCLUDES ITEMS 41, 52, 54 & 55)	1	17-56	64018-3	BOLT-3/8-16X1 CARRIAGE	1
				17-57	38348-01	BEARING-SPINDLE SEALED	6
17-16	64018-18	BOLT-CARRIAGE 3/8-16X2	1	17-58	2721096	HOUSING-SPINDLE 6 HOLE	3
17-17	2302125.7	GUIDE-BELT	1	17-59	64144-38	SNAP RING	3
17-18	48393	PULLEY, V IDLER	1	17-60	38315	NUT-SPINDLE	3
17-19	38297	IDLER, 5.0 OD FLNGD	1	17-61	2183070-01	SHAFT-SPINDLE LONG (USED ON 4115849 CENTER SPINDLE ONLY)	1
17-20	4115864.7	BAFFLE-DISCHARGE	1				
17-21	64209-03	SPRING WSHR .67 ID	6	17-62	2183070-02	SHAFT-SPINDLE (USED ON 4115850 OUTER SPINDLE ONLY)	2
17-22	64164-12	1/4X1/4X1 SQ END KEY	4				
17-23	128169	PULLEY, IDLER 5.50	1	17-63	64123-217	BLT-HEX 3/8-16X4-1/4	5
17-24	4115849	S-ASSYSPNDL ZT200 CNTR (INCLUDES ITEMS 57-61)	1	17-64	64262-013	BLT-FLG HD 3/8-16 X 1-1/2	2
				17-65	4149017.7	HINGE-CHUTE RUBBER	1
17-25	4129076	ASSY-DECK IDLER 61" (INCLUDES ITEMS 41, 43, 51 & 55)	1				
17-26	4115850	S-ASSYSPNDL ZT200 OUT (INCLUDES ITEMS 57-60 & 62)	2				
17-27	64270-01	BOLT-M10-1.5 X 30	2				
17-28	4133155.7	WLDMT-PUSHBAR	2				
17-29	64006-05	LOCKWSHR-HELICAL 1/2	1				
17-30	64123-05	BLT-HEX 1/2-20X1-1/2	1				
17-31	64163-46	WSHR.383/.393X.88X7	4				
17-32	2186125	WLDMT-LOCK, PUSHBAR	2				
17-33	85010N	ZERK, 1/4-28 STR SLF THD	4				
17-34	64123-152	BLT-HEX 5/8-11X5	2				
17-35	64123-50	BOLT-HEX 3/8-16X1	9				
17-36	64229-02	LOCKNUT-NYLON 5/16-18	2				
17-37	4118314	SPACER-BLADE 16MM	3				
17-38	64229-06	LOCKNUT, NYLON 5/8-11	2				
17-39	64123-187	BLT-HEX 5/8-18X3.75	3				
17-40	64123-208	BLT-HEX 5/8-18X1.5	3				
17-41	4128004	BEARING	4				

FIGURE 18

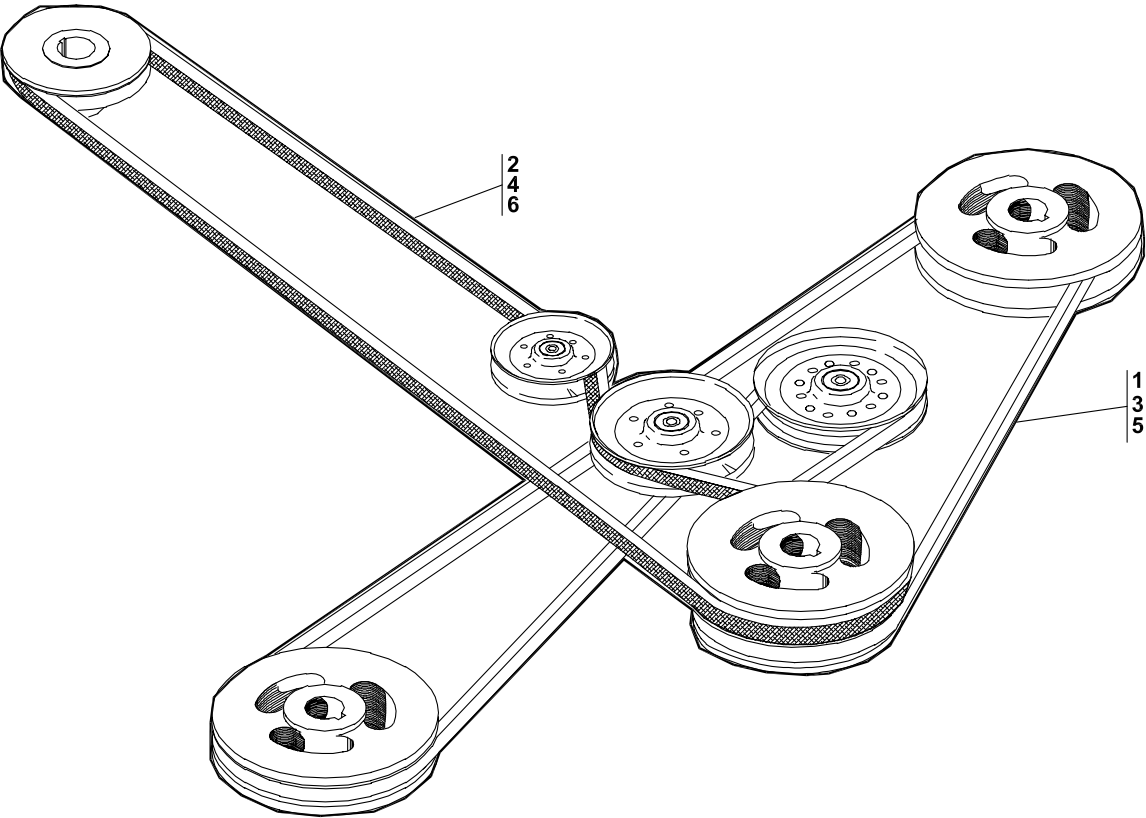


FIGURE 18

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
18-1	2188176	BELT-CUTTERDECK 54	1				
18-2	2720815	BELT-PTO 54 (USED ON 52" SD DECK)	1				
18-3	128003	BELT-CUTTERDECK 61	1				
18-4	2188134	BELT-PTO 61 (USED ON 61" SD DECK)	1				
18-5	128110	BELT-CUTTERDECK 48	1				
18-6	2720815	BELT-PTO 48 (USED ON 48" DECK)	1				

FIGURE 19

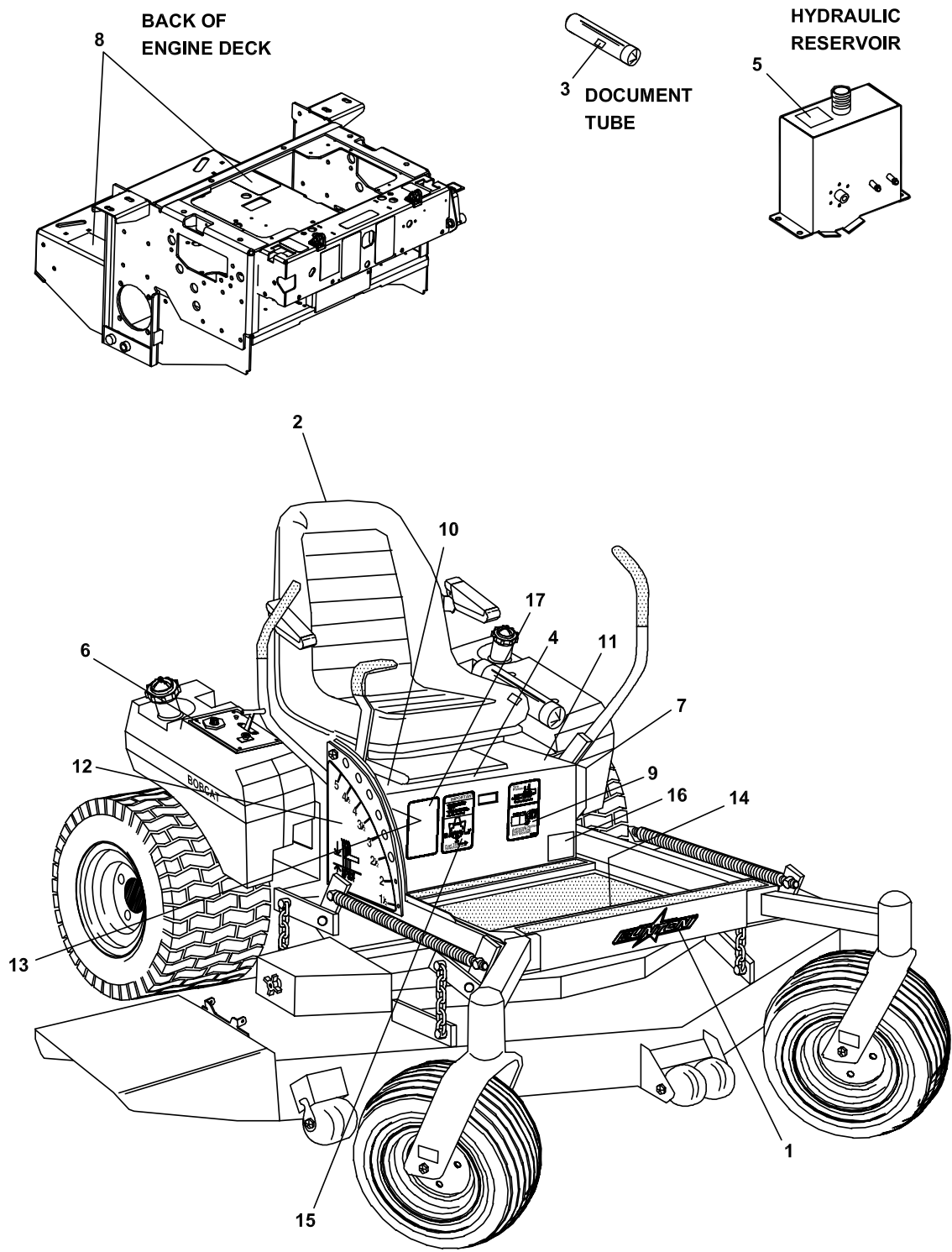


FIGURE 19

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
19-1	4158440	LABEL-BUNTON SM	1				
19-2	4158442	LABEL-BUNTON LRG	1				
19-3	2000735	LABEL-OPER MAN	1				
19-4	2000590	LABEL, WARN BATTERY	1				
19-5	2000691	LABEL - HYDR OIL FILL	1				
19-6	4156160	LABEL-CONTROL PANEL	1				
19-7	2000693	LABEL - PARK BRAKE	1				
19-8	2000698	LABEL(DBL) - FUEL/LEAKS	2				
19-9	4114158	LABEL-TIRES	1				
19-10	2000700	LABEL - RH TRACTION	1				
19-11	2000701	LABEL - LH TRACTION	1				
19-12	2720742	LABEL-HT CUT OUTER	1				
19-13	2720743	LABEL-HT CUT INNER	1				
19-14	4118843	LABEL-WARNING	1				
19-15	2000706	LABEL-FUEL	1				
19-16	4116761	LABEL-MADE IN USA	1				
19-17	340830	DECAL-CAUTION SPANISH	1				

FIGURE 20

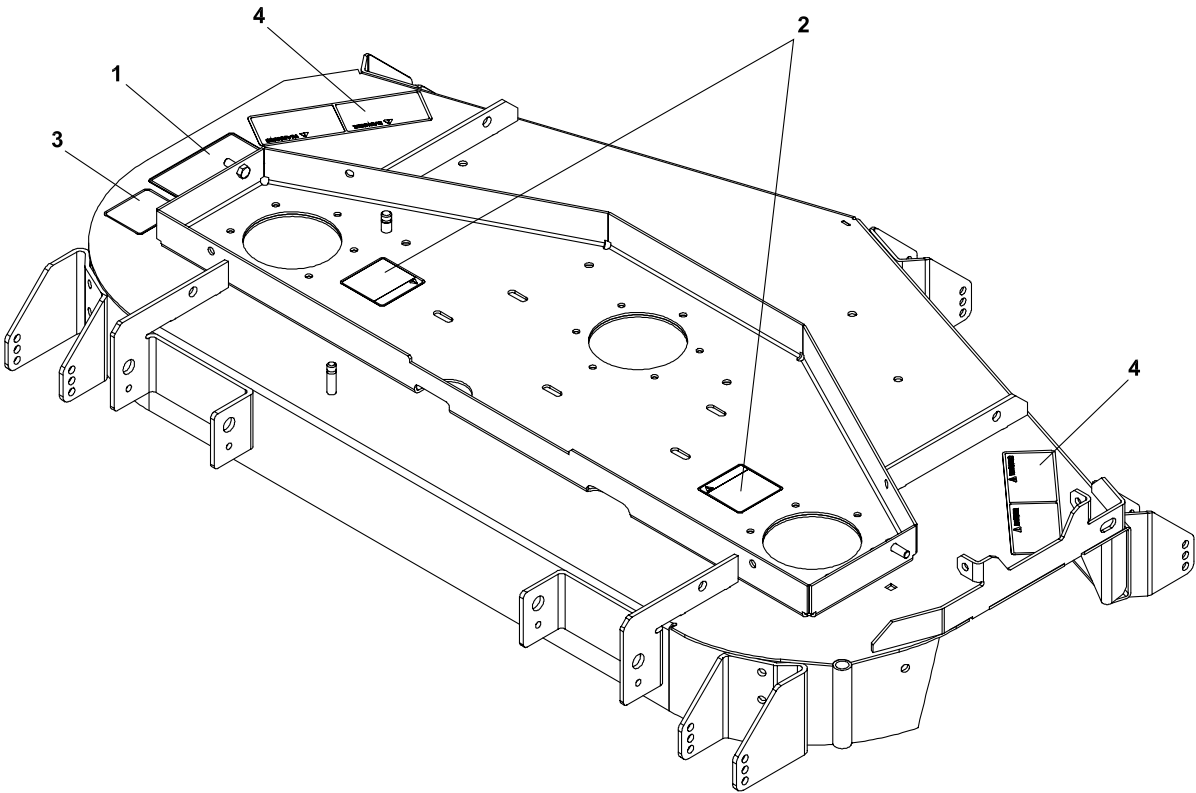


FIGURE 20

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
20-1	2000572	LABEL-WARNING BLADES	1				
20-2	2000577	LABEL-WARNING	2				
20-3	2000696	LABEL-BLADE INSTALL	1				
20-4	2000677	LABEL-DANGER/WARNING	2				

World Class Quality, Performance And Support



Equipment from Commercial Grounds Care, Inc. is built to exacting standards ensured by ISO 9001 and ISO 14001 registration at all our manufacturing locations.

A worldwide dealer network and factory-trained technicians provide reliable, high-quality product support.



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