



# SETUP, PARTS & MAINTENANCE MANUAL

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## Power Unit Models:

942103-Power Unit ZT100 20 Klr Collection

942105-Power Unit ZT100 25 Klr Collection

(Operation & Safety Manual: 2228088)

## For Cutterdecks:

954204-Cutterdeck ZT100 42 Collection

954804-Cutterdeck ZT100 48 Collection

(Parts Manual: 2228087)



*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.*



2228089 REV09

**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.

# ZT 100 Series

## IMPORTANT MESSAGE

Thank you for purchasing this Bob-Cat 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 Bob-Cat 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 Bob-Cat dealer for any service or parts needed. Bob-Cat service ensures that you continue to receive the best results possible from Bob-Cat's products. You can trust Bob-Cat replacement parts because they are manufactured with the same high precision and quality as the original parts.

Bob-Cat 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.

**Jacobsen, a Textron Company**  
**One Bob Cat Lane**  
**Johnson Creek, WI 53038-0469**

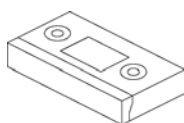
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## NOTICE !!!

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

Jacobsen, a Textron Company strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Jacobsen's Engineering Department. Any Jacobsen 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 Jacobsen—will result in the Jacobsen 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 Jacobsen will be considered the responsibility of the individual(s) or company designing and/or making such changes. Jacobsen 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.



## OPERATION TRAINING VIDEO:

| Part Number | Description       |
|-------------|-------------------|
| 2810594     | 100/200 OT ENG/SP |



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 Jacobsen 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.

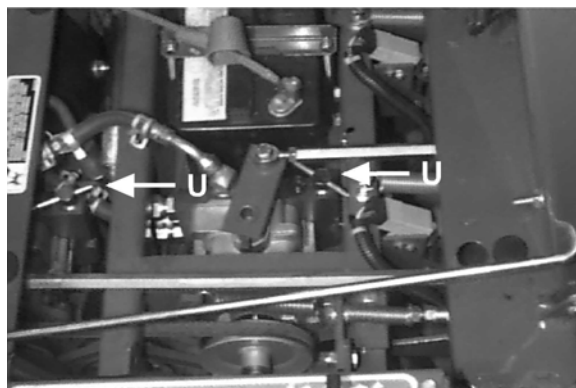
**SERIAL NUMBER:** This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

### TOOLS REQUIRED FOR ASSEMBLY

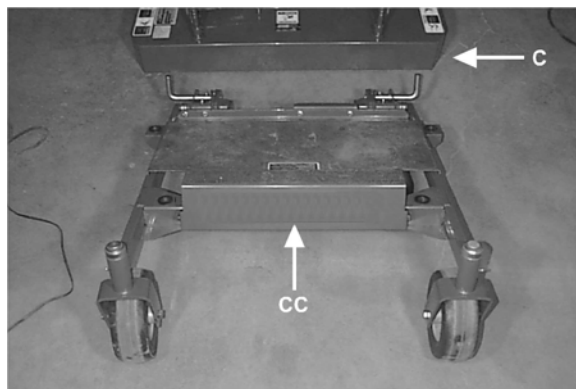
- Wrecking bar
- Claw hammer
- Ratchet: 3/8" drive
- Socket: 10 mm
- Pliers
- Side Cutter or Jack knife

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

1. Open crates and remove packing material.
2. Open hydrostat release (dump) valves **U** on the pumps on the power unit and roll it off the pallet.



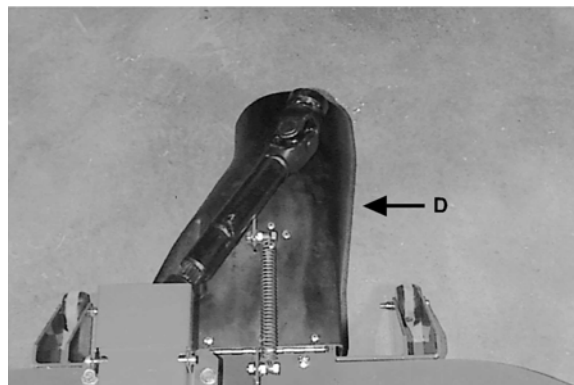
3. Remove the height of cut hairpin cotter from the height of cut posts and lift the cutterdeck carrier frame **CC** off the cutterdeck **C**.



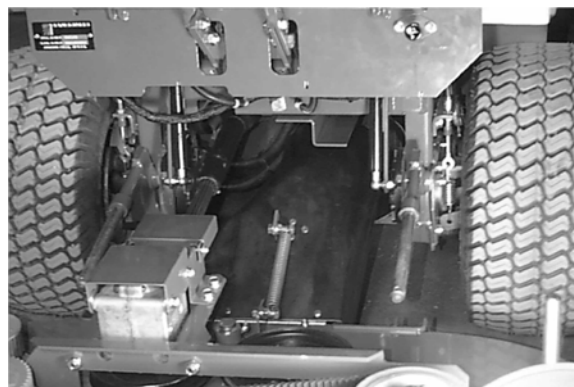
4. Cut the wire tie holding the PTO shaft to the deck.

**Rear Discharge Collection Decks Only;**

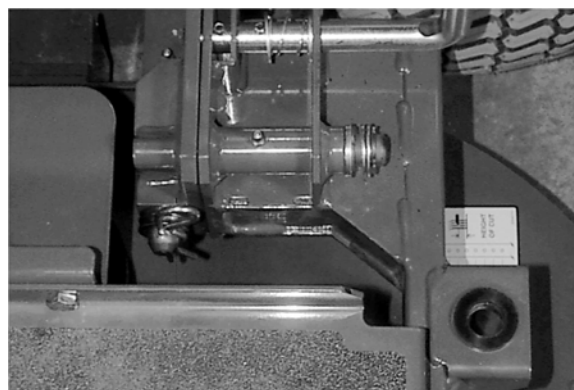
Bolt the discharge chute to the rear of the cutterdeck with (2) M6x16 carriage bolts, (2) M6 nylon locknuts and (2) washers. The head of the carriage bolt should be inside the chute. Connect the small spring between the bracket on the discharge chute and the bracket on the cutterdeck.



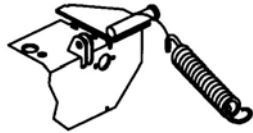
5. Roll the power unit up to the cutterdeck. Cut the tie holding the PTO shaft together. Connect the PTO shaft to the power unit gearbox with the quick coupler. Line up the splines in the coupler with those on the gearbox. Pull back on the outside of the quick coupler to slide it on the gearbox, then release. Pull back on the shaft to seat the locking balls in the groove of the gearbox shaft. When properly installed the PTO shaft should not pull off the gearbox shaft. Push the deck close to the power unit. On collection decks guide the discharge chute into the blower inlet opening.



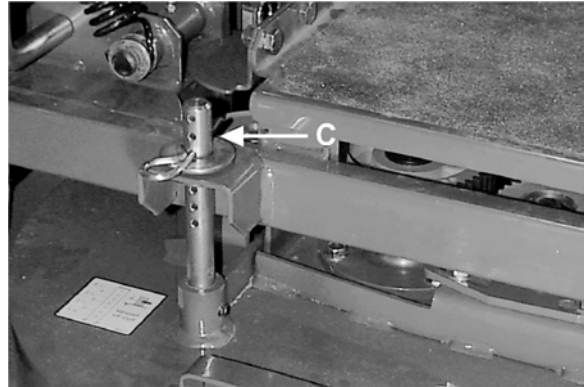
6. Roll the deck carrier frame to the power unit. Slide the receiver blocks over the power unit push arm pins (3/4"-10x1/4"). Secure the carrier frame with (2) (3/4 ID x1/4") thick washers and a hairpin cotter, on each side.



7. Have a helper lift the cutterdeck carrier frame as high as it will go. Connect a counterbalance spring from the carrier frame to the pin on the tractor.



8. Locate the cutterdeck height of cut posts **C** under the corresponding bushings of the cutterdeck carrier frame. Use the handles on the cutterdeck to lift the deck, guiding the height of cut posts into their bushings. Secure each with a 3/4" (19mm) I.D. washer and large hairpin cotter.
9. Set tire pressures down to 14 psi (.98kg/sq cm). Tires are over inflated for shipping. Close hydrostat release (dump) valves opened in step 2, finger tight. Do not overtighten.



### Final Preparations

- a) Check the engine and hydraulic oil levels. Top up 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.
- b) Remove the battery from the machine. Fill the battery to the bottom of the vent wells with acid and trickle charge for several hours. Replace the battery in the machine and make the connections, red to positive first, then black to negative. Close the hydrostat bypass valves.
- c) Read Operation and Safety Manual before starting.
- d) Run engine at full RPM for 5 minutes before engaging blades to allow the engine to be fully lubricated.
- e) Check the hydrostat neutral adjustments. Neutral is set at the factory, but readjustment may be required due to air trapped during the initial oil fill working it way out of the system. See the adjustment section in this manual.
- f) Do not use the machine without an approved grass collector, the grass discharge chute or mulching plates correctly fitted.

# MAINTENANCE CHART

## ZT 100 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 |
| <b>ENGINE</b>   |  |                                  |                |                |                 |                 |                 |
| Consult the engine manual for additional information and instructions |  |                                  |                |                |                 |                 |                 |
| Check oil level   |  | X                                |                |                |                 |                 |                 |
| Check for Leaks   |  | X                                |                |                |                 |                 |                 |
| Clean Air Intake Screen   |  | X                                |                |                |                 |                 |                 |
| Clean Air Cleaner Precleaner  |  |                                  | X              |                |                 |                 |                 |
| Clean Air Cleaner Element   |  |                                  |                |                | X               |                 |                 |
| Clean Cooling Fins  |  |                                  |                |                | X               |                 |                 |
| Change Oil and Filter   | X  | See engine manufacturer's manual |                |                |                 |                 |                 |
| Check & gap Spark Plugs   |  |                                  |                |                |                 | X               |                 |
| <b>HYDRAULICS</b>   |  |                                  |                |                |                 |                 |                 |
| Check for Leaks   |  | X                                |                |                |                 |                 |                 |
| Check oil level   |  |                                  |                |                | X               |                 |                 |
| Change Oil and Filter   | X  |                                  |                |                |                 |                 | X               |
| <b>MACHINE</b>  |  |                                  |                |                |                 |                 |                 |
| Check Interlock Operation   |  | X                                |                |                |                 |                 |                 |
| Check Tire Pressures  |  | X                                |                |                |                 |                 |                 |
| Check/Top up Battery  |  |                                  |                |                | X               |                 |                 |
| Lubricate All Points  |  |                                  |                | X              |                 |                 |                 |



## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

**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 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.

### 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 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 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 in rough terrain.)

Repair machine before using if the Operator Presence Interlock System does not operate correctly in start or run. Contact your authorized Bob-Cat 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/in<sup>2</sup> (1.0 kg/cm<sup>2</sup>). Improper tire inflation can cause rapid tire wear and poor traction. Uneven inflation can cause uneven cutting.

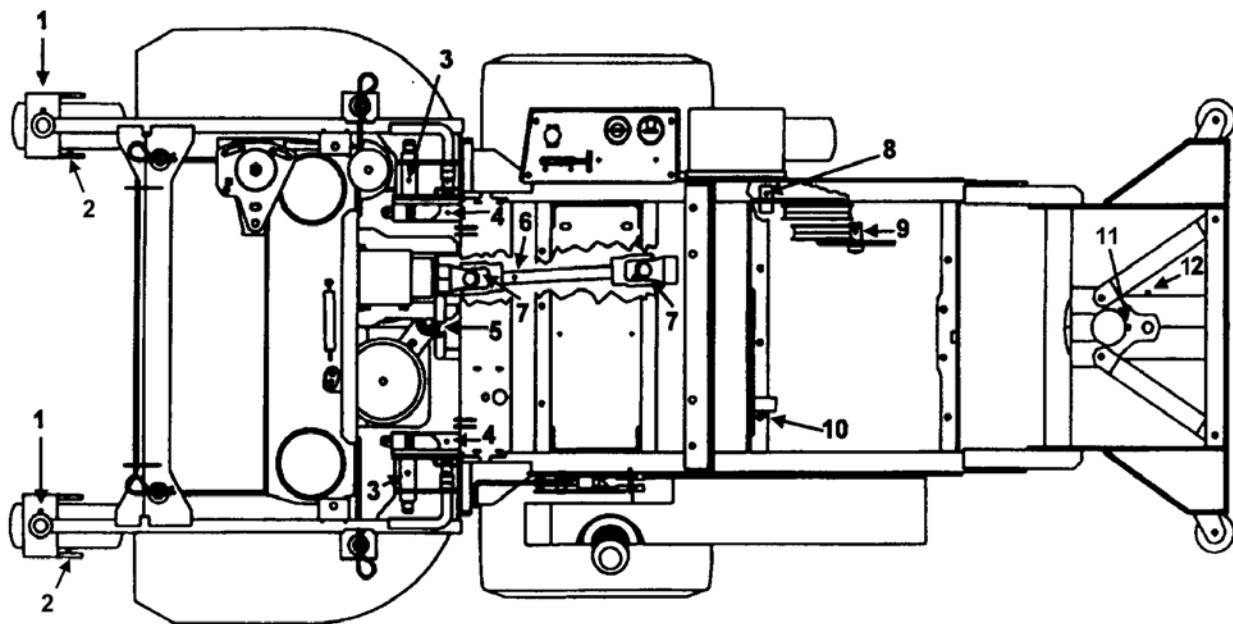
## Battery

Check the electrolyte level at each oil change as follows:

1. Stop engine and remove key.
2. Remove battery vent caps. The electrolyte level should reach the bottom of the vents.
3. Top up, if necessary, with distilled water.
4. Replace vent caps.

## Gearboxes

Check for evidence of leaks daily. If leaks are detected, get them repaired immediately to avoid wrecking a gearbox from lack of lubrication. The gearboxes only contain a few ounces of lubricant, which won't last long if there is a leak.



### LUBRICATION

Every 50 hours of operation, lubricate the following points with grease:

1. Caster wheel pivots (2 points)
2. Caster wheel bearings ( 2 points)
3. Deck pivot (2 points, every 100 hrs.)
4. Pusharm (2 points, every 100 hrs.)
5. Deck idler pivot (1 point)
6. Drive shaft slip sleeve (1point)
7. Drive shaft u-joints (2 points)
8. PTO belt idler pivot (1 point)
9. Traction belt idler pivot (1 point)
10. Blower belt idler pivot (1 point)
11. Rear caster pivot (1 point)
12. Rear caster bearing (1 point)

**NOTE ON BLADE SPINDLES** - The blade spindles and blower spindle (if so equipped) on these machines use a superior sealed bearing that does not require relubrication.

## HYDRAULIC SYSTEM

Check fluid level in the hydraulic system every 100 hours 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 up (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.

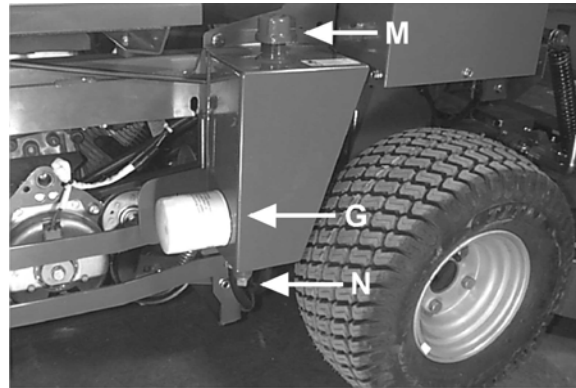
### NOTES:

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 teflon 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

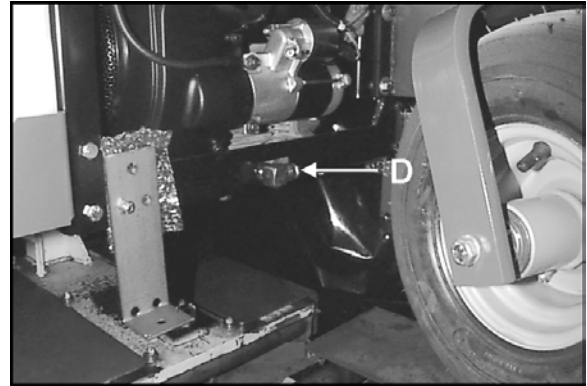
### ENGINE OIL

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

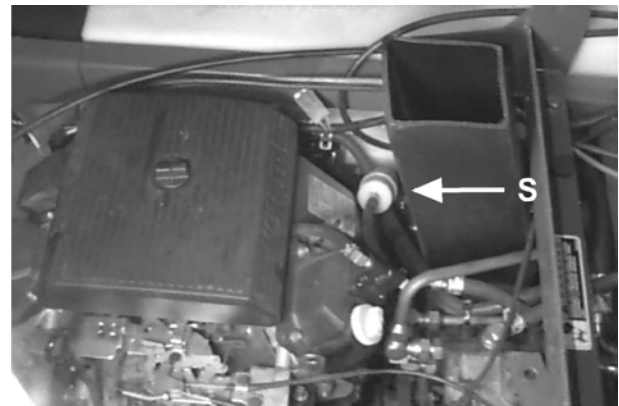
1. Check oil level with the dipstick.
2. If oil is needed, add fresh oil of proper viscosity and grade. See engine manual for oil specifications. Do not overfill.
3. Replace dipstick before starting engine.

#### 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 at the right side of the engine. 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..

## AIR CLEANER

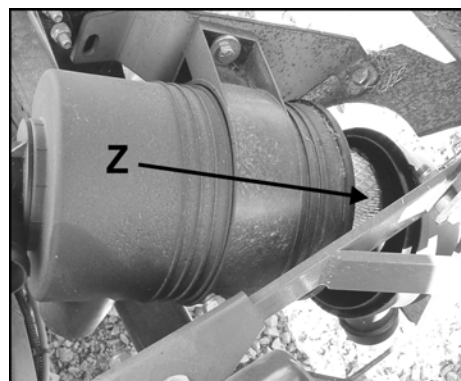
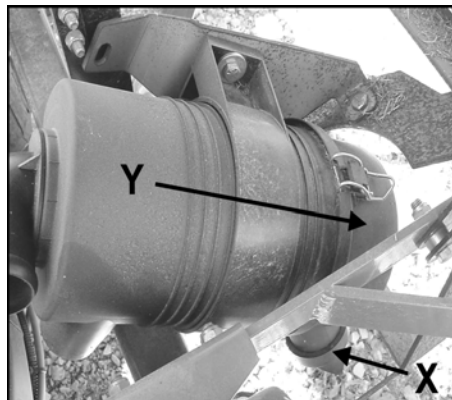
The air cleaner with this engine has a high density paper air cleaner cartridge. It should be inspected regularly and maintained. Uneven running, lack of power or black exhaust fumes may indicate a dirty air cleaner.

To clean or replace diesel engine air cleaner element:

1. Unclamp end cover **Y** and remove element **Z**.
2. Insert new element and replace end cover by clamping in position as shown on the cover.

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

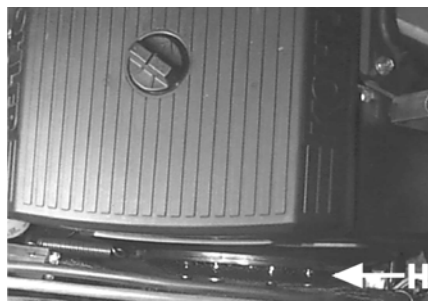
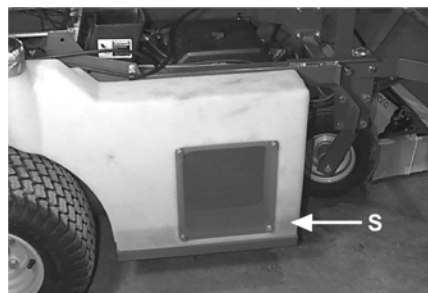
- Clean by tapping gently.
- Do not wash the cartridge or use compressed air which can cause damage.
- Replace when cartridge is dirty, bent or damaged.



## ENGINE COOLING

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

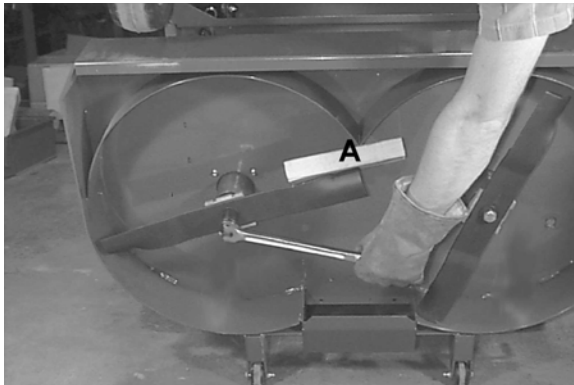
- **Daily:** Clean air intake screen **S**.
- **Every 100 hours:** Clean cooling fins beneath blower housing **H** with reference to information in the engine manufacturer's manual.



## BLADE REMOVAL

Follow these instructions to prevent injury during blade removal:

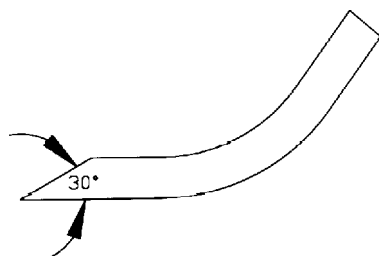
1. Loosen with a box wrench or a socket and long breaker bar. To gain additional leverage, slip a long pipe or thick-walled tube over breaker bar or wrench.
2. Insert a block of wood **A** as shown to prevent blade from turning when loosening.
3. Wear thickly padded gloves. Keep hands clear of blade 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 Ransomes blades. Use of another manufacturer's blades may be dangerous.



## BLADE BALANCE

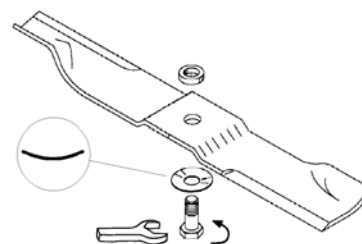
Blade balance must be maintained at 5/8 oz-in (19.4 g-cm) or less. Failure to keep blades balanced causes excess vibration, wear, and shortened life of most components of the machine.

### 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.



### HEIGHT OF CUT

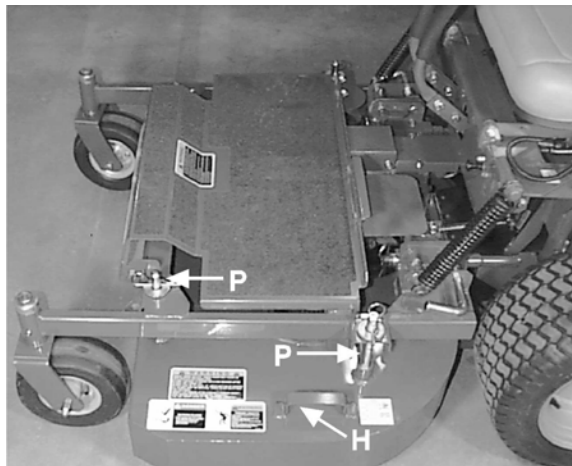
The height of cut is set by raising or lowering the cutterdeck on the carrier frame.

To change the height of cut:

1. Hold the deck up with the handle **H** provided.
2. Remove the hairpin cotters on one side.
3. Raise or lower the deck to the desired height of cut **P**.  
Secure the height of cut with the hairpin cotters.
4. Repeat for the other side.

#### NOTES:

- Large changes in the height of cut may need to be done in two steps-1/2 in the first step, 1/2 in the second step.
- Height of cut may vary due to the amount of tread on the tires, variances in tire diameter, and inflation pressure.



### BELTS

All V-belts are tensioned by spring loaded idlers. No adjustment is required. The blade drive timing belt does not require adjustment once properly tensioned.



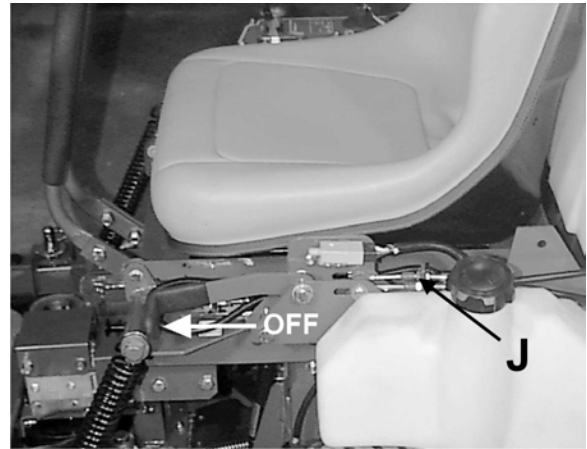
### PARKING BRAKE

Adjust the parking brake to provide 1/4" travel in each cable before the slack is taken up.

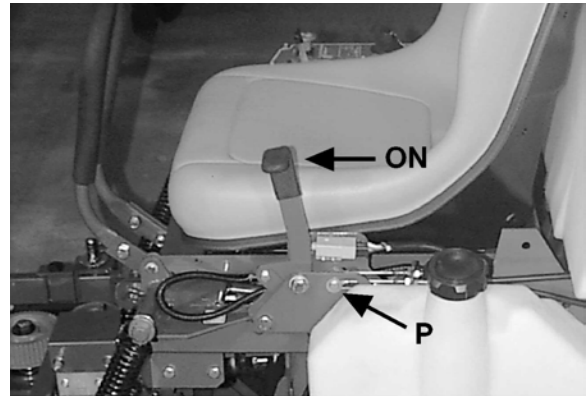
To adjust:

1. Start with the brake in the '**OFF**' position.
2. Remove the pin **P** holding the brake links to the brake cable ends.
3. Reinstall the pin but only through the end of one cable.
4. Move the brake lever toward the '**ON**' position until the slack in the cable is taken up, and resistance from the brake spring begins to be felt.
5. Adjust the cable with jam nuts **J** so there is 1/4" (6mm) of slack before the resistance of the spring is felt.
6. Repeat for the other brake cable. When both cables have been adjusted, reinstall the brake pin through both cable ends and secure with the hairpin cotter.

**NOTE:** If there isn't enough adjustment at the brake lever end of the cables, the drive wheels may be removed and the cable adjusted at the mounting bracket. Further adjustment may be obtained by turning the bracket over.



Parking brake assembly - (brake in OFF position).



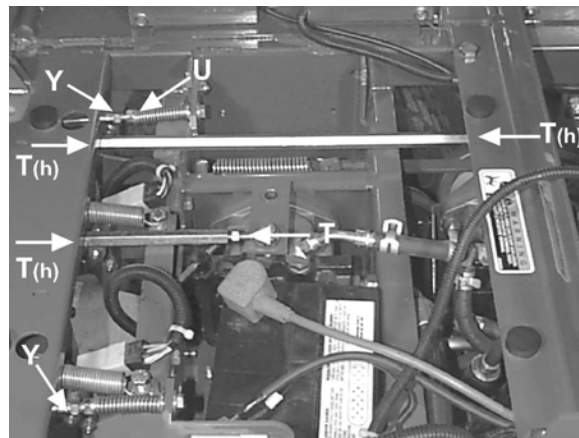
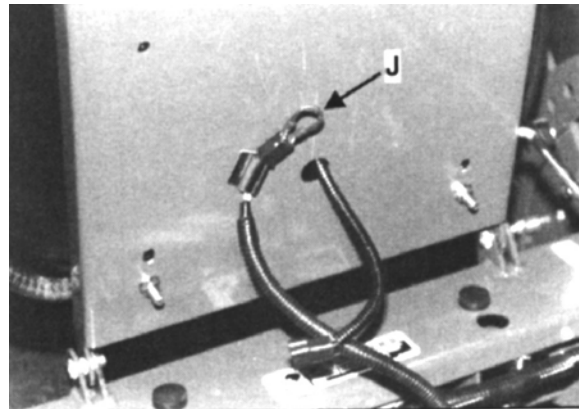
Parking brake assembly - (brake in ON position).

### HYDROSTAT ADJUSTMENTS

A turnbuckle-style hydrostat neutral adjustment is provided.

#### Neutral:

1. Support the machine with the drive wheels off the ground. Use jackstands or equivalent support. Do not rely only on mechanical or hydraulic jacks.
2. Move the traction levers into the neutral position and raise the seat and grass collection hopper or utility box.
3. Disconnect the seat switch and temporarily connect the two terminals with jumper wire **J** as shown.
4. Loosen jam nuts **T** ( (h) =hidden) at both ends of the turnbuckle.
5. Start the engine and run at low speed.
6. Hold one of the traction control levers up against the resistance of the reverse return spring. Rotate the corresponding turnbuckle until the wheel it controls turns in reverse, then rotate the turnbuckle in the opposite direction until the wheel stops turning. Lock the turnbuckle jam nuts. Run the engine up to high idle and stroke the pump in forward and reverse to check the adjustment. Re-adjust if necessary.
7. Repeat steps 4 through 6 for the opposite side.
8. Remove the jumper wire and reconnect the seat switch. Lower the grass collection hopper or utility box



#### Reverse Return:

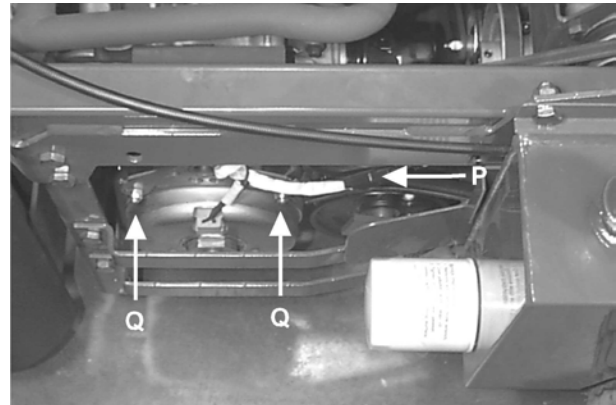
1. Move traction levers to neutral and raise the seat.
2. Locknuts **U** should be run on the bolt as far as they will go.
3. Loosen jam nuts **Y**. Move the traction levers to their forward stop. Adjust the clevis yoke by turning the head of the bolt until the pin through the clevis yoke is up against the back end of the slot in the traction control shaft lever. Once the initial setting is made for both sides, the levers may be evened up by adjusting the how far the bolt is turned into the clevis. Tighten jam nut **Y**.

**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. The reverse return should be adjusted and set before neutral is set on the hydrostatic transmissions.

**NOTE:** Always use Bob-Cat replacement belts, not general purpose belts. Bob-Cat belts are specially designed for use on commercial mowers and will normally last longer.

### ENGINE-CUTTERDECK (PTO) BELT

1. Raise the seat and grass collection hopper or utility box.
2. Disconnect the electric clutch from the wire harness at plug **P**.
3. Remove the carriage bolts securing torque restraint **Q** to the clutch.
4. Insert the square drive end of a 3/8" ratchet or breaker bar into the square hole in the idler arm and use the ratchet handle to rotate the idler assembly enough to remove the belt from the idler and gearbox pulley.
5. Work the belt out of the space between the gearbox pulley and the frame and remove it from the electric clutch pulley.
6. Install the new belt by doing steps 1 through 4 in reverse order.



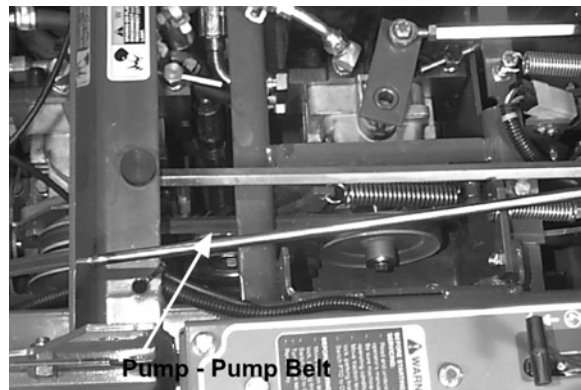
### ENGINE-PUMP BELT

1. Remove the Engine-Gearbox belt. See Engine Gearbox belt in the preceding section.
2. Use a 9/16" wrench on the bolt **B** securing the idler pulley to rotate the idler arm enough to remove the belt from the idler and pump pulleys. Finish removing the belt from the engine pulley.
3. Install the new belt by doing steps 1 and 2 in reverse order.



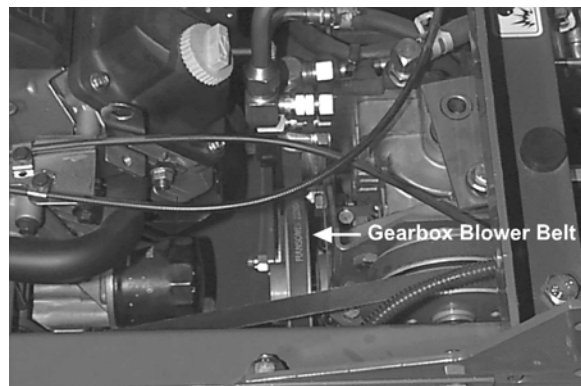
### PUMP-PUMP BELT

1. Raise the seat and grass collection hopper or utility box.
2. Remove the Engine-Pump belt from the pump only. The Engine-Gearbox belt does not need to be removed. See Engine-Pump belt in the preceding section.
3. Rotate the Pump-Pump idler arm enough to remove the belt from the idler and pump pulleys. A 3/8" breaker bar may be useful to rotate the idler arm.
4. Install the new belt by doing steps 1 and 2 in reverse order.



### GEARBOX-BLOWER BELT

1. Raise the grass collection hopper.
2. Insert a 3/8" ratchet in the square hole on the Gearbox-Blower idler arm. Use it to rotate the arm enough to remove the belt from the gearbox pulley. Remove the E-ring securing the idler arm at the pivot and slide the idler arm out far enough to remove the belt.
3. Install the new belt by performing steps 1 & 2 in reverse order.



### CUTTERDECK-TIMING BELT

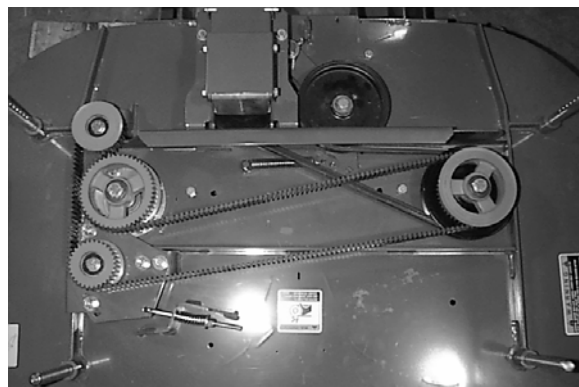
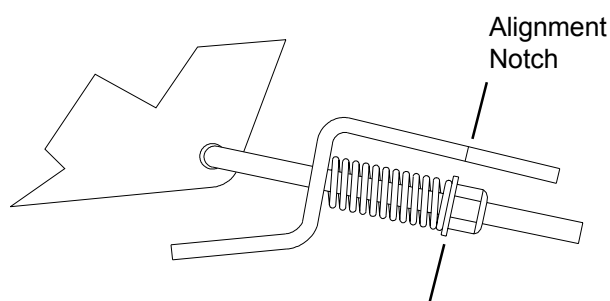
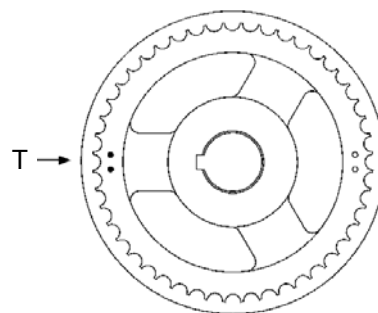
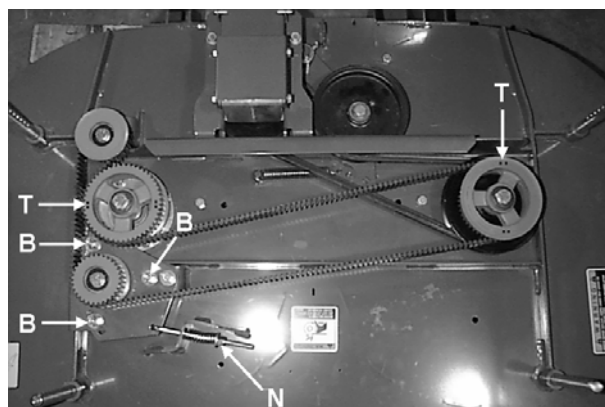
1. Raise the foot plate on the cutterdeck.
2. Back off nut **N** to allow for removal of timing belt.
3. Loosen the three bolts **B** locking the timing belt idler in place.
4. Install an extension on a 3/8" drive ratchet. Insert it in the square hole of the timing belt idler arm and use the ratchet handle to rotate the idler enough to remove the belt from the idler and drive sprockets.

#### **CAUTION**

When handling timing belts, take care not to twist or bend them severely. Mishandling timing belts can break the cords in them and lead to premature failure.

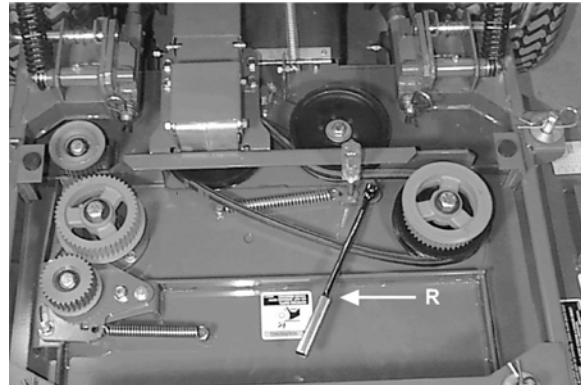
5. Install the new timing belt on the sprockets. Line up the drive sprockets so the timing marks **T** are at 90 degrees to each other. This puts the blades at 90 degrees to each other as well.
6. Tighten nut **N** until the bottom of the nut is aligned with the notch in the bracket as shown.
7. Lock the idler in place by tightening nuts **B**.
8. Start the engine and operate the deck for a few minutes to allow the belt to run in.
9. Loosen the locking nuts **B** and allow the spring to take up the slack. **DO NOT OVER TENSION.** The spring will supply the correct amount of tension as long as the idler arm is free to rotate. Lock the idler down.
10. Check the belt after the first several hours of operation for slack. If there is any slack, repeat step 9.

**NOTE:** Timing belts use fiberglass or Aramid fiber cords which have very little stretch. Once properly tensioned, no further adjustment is usually necessary. It is important that there be no slack in the belt, because any slack can allow the belt to jump teeth on the sprockets and get the blades out of time. Since there is no stretch in the belt, it can easily be over tightened. The spring allows the correct amount of tension to be applied without danger of over tension.



### GEARBOX-SPINDLE BELT

1. Remove the cutterdeck timing belt as detailed in the cutterdeck timing belt section.
2. Insert a 3/8" ratchet extension in the square hole in the gearbox-spindle idler.
3. Use the ratchet handle **R** to rotate the idler enough to secure it in place with a phillips screwdriver through the hole in the idler arm and desk top. Remove the idler from the idler arm. Remove the gearbox mounting bolts and loosen the front bolts. Remove the belt from the blade spindle pulley and work it out from under the gear box.
4. Install the new belt by doing steps 1 through 3 in reverse order.



### POWER UNITS

#### ENGINES :

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

**Configuration:** 4-stroke, horizontal 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-10L 10cc variable displacement piston pump.

**Motors:** Eaton \ Char Lynn 11.9 cu.in. displacement W series. Direct drive 1-1/4" (31.8mm) diameter output shaft.

**Turn Radius:** True 0"

#### OPERATOR PRESENCE INTERLOCK SYSTEM:

**Start:** The PTO (blades) must be off, traction levers in neutral, 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 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 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 position. A time delay eliminates annoying engine cutout from operation over rough terrain.

#### CONTROLS:

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

#### FUEL SYSTEM:

5.3 gallon capacity with a fuel shutoff valve (1/4 turn). Replaceable fuel filter.

#### MAXIMUM GROUND SPEEDS:

**Forward:** 8 mph (12.9 km/h)

**Reverse:** 4 mph (6.4 km/h)

#### WHEELS & TIRES:

**Drive wheels:** 18x10.50-10 4-ply rated turf tires

**Rear Caster:** 13x6.50-6 4-ply rib tread tire

**Pressure:** 14 p.s.i. (1 kg/cm<sup>2</sup>)

**Deck Casters:** 9x3.50-4.00 4-ply rated smooth tread

#### BRAKING:

Hayes disc type parking brakes. Spring applied for overload protection.

#### SEAT:

High back, foam padded hinged for easy tilt-up access to pumps and battery. Prop rod to hold in up position. Internally mounted seat switch.

#### WEIGHT:

1070 lbs (485 kg) with 42" cutterdeck and collection system.

| ENGINES                                  |                                  |                                   |
|--|----------------------------------|-----------------------------------|
| MODEL NUMBER                             | 942103                           | 942105                            |
| MANUFACTURER                             | Kohler                           | Kohler                            |
| MODEL                                    | CH20S                            | CH25S                             |
| CYLINDERS                                | 2                                | 2                                 |
| COOLING                                  | Air                              | Air                               |
| BORE/STROKE                              | 3.03"/2.64"<br>(77/67 mm)        | 3.27"/2.64"<br>(83/67 mm)         |
| DISPLACEMENT                             | 38.1 cu.in. (624 cc)             | 44 cu.in. (725 cc)                |
| COMPRESSION                              | 8.5:1                            | 9:1                               |
| OUTPUT POWER                             | 20 hp (16.4 kW)<br>@ 3600 rpm    | 25 hp (18.4 kW)<br>@ 3600 rpm     |
| OUTPUT TORQUE                            | 32. ft-lb (44 N-m)<br>@ 2500 rpm | 39.5 ft-lb (54 N-m)<br>@ 2400 rpm |
| LUBRICATION                              | FULL PRESSURE                    | FULL PRESSURE                     |
| GOVERNOR                                 | Mechanical                       | Mechanical                        |
| AIR CLEANER                              | Ducted dual<br>element           | Ducted dual<br>element            |
| IGNITION SYSTEM                          | Electronic                       | Electronic                        |
| CHARGING SYSTEM                          | 15 amp, regulated                | 15 amp, regulated                 |
| BATTERY                                  | BCI group U1                     | BCI group U1                      |
| FUSES                                    | Two, 20 amp blade                | Two, 20 amp blade                 |
| FUEL<br>CONSUMPTION @<br>MAX LOAD/ SPEED | 1.9 gal./hr (7.2 l/hr)           | 2.1 gal./hr (7.9 l/hr)            |

| FLUIDS        | CAPACITY        | TYPE  | FILTER                           |
|---------------|-----------------|---|----------------------------------|
| FUEL          | 5.3 gal.        | REGULAR, UNLEADED<br>GASOLINE                                 | REPLACEABLE                      |
| ENGINE OIL    | 2.0 qts (1.9 l) | SAE 10W30   | SPIN-ON REPLACEABLE              |
| HYDRAULIC OIL | 3.5 qts (3.3 l) | SAE 15W40 MOTOR OIL<br>SAE 20W50 MOTOR OIL<br>15W50 SYNTHETIC | 25 MICRON SPIN-ON<br>REPLACEABLE |



| CUTTERDECKS                        |                              |                              |
|------------------------------------|------------------------------|------------------------------|
| MODEL NUMBER                       | 954204                       | 954804                       |
| TYPE                               | Rear Discharge<br>Collection | Rear Discharge<br>Collection |
| CUTTING WIDTH                      | 42" (107 cm)                 | 48" (122 cm)                 |
| WIDTH                              | 43.8" (111 cm)               | 49.5" (127 cm)               |
| BLADES                             | High Lift                    | High Lift                    |
| NUMBER OF<br>BLADES                | 2                            | 2                            |
| BLADE LENGTH                       | 22" (559 mm)                 | 25" (635 mm)                 |
| BLADE THICKNESS                    | .250" (6.35 mm)              | .250" (6.35 mm)              |
| TIP SPEED                          | 18,725 ft/min<br>5707 m/min  | 17,012 ft/min<br>5185 m/min  |
| DAILY PRODUCTION<br>(8 hr @ 6 mph) | 20.4 acres (8.2 ha)          | 23.3 acres (9.4 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 gearbox. Deck shaft driven from gearbox.

### SPINDLES:

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

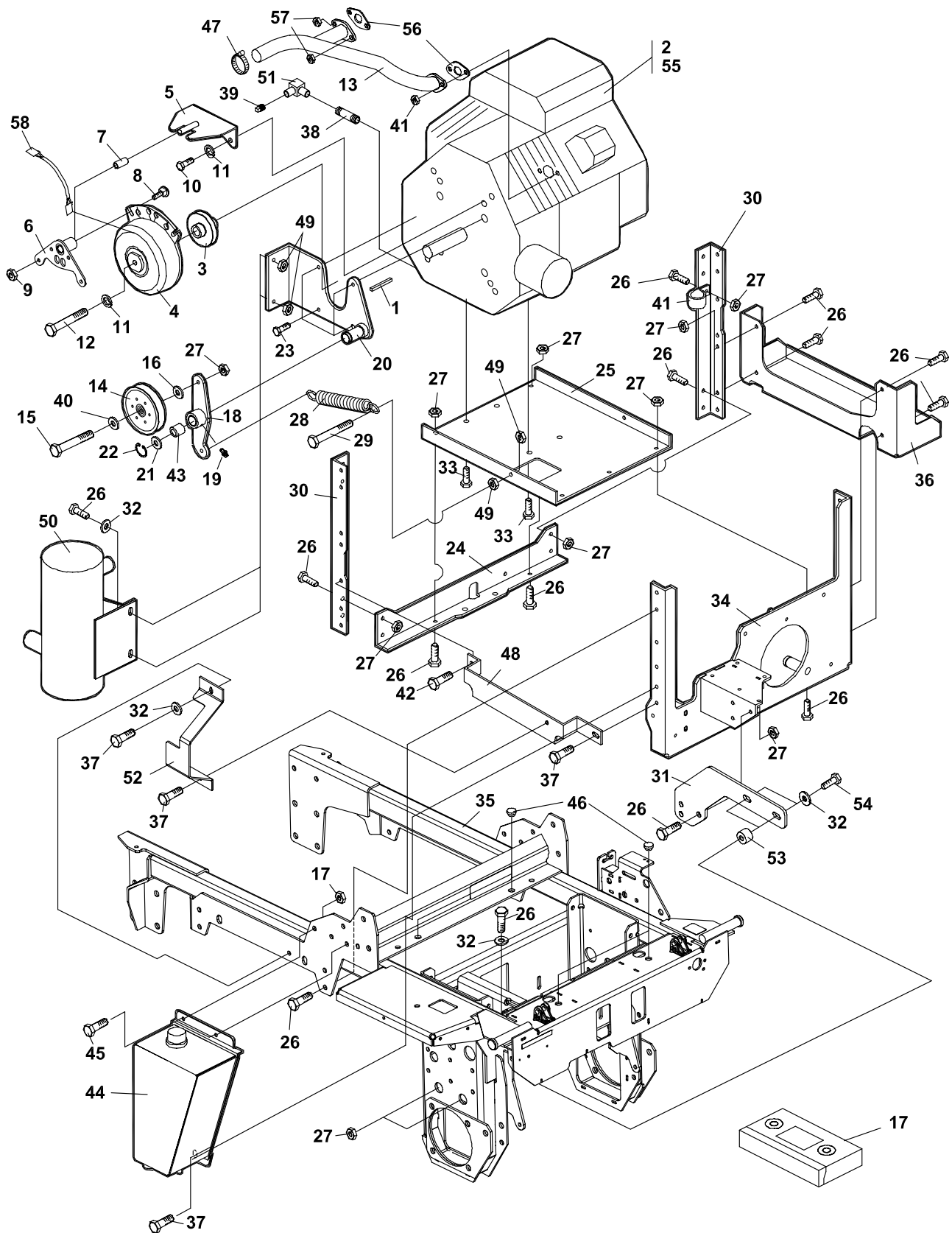
### CUTTING HEIGHT:

Pin and hole arrangement gives quick, no tools heights of cut from 1-1/2" to 4-1/2" in 1/2" increments.

# ENGINE & FRAME ASSEMBLY

ZT 100  
Series

FIGURE 1



# ZT 100 Series

2227003

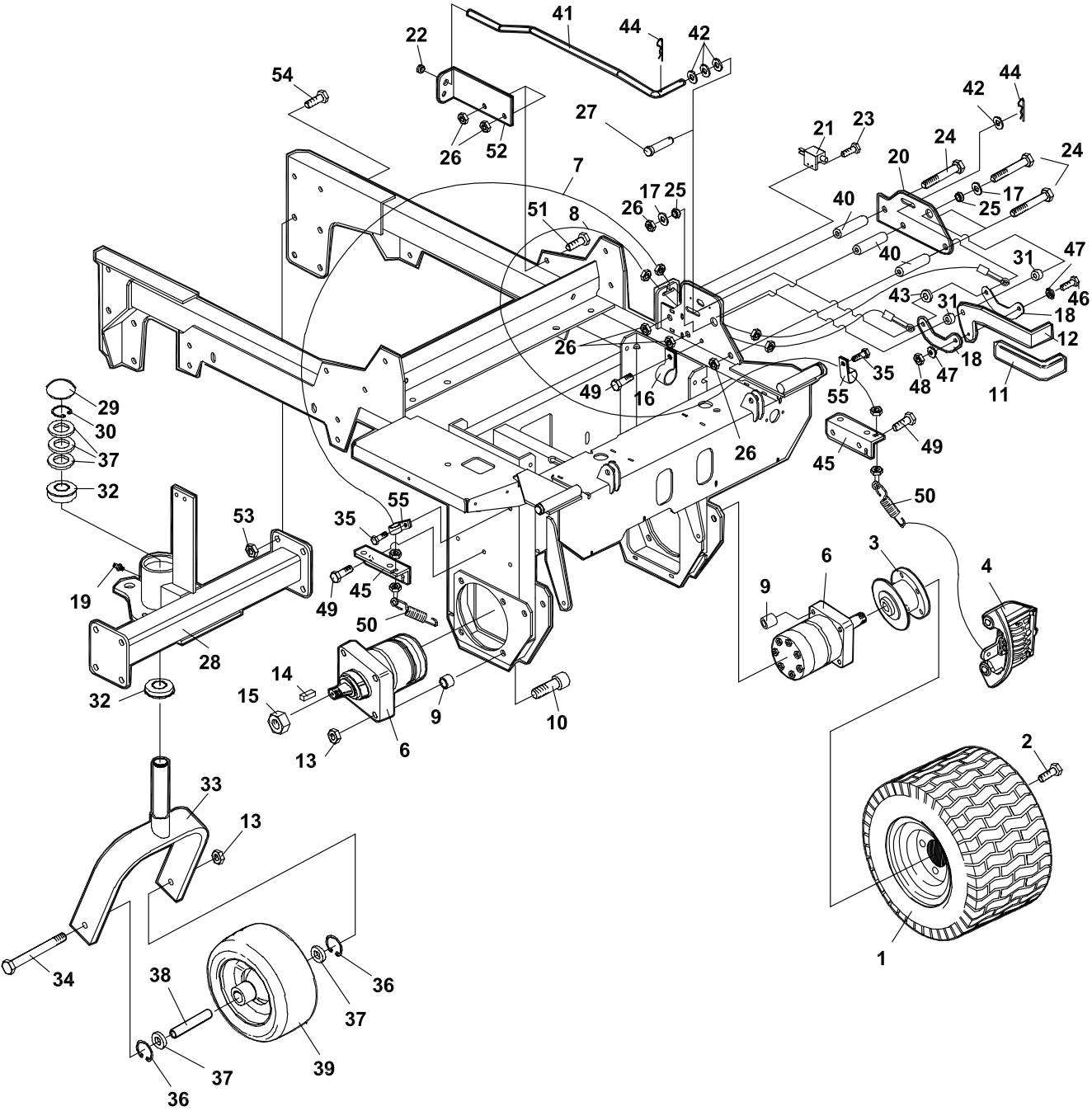
## ENGINE & FRAME ASSEMBLY

FIGURE 1

| ITEM | PART NO.  | DESCRIPTION                                     | QTY | ITEM | PART NO.  | DESCRIPTION            | QTY |
|------|-----------|---|-----|------|---|------------------------|-----|
| 1-1  | 64164-12  | 1/4X1/4X1 SQ KEY                                | 1   | 1-45 | 64123-15  | BOLT-HEX 3/8-16X3/4    | 2   |
| 1-2  | 2228070   | ENGINE-KOHLER CH25S                             | 1   | 1-46 | 810149  | BUMPER-RUBBER          | 4   |
| 1-3  | 2188188   | PULLEY-4.25                                     | 1   | 1-47 | 48319-01  | CLAMP-MUFFLER 1-3/8    | 1   |
| 1-4  | 2721337   | CLUTCH, ELECTRIC<br>(INCLUDES ITEM 58 & 59)     | 1   | 1-48 | 2720468.7   | GUARD-CLUTCH           | 1   |
| 1-5  | 2226026.7 | WLDMT-BRACKET CLUTCH                            | 1   | 1-49 | 64141-4   | NUT-WLF 3/8-16         | 6   |
| 1-6  | 2721338.7 | WLDMT-CLUTCH STOP                               | 1   | 1-50 | 2228040   | MUFFLER                | 1   |
| 1-7  | 38304-03  | BRG-FLANGED PLASTIC                             | 1   | 1-51 | 2690033-01  | ELBOW-3/8 PIPE, 90 DEG | 1   |
| 1-8  | 64018-9   | BLT-CRG 5/16-18X3/4                             | 2   | 1-52 | 2720469.7   | GUARD-FILTER           | 1   |
| 1-9  | 64229-02  | LOCKNUT-NYLON 5/16-18                           | 2   | 1-53 | 2720834   | SPACER                 | 2   |
| 1-10 | 64123-38  | BLT-HEX 7/16-14X1                               | 2   | 1-54 | 64123-70  | BLT-HEX 3/8-16X1-1/2   | 2   |
| 1-11 | 64006-06  | LOCKWSHR-HELICAL 7/16                           | 3   | 1-55 | 2228010   | ENGINE-KOHLER CH20S    | 1   |
| 1-12 | 64123-155 | BLT-HEX 7/16-20X3                               | 1   | 1-56 | KOHLER EXHAUST GASKET<br>(KOHLER # 2404102)   |                        | 2   |
| 1-13 | 2228039   | MANIFOLD-EXHAUST                                | 1   | 1-57 | KOHLER HEX FLANGE M-8X1.25<br>(KOHLER # M-0841080)<br>(AVAILABLE FROM YOUR KOHLER DEALER) |                        | 2   |
| 1-14 | 2308000   | PULLEY-IDLER 4.00 EOD                           | 1   | 1-58 | 2720949   | ASSY-CLUTCH WIRE       | 1   |
| 1-15 | 64123-87  | BLT-HEX 3/8-16X1-3/4                            | 1   | 1-59 | *4121560  | KIT-BRAKE POLE         | 1   |
| 1-16 | 64163-46  | WASHER  | 1   |      |   |                        |     |
| 1-17 | 2810594   | VIDEO-TRAINING                                  | 1   |      |   |                        |     |
| 1-18 | 2226025.7 | WLDMT-IDLER ARM TOP<br>(INCLUDES ITEMS 19 & 43) | 1   |      |   |                        |     |
| 1-19 | 85010N    | ZERK, 1/4-28 STR SELF TH                        | 2   |      |   |                        |     |
| 1-20 | 2226024.7 | WLDMT-IDLER TOP                                 | 1   |      |   |                        |     |
| 1-21 | 64163-65  | WSHR .890X1.375X18GA                            | 1   |      |   |                        |     |
| 1-22 | 64221-04  | E-RING .875                                     | 1   |      |   |                        |     |
| 1-23 | 64139-21  | BLT-WLF 3/8-16X3/4                              | 4   |      |   |                        |     |
| 1-24 | 2222043.7 | BRKT-ENGINE REAR                                | 1   |      |   |                        |     |
| 1-25 | 2222067.7 | PLATE-ENGINE BASE                               | 1   |      |   |                        |     |
| 1-26 | 64123-50  | BOLT-HEX 3/8-16X1                               | 28  |      |   |                        |     |
| 1-27 | 64229-03  | LOCKNUT-NYLON 3/8-16                            | 28  |      |   |                        |     |
| 1-28 | 38219     | SPRING-TENSION                                  | 1   |      |   |                        |     |
| 1-29 | 64123-100 | BLT-HEX 3/8-16X2-1/4                            | 1   |      |   |                        |     |
| 1-30 | 2222042.7 | BRKT-HANGER ENGINE                              | 2   |      |   |                        |     |
| 1-31 | 2720833.7 | BRKT-GEARBOX SUPPORT                            | 1   |      |   |                        |     |
| 1-32 | 64163-31  | WASHER  | 5   |      |   |                        |     |
| 1-33 | 64197-018 | BOLT-TDFM 7/16-14X1-1/4                         | 4   |      |   |                        |     |
| 1-34 | 2226030.7 | WLDMT-PLATE PUMP                                | 1   |      |   |                        |     |
| 1-35 | 4126966   | S-FRAME W/LBLS BOB-CAT                          | 1   |      |   |                        |     |
| 1-36 | 2222074.7 | SUPPORT-FUEL TANK                               | 1   |      |   |                        |     |
| 1-37 | 64197-003 | BLT-TDFM 3/8-16X1.00                            | 4   |      |   |                        |     |
| 1-38 | 48024-12A | FTG-NPT 3/8 X 2 NIPPLE                          | 1   |      |   |                        |     |
| 1-39 | 69051-01  | PLUG-PIPE 3/8                                   | 1   |      |   |                        |     |
| 1-40 | 64163-47  | WSHR.391X1.110X16 GA                            | 1   |      |   |                        |     |
| 1-41 | 48228-2A  | CABLE CLIP 3/4 W/INSTN                          | 1   |      |   |                        |     |
| 1-42 | 64197-016 | BLT-TDFM 3/8-16X1/2                             | 2   |      |   |                        |     |
| 1-43 | 65103A    | BEARING BUSHING                                 | 1   |      |   |                        |     |
| 1-44 | 2226015.7 | WLDMT-RESERVOIR                                 | 1   |      |   |                        |     |

**\*NOT ILLUSTRATED**

FIGURE 2



# ZT 100 Series

2187142

## WHEELS & BRAKES

FIGURE 2

| ITEM  | PART NO.                    | DESCRIPTION                          | QTY | ITEM | PART NO.                          | DESCRIPTION            | QTY |
|-------|-----------------------------|--------------------------------------|-----|------|-----------------------------------|------------------------|-----|
| 2-1   | 2228014                     | ASSY-WHL&TIRE 18X10.5-10             | 2   | 2-33 | 2226005.2                         | WLDMT-CASTER REAR      | 1   |
| *     | 2228014-01S-10.0"           | RIM ASSY W/VL                        |     | 2-34 | 64123-221                         | BOLT-1/2-13X10         | 1   |
|       | 2228014-02S-TIRE-18X10.5-10 | MULTI                                |     | 2-35 | 64152-23                          | 1/4-20X3/8 LG SP SCREW | 2   |
|       | 2228083                     | S-TIRE-18X11-10 FAST TR              |     | 2-36 | 64221-1                           | E-CLIP                 | 2   |
| 2-2   | 64220-01                    | BLT-WHL 12-20X.75 60D                | 8   | 2-37 | 64163-64                          | WSHR 1.015X1.500X14GA  | 5   |
| 2-3   | 2228013                     | HUB-WHEEL/DISC 4 BOLT                | 2   | 2-38 | 2722702                           | AXLE-CASTER REAR       | 1   |
| 2-4   | 2188147                     | ASSY, BRAKE CW (LH)                  | 1   | 2-39 | 2722326                           | ASSY-WHL&TIRE 13X6.5-6 | 1   |
| 2-5 * | 2188148                     | ASSY, BRAKE CCW (RH)                 | 1   | *    | 2722326-01S-TIRE-13X6,5-6         | SM 4 PLY               | 1   |
| 2-6   | 4117905-01                  | MOTOR-WHEEL<br>(USE SEAL KIT 970265) | 2   | *    | 2722326-02S-ASSY-RIM W/VALVE STEM |                        | 1   |
|       |                             |                                      |     | *    | 2722228-03BEARING                 |                        | 2   |
| 2-7   | 2228031-02                  | CABLE-BRAKE 76.0                     | 1   | 2-40 | 2223018                           | SPACER                 | 3   |
| 2-8   | 2228031-01                  | CABLE-BRAKE 43.0                     | 1   | 2-41 | 2720339                           | ROD-GRASSBOX           | 1   |
| 2-9   | 2183063-03                  | SPACER, 7.5MM LONG                   | 8   | 2-42 | 64163-55                          | WSHR .328X.75X14 GA    | 4   |
| 2-10  | 64189-13                    | BLT-HEX SOC 1/2-13X3-1/4             | 8   | 2-43 | 64163-46                          | WSHR.383/.393X.88X7GA  | 1   |
| 2-11  | 2188155                     | GRIP, 1/4X1X4-1/2                    | 1   | 2-44 | 64168-2                           | HAIRPIN COTTER         | 2   |
| 2-12  | 2222110.7                   | LEVER-PARKBRAKE                      | 1   | 2-45 | 2222122.7                         | BRACKET-BRAKE CABLE    | 2   |
| 2-13  | 64229-05                    | LOCKNUT-NYLON 1/2-13                 | 9   | 2-46 | 64205-038                         | BLT-MET M6-1.00X20     | 1   |
| 2-14  | 64164-20                    | S-KEY FOR WHEEL MTR                  | 2   | 2-47 | 2223004                           | BUSHING-LINK BRAKE     | 2   |
| 2-15  | 64151-30                    | NUT-NYLN INSERT JAM 1-20             | 2   | 2-48 | 64246-01                          | NUT-WHIZ M6-1.00       | 1   |
| 2-16  | 48228-2A                    | CABLE CLIP 3/4 W/INSTN               | 2   | 2-49 | 64197-016                         | BLT-TDFM 3/8-16X1/2    | 6   |
| 2-17  | 64163-31                    | WASHER                               | 2   | 2-50 | 128102                            | SPRING-EXTENSION       | 2   |
| 2-18  | 2222114.7                   | LINK-PARK BRAKE                      | 2   | 2-51 | 64123-50                          | BLT-HEX 3/8-16X1       | 2   |
| 2-19  | 85010N                      | ZERK, 1/4-28 STR SELF TH             | 1   | 2-52 | 2222176.7                         | BRACKET-GRSBX LATCH    | 1   |
| 2-20  | 2222093.2                   | PLATE-GUIDE PK BRAKE                 | 1   | 2-53 | 64237-06                          | LOCKNUT-NYLON M12-1.75 | 8   |
| 2-21  | 2188156                     | SWITCH-NONO DBL POLE                 | 1   | 2-54 | A1105061                          | BOLT-M12-1.75X30       | 8   |
| 2-22  | 118047-07                   | BUSHING FLIP-LOK                     | 1   | 2-55 | 48228A                            | CABLE CLIP-INSULATED   | 2   |
| 2-23  | 64197-015                   | BLT-TDFM 10-32X1/2                   | 2   | 2-56 | 64152-23                          | 1/4-20X3/8 LG SP SCREW | 2   |
| 2-24  | 64123-100                   | BLT-HEX 3/8-16X2-1/4                 | 4   |      |                                   |                        |     |
| 2-25  | 38371-02                    | BRG-NYLINER 5/8                      | 2   |      |                                   |                        |     |
| 2-26  | 64229-03                    | LOCKNUT-NYL 3/8-16                   | 6   |      |                                   |                        |     |
| 2-27  | 64188-41                    | PIN-CLEVIS                           | 1   |      |                                   |                        |     |
| 2-28  | 2226012.7                   | WLDMT-SUBFRAME REAR                  | 1   |      |                                   |                        |     |
| 2-29  | 2188135                     | DUST COVER                           | 1   |      |                                   |                        |     |
| 2-30  | 64144-24                    | SNAP RING 1.00 EXT                   | 1   |      |                                   |                        |     |
| 2-31  | 2223017                     | SPACER                               | 2   |      |                                   |                        |     |
| 2-32  | 148042                      | BALL BRG 1.00 10                     | 2   |      |                                   |                        |     |

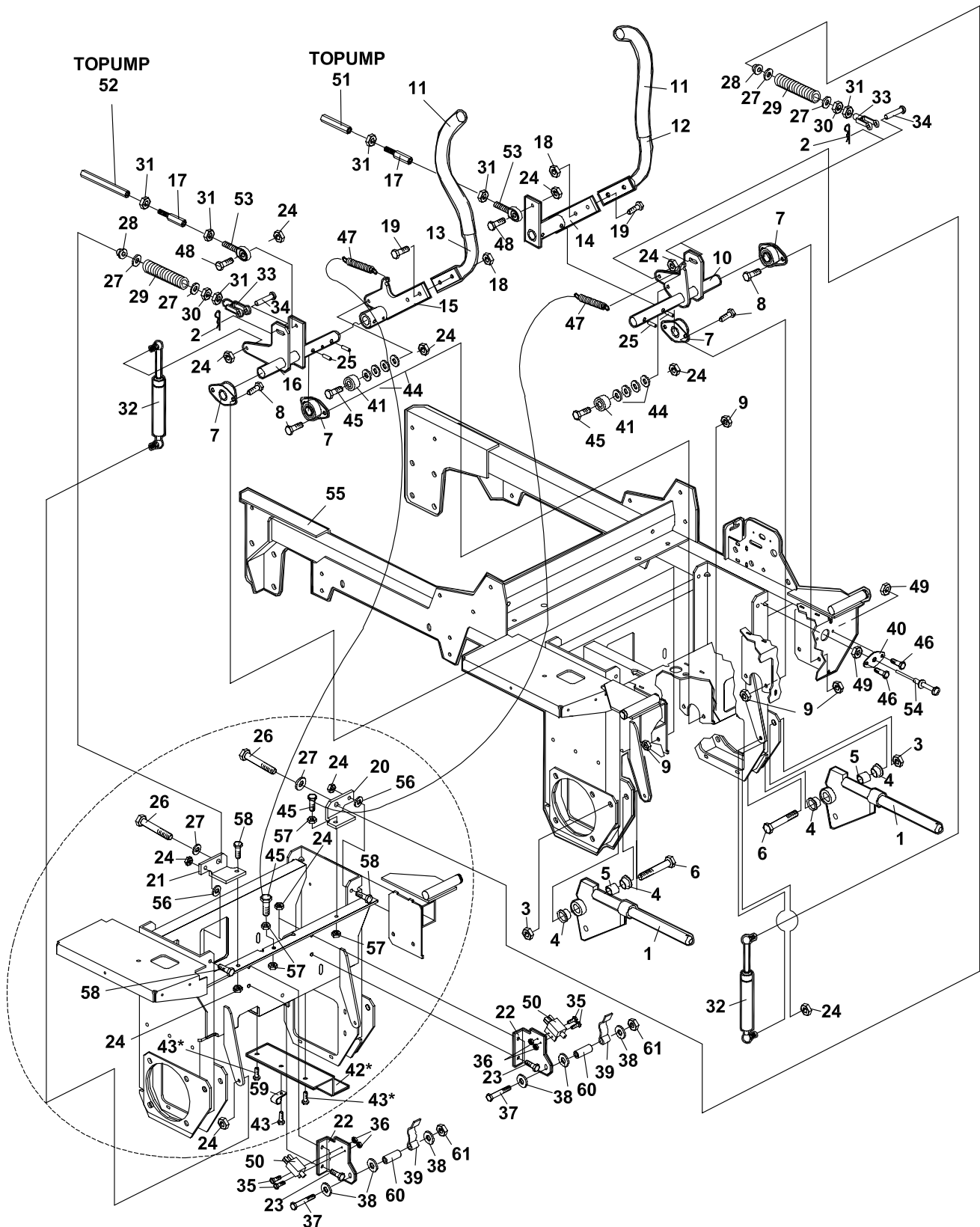
\* NOT ILLUSTRATED

FOR BRAKE ASSEMBLY BREAKDOWN  
SEE FIG 16

# FRONT PANEL & PUSH ARMS

ZT 100  
Series

FIGURE 3



# ZT 100 Series

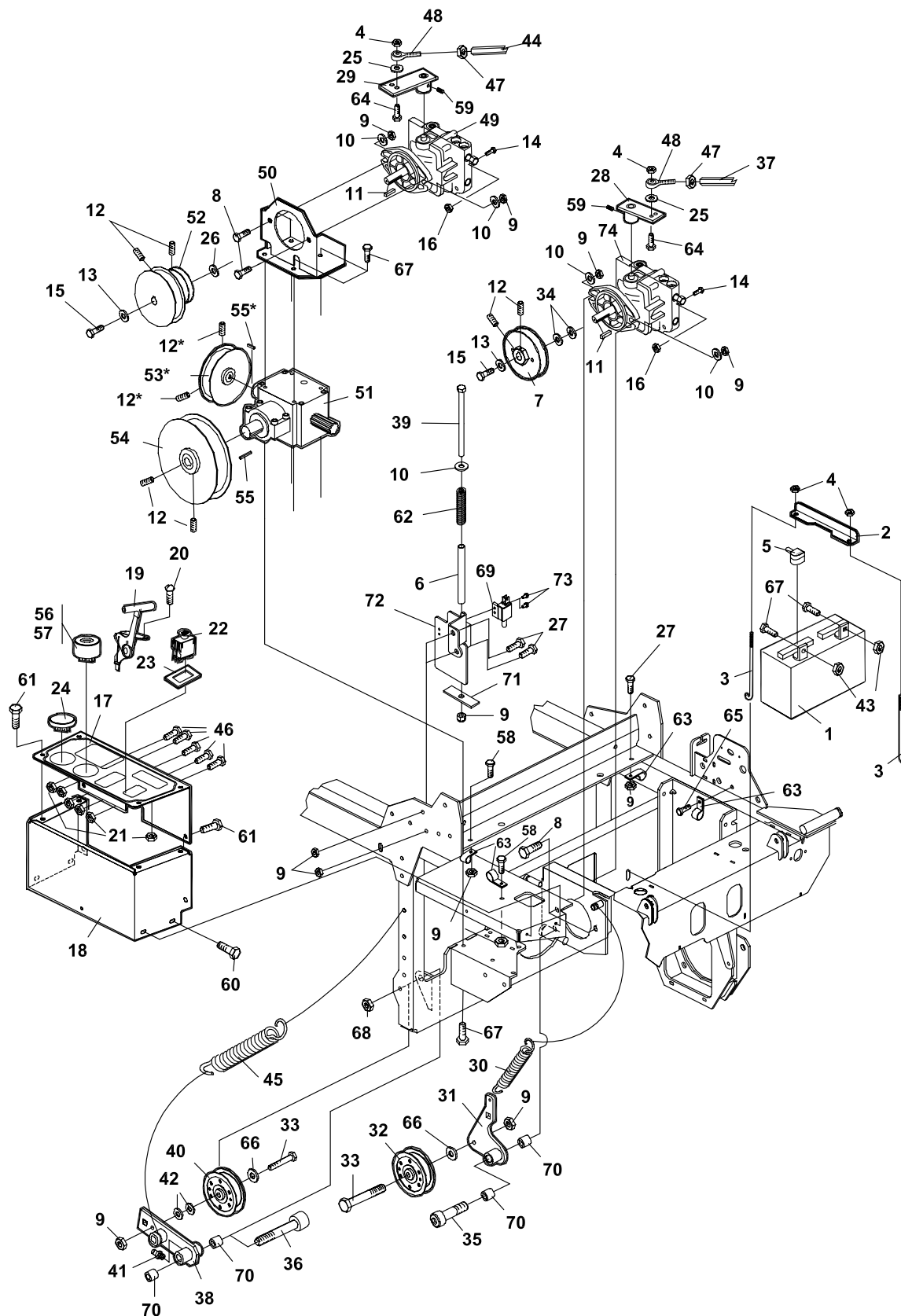
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## FRONT PANEL & PUSH ARMS

FIGURE 3

| ITEM | PART NO.  | DESCRIPTION             | QTY | ITEM | PART NO.   | DESCRIPTION             | QTY |
|------|-----------|-------------------------|-----|------|------------|-------------------------|-----|
| 3-1  | 2226001.7 | WLDMT-RCVR PUSHARM      | 2   | 3-41 | 38372      | BEARING-BALL            | 2   |
| 3-2  | 64168-2   | HAIRPIN COTTER          | 2   | 3-42 | 2222144.7  | GUIDE-DECK CHUTE        | 1   |
| 3-3  | 64229-05  | LOCKNUT-NYL 1/2-13      | 2   | 3-43 | 64197-016  | BOLT-TDFM 3/8-16X1/2    | 3   |
| 3-4  | 2228047   | BEARING-NYL FLNGD       | 4   | 3-44 | 64163-02   | WASH.21/64X19/32        | 8   |
| 3-5  | 2223025   | SHAFT-CRADLE PIVOT      | 2   | 3-45 | 64123-69   | BLT-HEX 5/16-18X1-1/2   | 4   |
| 3-6  | 64123-125 | BOLT-HEX 1/2-13X2-3/4   | 2   | 3-46 | 64152-23   | 1/4-20X3/8 LG SP SCR    | 2   |
| 3-7  | 2188145   | BEARING-.75ID BRZ       | 4   | 3-47 | 158139     | SPRING-STEER TILT       | 2   |
| 3-8  | 64123-15  | BLT-HEX 3/8-16X3/4      | 8   | 3-48 | 64123-47   | BLT-HEX 5/16-18X1-1/4   | 2   |
| 3-9  | 64141-4   | NUT-WLF 3/8-16          | 8   | 3-49 | 64025-04   | NUT-HEX 3/8-24          | 1   |
| 3-10 | 4118810.7 | WLDMT-TRCTN SHAFT LH    | 1   | 3-50 | 108208     | SWITCH DBL POLE         | 2   |
| 3-11 | 2188144   | GRIP, .75ID X 12        | 2   | 3-51 | 2228037-01 | TURNBUCKLE-134.0        | 1   |
| 3-12 | 2223031.7 | HANDLE-TRCTN CNTRL LH   | 1   | 3-52 | 2228037-02 | TURNBUCKLE-364.0        | 1   |
| 3-13 | 2223030.7 | HANDLE-TRCTN CNTRL RH   | 1   | 3-53 | 38369-01   | ROD END BALL JOINT RH   | 2   |
| 3-14 | 2226009.7 | WLDMT-TRCTN CNTRL LH    | 1   | 3-54 | 108009-04  | CONTROL-CHOKE 40.0      | 1   |
| 3-15 | 2226008.7 | WLDMT-TRCTN CNTRL RH    | 1   | 3-55 | 4126966    | S-FRAME W/LBLS BOB-CAT  | 1   |
| 3-16 | 4118811.7 | WLDMT-TRCTN SHAFT RH    | 1   | 3-56 | 64163-29   | 21/64 X 1 X 11GA WASHER | 2   |
| 3-17 | 2228076   | EXTENSION-ROD END       | 2   | 3-57 | 64141-6    | NUT-WLF 5/16-18         | 4   |
| 3-18 | 64229-03  | LOCKNUT-NYL 3/8-16      | 4   | 3-58 | 64123-68   | BOLT-HEX 5/16-18X1      | 3   |
| 3-19 | 64123-50  | BOLT-HEX 3/8-16X1       | 4   | 3-59 | 48228-2A   | CABLE CLIP 3/4 W/INSTN  | 1   |
| 3-20 | 2222149.7 | BRKT-REVERSE RTN LH     | 1   | 3-60 | 153047     | SPACER-PIVOT            | 2   |
| 3-21 | 2222150.7 | BRKT-REVERSE RTN RH     | 1   | 3-61 | 64229-01   | LOCKNUT-NYLON 1/4-20    | 2   |
| 3-22 | 2222060.7 | BRKT-NEUTRAL SWITCH     | 2   |      |            |                         |     |
| 3-23 | 64123-54  | BLT-HEX 5/16-18X3/4     | 4   |      |            |                         |     |
| 3-24 | 64229-02  | LOCKNUT-NYLON 5/16-18   | 9   |      |            |                         |     |
| 3-25 | 64061-40  | ROLL PIN-5/16X1-1/4     | 4   |      |            |                         |     |
| 3-26 | 64123-205 | BLT-HEX 5/16-24X4       | 2   |      |            |                         |     |
| 3-27 | 64163-55  | WSHR .328X.75X14 GA     | 6   |      |            |                         |     |
| 3-28 | 38304-02  | BRG, FLGD PLASTIC       | 2   |      |            |                         |     |
| 3-29 | 2720977   | SPRING-COMPRESSION      | 2   |      |            |                         |     |
| 3-30 | 64229-08  | LOCKNUT NYLON 5/16-24   | 2   |      |            |                         |     |
| 3-31 | 64025-03  | NUT-HEX 5/16-24         | 6   |      |            |                         |     |
| 3-32 | 2228065   | DAMPER-CONTROL          | 2   |      |            |                         |     |
| 3-33 | 38020N    | CLEVIS YOKE, 5/16 PLATE | 2   |      |            |                         |     |
| 3-34 | 64188-02  | PIN, CLEVIS 5/16X1      | 2   |      |            |                         |     |
| 3-35 | 64152-46  | SCR-SLT HH 10-24X1/2    | 4   |      |            |                         |     |
| 3-36 | 64025-15  | NUT-HEX #10-24 KEPS     | 4   |      |            |                         |     |
| 3-37 | 64123-07  | BLT-HEX 1/4-20X1-1/2    | 2   |      |            |                         |     |
| 3-38 | 64163-03  | WSHR-.256ID X .62OD     | 6   |      |            |                         |     |
| 3-39 | 2222061   | LEVER-SWITCH            | 2   |      |            |                         |     |
| 3-40 | 2222092   | PLATE-CHOKE MOUNT       | 1   |      |            |                         |     |

FIGURE 4





# ZT 100 Series

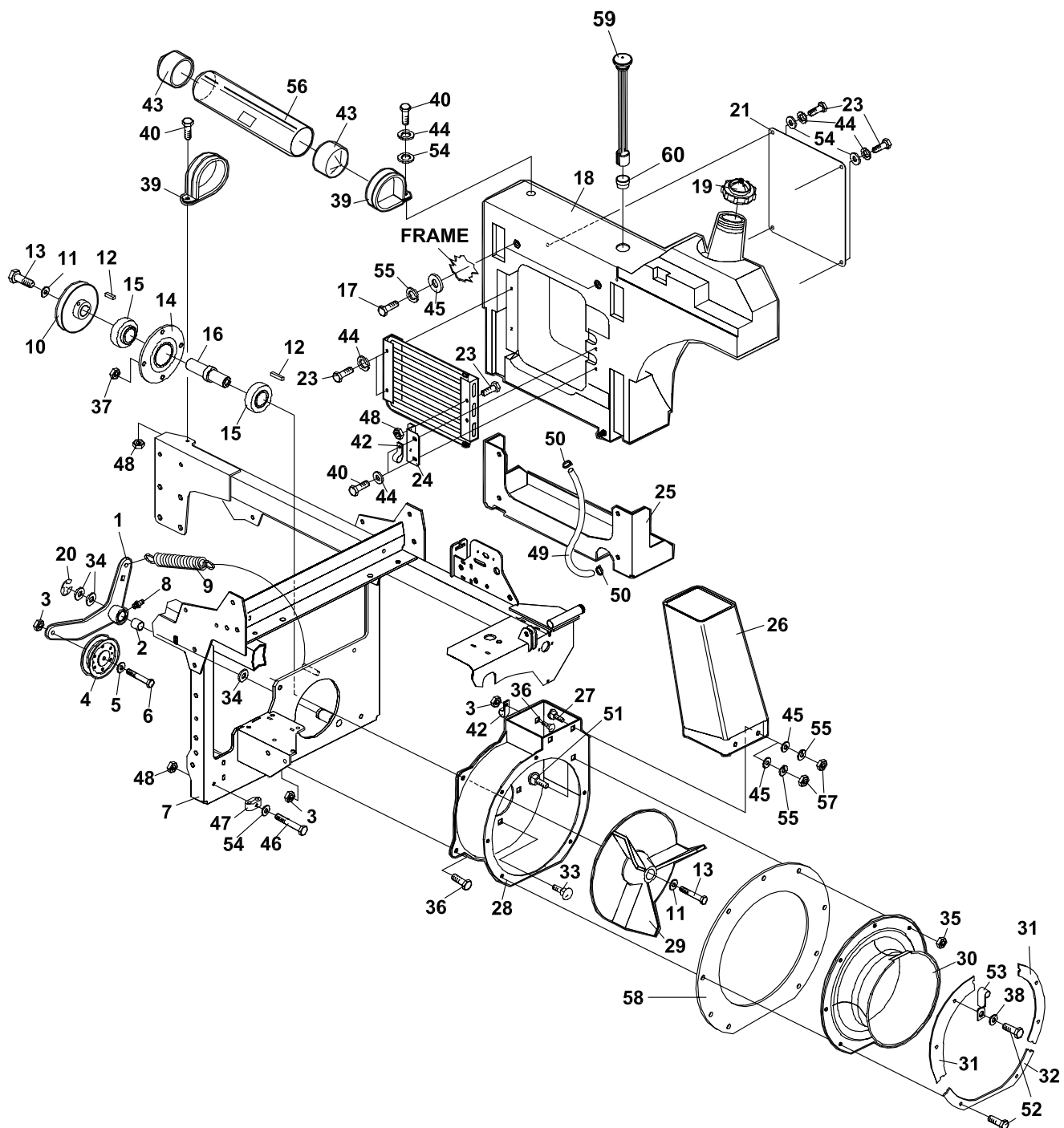
2187144

## PUMPS & CONTROL PANEL

FIGURE 4

| ITEM | PART NO.   | DESCRIPTION             | QTY | ITEM | PART NO.   | DESCRIPTION                  | QTY |
|------|------------|-------------------------|-----|------|------------|------------------------------|-----|
| 4-1  | 108055     | BATTERY                 | 1   | 4-48 | 38369-02   | ROD END BALL JOINT LH        | 2   |
| 4-2  | 2222125.7  | BRKT-BATTERY HLDDWN     | 1   | 4-49 | 4121333    | PUMP-HYDRO BDP-10A-440       | 1   |
| 4-3  | 2228048    | BOLT-BATTERY HOOK       | 2   | 4-50 | 2720837.7  | WLDMT-GEARBOX REAR           | 1   |
| 4-4  | 64229-02   | LOCKNUT-NYLON 5/16-18   | 4   | 4-51 | 2228004    | GEARBOX-1:1                  | 1   |
| 4-5  | 112386     | BOOT,BAT TERM POS       | 1   |      |            | (SERVICE PARTS FOR GEAR BOX) |     |
| 4-6  | 2720966    | SPACER 9.92X12.7X130.4  | 1   |      | 2228008-01 | SEAL-GEARBOX                 | 2   |
| 4-7  | 2228017    | PULLEY-PUMP             | 1   |      | 800513     | SCREW-SOC 5/16-18X1-1/4      | 8   |
| 4-8  | 64123-16   | BOLT-HEX 3/8-16X1-1/4   | 4   |      |            | (NOT ILLUSTRATED)            |     |
| 4-9  | 64229-03   | LOCKNUT-NYLON 3/8-16    | 11  | 4-52 | 2228018    | PULLEY-PUMP DBL DECK         | 1   |
| 4-10 | 64163-31   | WASHER                  | 9   | 4-53 | 2228019    | PULLEY-BLOWER DRIVE          | 1   |
| 4-11 | 64238-01   | KEY 5MM SQ X 20MM LONG  | 2   | 4-54 | 2228045    | PULLEY-GEARBOX               | 1   |
| 4-12 | 64044-18   | SCREW-SET 5/16-18x5/16  | 8   | 4-55 | 64164-12   | 1/4X1/4X1 SQ END KEY         | 2   |
| 4-13 | 64209-09   | WASHER-CONICAL SPRING   | 2   | 4-56 | 2228044    | SWITCH-IGNITION W/GR         | 1   |
| 4-14 | 64123-60   | BOLT, 1/4-20X2 HEX      | 2   | 4-57 | 2228044-01 | KEY-IGNITION                 | 1   |
| 4-15 | 64205-013  | BLT-MET M6-1X12         | 2   |      |            | (NOT ILLUSTRATED)            |     |
| 4-16 | 64229-01   | LOCKNUT-NYLON 1/4-20    | 2   | 4-58 | 64123-15   | BLT-HEX 3/8-16X3/4           | 3   |
| 4-17 | 2226052    | S-CONTROL PANEL         | 1   | 4-59 | 64192-04   | SET SCREW 5/16-18X5/8        | 2   |
| 4-18 | 2222121.2  | WRAPPER-CONTROL PNL     | 1   | 4-60 | 64152-23   | 1/4-20X3/8 LG SP SCREW       | 5   |
| 4-19 | 118020-12  | CONTROL-THROTTLE 26.50  | 1   | 4-61 | 64152-56   | SCREW HS STAP #10X3/8        | 6   |
| 4-20 | 64152-46   | SCR-SLT HH 10-24X1/2    | 2   | 4-62 | 2720962    | SPRING-COMPRESSION           | 1   |
| 4-21 | 64025-15   | NUT-HEX #10-24 KEPS     | 7   | 4-63 | 48228-2A   | CABLE CLIP 3/4 W/INSTN       | 4   |
| 4-22 | 2188153    | SWITCH, CLUTCH          | 1   | 4-64 | 64123-47   | BLT-HEX 5/16-18X1-1/4        | 2   |
| 4-23 | 2188178    | SWITCH-RETAINER         | 1   | 4-65 | 64197-016  | BLT-TDFM 3/8-16X1/2          | 1   |
| 4-24 | 48030N     | HOOR METER ASSEMBLY     | 1   | 4-66 | 64163-47   | WSHR.391X1.110X16 GA         | 2   |
| 4-25 | 64163-55   | WSHR .328X.75X14 GA     | 2   | 4-67 | 64123-54   | BLT-HEX 5/16-18X3/4          | 10  |
| 4-26 | 64163-73   | WSHR-.625IDX1.12ODX.062 | 1   | 4-68 | 64141-4    | NUT-WLF 3/8-16               | 1   |
| 4-27 | 64123-50   | BLT-HEX 3/8-16X1        | 6   | 4-69 | 38383      | SWITCH-N.C.                  | 1   |
| 4-28 | 4118528.7  | WLDMT-PUMPARM LH        | 1   | 4-70 | 68110A     | BRONZE BUSHING               | 4   |
| 4-29 | 4118074.7  | WLDMT-PUMPARM RH        | 1   | 4-71 | 2720967.7  | PLATE-GRASSBOX SW            | 1   |
| 4-30 | 38219      | SPRING-TENSION          | 1   | 4-72 | 2720965.7  | WLDMT-BOX SWITCH BRKT        | 1   |
| 4-31 | 2226050    | WLDMT-IDLER PUMP        | 1   | 4-73 | 64197-015  | BLT-TDFM 10-32X1/2 TORX      | 2   |
|      |            | (INCLUDES ITEM 70)      |     | 4-74 | 4121332    | PUMP-HYDRO BDP-10A-439       | 1   |
| 4-32 | 2228016    | PULLEY-IDLER PUMP       | 1   |      |            |                              |     |
| 4-33 | 64123-87   | BLT-HEX 3/8-16X1-3/4    | 1   |      |            |                              |     |
| 4-34 | 64163-11   | 2X.625/.628X10 GA. WSH  | 2   |      |            |                              |     |
| 4-35 | 64166-12   | SH BLT .5X1.5X3/8-16    | 1   |      |            |                              |     |
| 4-36 | 64166-18   | BLT-SHLDR 3/8-16X2.88   | 1   |      |            |                              |     |
| 4-37 | 2228037-01 | TURNBUCKLE-134.0        | 1   |      |            |                              |     |
| 4-38 | 2226023.7  | WLDMT-IDLER ARM PTO     | 1   |      |            |                              |     |
|      |            | (INCLUDES ITEM 70)      |     |      |            |                              |     |
| 4-39 | 64123-219  | BOLT 3/8-16x6           | 1   |      |            |                              |     |
| 4-40 | 38297      | IDLER, 5 OD FLANGED     | 1   |      |            |                              |     |
| 4-41 | 85010N     | ZERK                    | 1   |      |            |                              |     |
| 4-42 | 64163-46   | WSHR.383/.393X.88X7GA   | 2   |      |            |                              |     |
| 4-43 | 64025-02   | NUT-HEX 5/16-18         | 2   |      |            |                              |     |
| 4-44 | 2228037-02 | TURNBUCKLE-364.0        | 1   |      |            |                              |     |
| 4-45 | 2308133    | SPRING, EXTENSION       | 1   |      |            |                              |     |
| 4-46 | 64152-47   | SCR-SLT HH 10-24X3/8    | 5   |      |            |                              |     |
| 4-47 | 64025-33   | NUT-HEX 5/16-24 LH      | 2   |      |            |                              |     |

FIGURE 5



# ZT 100 Series

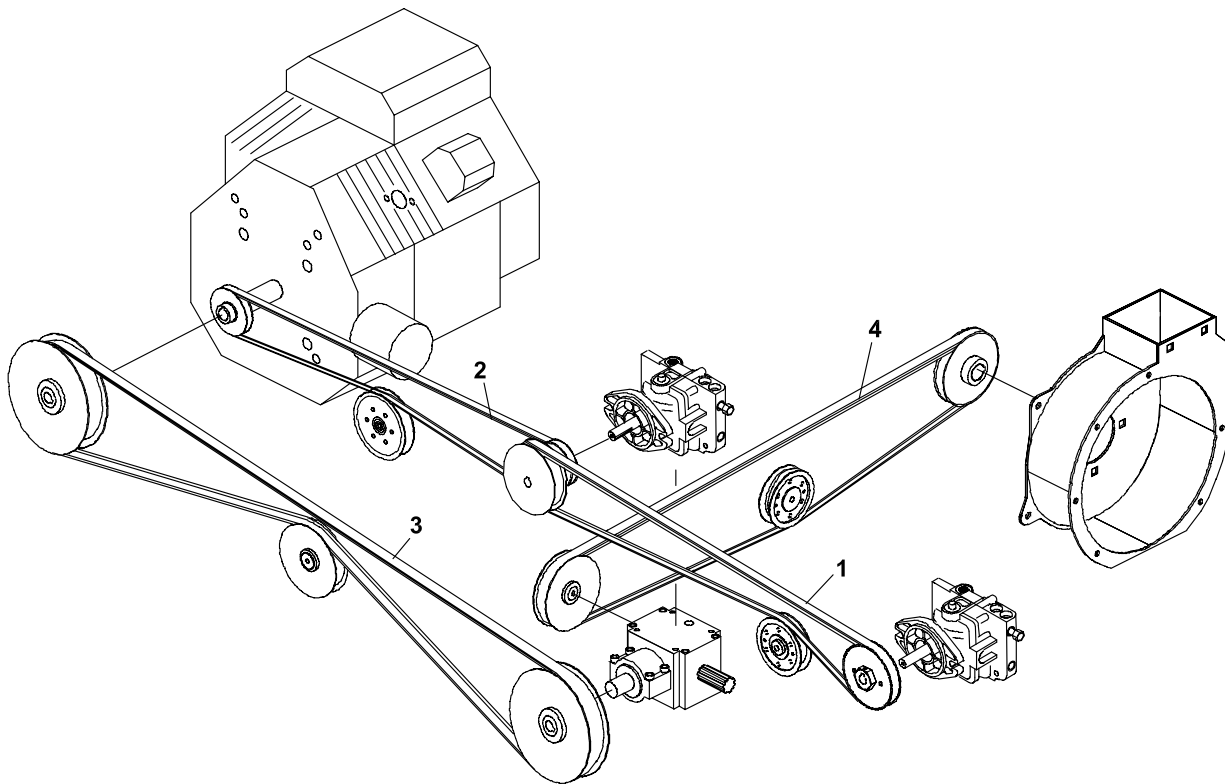
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## BLOWER & FUEL TANK

FIGURE 5

| ITEM | PART NO.  | DESCRIPTION                             | QTY | ITEM | PART NO.  | DESCRIPTION            | QTY |
|------|---|---|-----|------|-----------|------------------------|-----|
| 5-1  | 2226031.7   | WLDMT-IDLER BLOWER<br>(INCLUDES ITEM 2) | 1   | 5-39 | 38542     | CLAMP-DOC TUBE         | 2   |
| 5-2  | 65103A  | BEARING BUSHING                         | 1   | 5-40 | 64123-89  | BLT-HEX 1/4-20X3/4     | 4   |
| 5-3  | 64229-03  | LOCKNUT-NYLON 3/8-16                    | 5   | 5-41 | 64205-001 | BLT-MET M8-1.25X20     | 12  |
| 5-4  | 2228016   | PULLEY-IDLER PUMP                       | 1   | 5-42 | 48228-2A  | CABLE CLIP 3/4         | 2   |
| 5-5  | 64163-47  | WSHR.391X1.110X16 GA                    | 1   | 5-43 | 38061A    | SPINDLE SHIELD         | 2   |
| 5-6  | 64123-87  | BLT-HEX 3/8-16X1-3/4                    | 1   | 5-44 | 64006-01  | LOCKWASHER 1/4         | 9   |
| 5-7  | 2226030.7   | WLDMT-PLATE PUMP                        | 1   | 5-45 | 64163-31  | WASHER                 | 4   |
| 5-8  | 35027N  | ZERK 90 DEGREE                          | 1   | 5-46 | 64123-60  | BLT-HEX 1/4-20X2       | 1   |
| 5-9  | 38219   | SPRING-TENSION                          | 1   | 5-47 | 148090-03 | HOSE-SUPPORT 5/8       | 1   |
| 5-10 | 2228099   | PULLEY-BLOWER                           | 1   | 5-48 | 64229-01  | LOCKNUT-NYL 1/4-20     | 4   |
| 5-11 | 64209-03  | SPRING WASHER .67 ID                    | 2   | 5-49 | 09007-08  | S-HOSE .25X.5X17"      | 1   |
| 5-12 | 64164-12  | 1/4X1/4X1 SQ END KEY                    | 2   | 5-50 | 88042N    | HOSE CLAMP             | 2   |
| 5-13 | 64123-208   | BLT-HEX 5/8-18X1.5                      | 2   | 5-51 | 64018-15  | BLT-CRG 5/16-18X1      | 1   |
| 5-14 | 2228021   | HOUSING-BEARING                         | 1   | 5-52 | 64197-013 | BLT-TDFM 5/16-18X1-1/4 | 8   |
| 5-15 | 38348-01  | BEARING-SPINDLE SLD                     | 2   | 5-53 | 3009269   | CLAMP-HOSE TWISTED     | 1   |
| 5-16 | 2223010   | SHAFT-BLOWER                            | 1   | 5-54 | 64163-03  | WSHR-.256ID X .62OD    | 8   |
| 5-17 | 64123-15  | BOLT-HEX 3/8-16X3/4                     | 2   | 5-55 | 64006-03  | LOCKWSHR-HELICAL 3/8   | 4   |
| 5-18 | 4124682   | TANK-FUEL                               | 1   | 5-56 | 2306144   | S-DOC TUBE W/DECAL     | 1   |
| 5-19 | 2720859   | CAP-FUEL TANK                           | 1   | 5-57 | 64025-05  | NUT-HEX 3/8-16         | 2   |
| 5-20 | 64221-04  | E-RING .875                             | 1   | 5-58 | 2721588.7 | RING-BLOWER WEAR       | 1   |
| 5-21 | 2222075.7   | SCREEN-OIL COOLER                       | 1   | 5-59 | 4124676   | GAUGE-REMOTE FUEL      | 1   |
| 5-22 | 2188173   | COOLER-OIL                              | 1   | 5-60 | 2218147   | GROMMET-GAUGE          | 1   |
| 5-23 | 64123-49  | BOLT-HEX 1/4-20X1/2                     | 8   |      |           |                        |     |
| 5-24 | 2222137.7   | BRKT-OIL COOLER                         | 1   |      |           |                        |     |
| 5-25 | 2222074.7   | SUPPORT-FUEL TANK                       | 1   |      |           |                        |     |
| 5-26 | 2226051   | S-CHUTE GRASSBOX                        | 1   |      |           |                        |     |
| 5-27 | 64018-3   | BLT-CRG 3/8-16X1                        | 2   |      |           |                        |     |
| 5-28 | 2721889.7   | WLDMT-BLOWER                            | 1   |      |           |                        |     |
|      | <b>USE BLOWER ASSEMBLY KIT 970206</b><br>(INCLUDES ITEMS 10-16,28,29,33 & 37) |   |     |      |           |                        |     |
| 5-29 | 2721892.7   | WLDMT-FAN                               | 1   |      |           |                        |     |
| 5-30 | 2228025   | BLOWER-INLET                            | 1   |      |           |                        |     |
| 5-31 | 2222139.7   | PLATE-BACKING                           | 2   |      |           |                        |     |
| 5-32 | 2222140.7   | PLATE-BACKING NTCHD                     | 1   |      |           |                        |     |
| 5-33 | 64018-23  | BLT-CRG 3/8-16X3/4                      | 4   |      |           |                        |     |
| 5-34 | 64163-65  | WSHR .890X1.375X18GA                    | 5   |      |           |                        |     |
| 5-35 | 64237-05  | LOCKNUT-NYL M8-1.25                     | 1   |      |           |                        |     |
| 5-36 | 64123-50  | BOLT-HEX 3/8-16X1                       | 4   |      |           |                        |     |
| 5-37 | 64141-4   | NUT-WLF 3/8-16                          | 4   |      |           |                        |     |
| 5-38 | 64163-55  | WASHER .328X.75X14 GA                   | 1   |      |           |                        |     |

FIGURE 6



**ZT 100  
Series**

**BELTS**

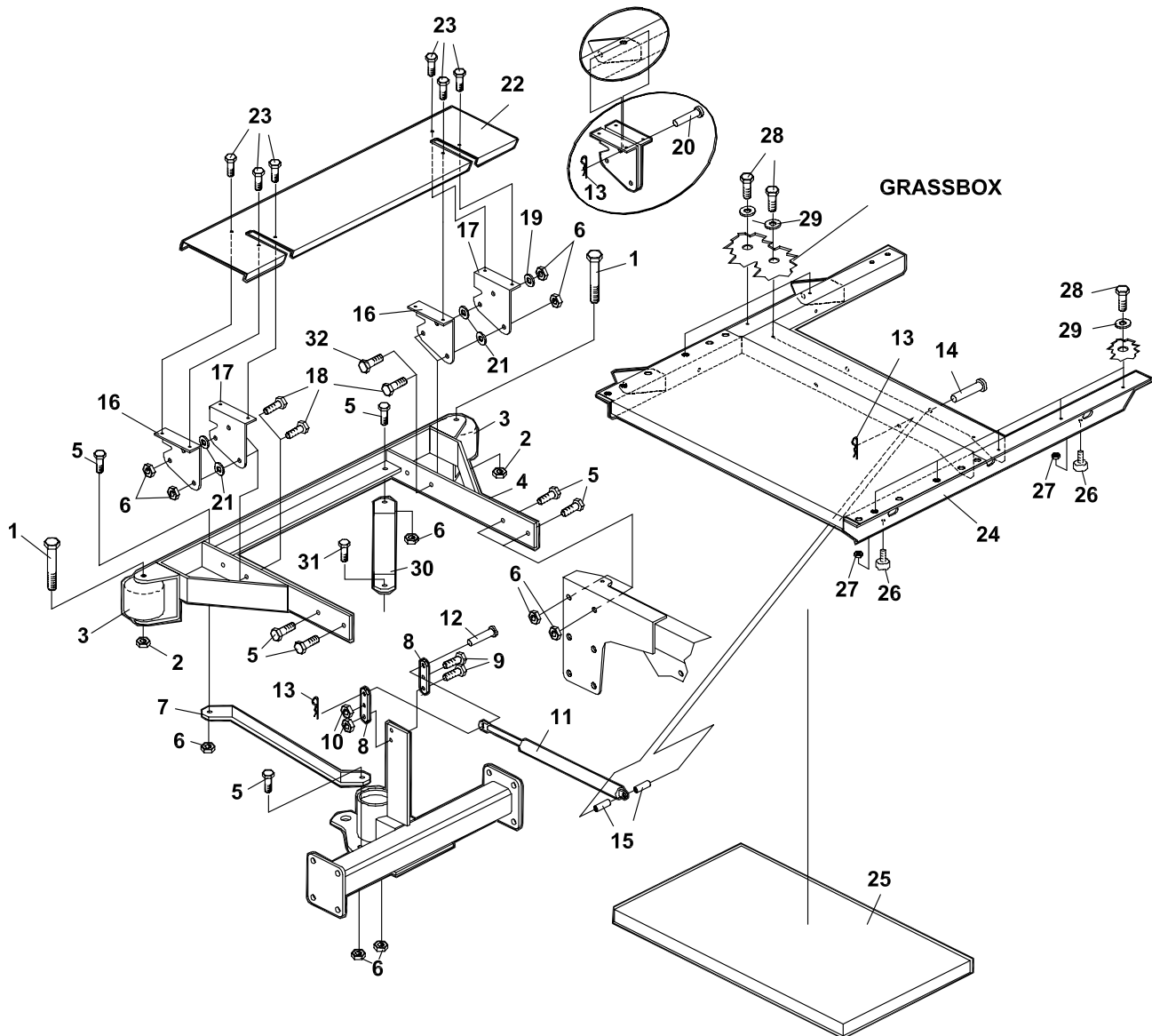
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**FIGURE 6**

| ITEM | PART NO. | DESCRIPTION      | QTY |
|------|----------|------------------|-----|
| 6-1  | 2721068  | BELT-PUMP        | 2   |
| 6-2  | 2721069  | BELT-ENGINE PUMP | 1   |
| 6-3  | 2721065  | BELT-PTO         | 1   |
| 6-4  | 2721067  | BELT-BLOWER      | 1   |

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|-------------|-----|
|------|----------|-------------|-----|

FIGURE 7



# ZT 100 Series

## BUMPER & GRASSBOX FRAME

2187147

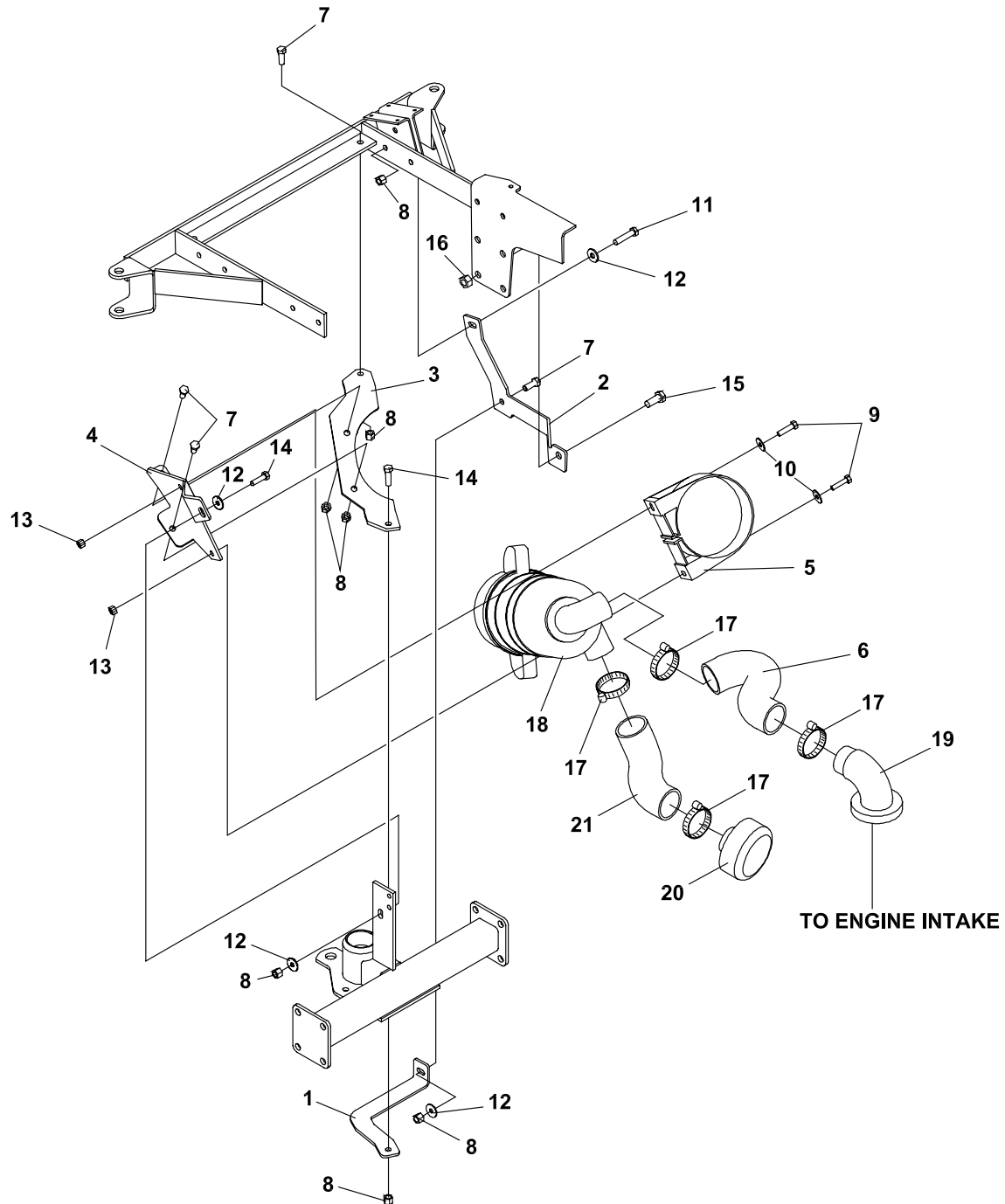
FIGURE 7

| ITEM | PART NO.  | DESCRIPTION            | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|-----------|------------------------|-----|------|----------|-------------|-----|
| 7-1  | 64123-206 | BLT-HEX 5/8-11X4-1/2   | 2   |      |          |             |     |
| 7-2  | 64229-06  | LOCKNUT-NYLON 5/8-11   | 2   |      |          |             |     |
| 7-3  | 2198153   | ROLLER, 3              | 2   |      |          |             |     |
| 7-4  | 2226011.7 | WLDMT-BUMPER           | 1   |      |          |             |     |
| 7-5  | 64123-50  | BLT-HEX 3/8-16X1       | 8   |      |          |             |     |
| 7-6  | 64229-03  | LOCKNUT-NYLON 3/8-16   | 9   |      |          |             |     |
| 7-7  | 2222049.7 | BRACE-FRAME            | 1   |      |          |             |     |
| 7-8  | 2222178.7 | PLATE-CYLINDER MTG     | 2   |      |          |             |     |
| 7-9  | 64123-47  | BLT-HEX 5/16-18X1-1/4  | 2   |      |          |             |     |
| 7-10 | 64229-02  | LOCKNUT-NYLON 5/16-18  | 2   |      |          |             |     |
| 7-11 | 2228077   | CYLINDER-GAS           | 1   |      |          |             |     |
| 7-12 | 64188-02  | PIN, CLEVIS 5/16X1     | 1   |      |          |             |     |
| 7-13 | 64168-2   | HAIRPIN COTTER         | 4   |      |          |             |     |
| 7-14 | 64188-42  | PIN-CLEVIS 5/16X3.50   | 1   |      |          |             |     |
| 7-15 | 2223037   | SPACER-11.13X8.18X33.0 | 2   |      |          |             |     |
| 7-16 | 2721080.7 | BRKT-GRASSBOX RH       | 2   |      |          |             |     |
| 7-17 | 2721079.7 | BRKT-GRASSBOX LH       | 2   |      |          |             |     |
| 7-18 | 64123-70  | BLT-HEX 3/8-16X1-1/2   | 2   |      |          |             |     |
| 7-19 | 64163-31  | WASHER, 25/64X1X12     | 1   |      |          |             |     |
| 7-20 | 64188-33  | PIN, CLEVIS 3/8X1      | 1   |      |          |             |     |
| 7-21 | 2720952   | SPACER                 | 4   |      |          |             |     |
| 7-22 | 2721078.7 | GRASSBOX-DEFLECTOR     | 1   |      |          |             |     |
| 7-23 | 64152-23  | 1/4-20X3/8 LG SP SCREW | 6   |      |          |             |     |
| 7-24 | 2721014.7 | WLDMT-FRAME GRSBX      | 1   |      |          |             |     |
| 7-25 | 2228035   | INSULATION-GRASSBOX    | 1   |      |          |             |     |
| 7-26 | 108228    | BUMPER                 | 2   |      |          |             |     |
| 7-27 | 64141-2   | NUT-WLF 1/4-20         | 2   |      |          |             |     |
| 7-28 | 64197-001 | BLT-TDFM 5/16-18X3/4   | 9   |      |          |             |     |
| 7-29 | 64163-29  | WASHER                 | 9   |      |          |             |     |
| 7-30 | 4109180.7 | BRACE-FRAME            | 1   |      |          |             |     |
| 7-31 | 64123-16  | BLT-HEX 3/8-16X1-1/4   | 2   |      |          |             |     |
| 7-32 | 64123-87  | BLT-HEX 3/8-16X1-3/4   | 1   |      |          |             |     |

# HEAVY DUTY AIR CLEANER

ZT 100  
Series

FIGURE 8





# ZT 100 Series

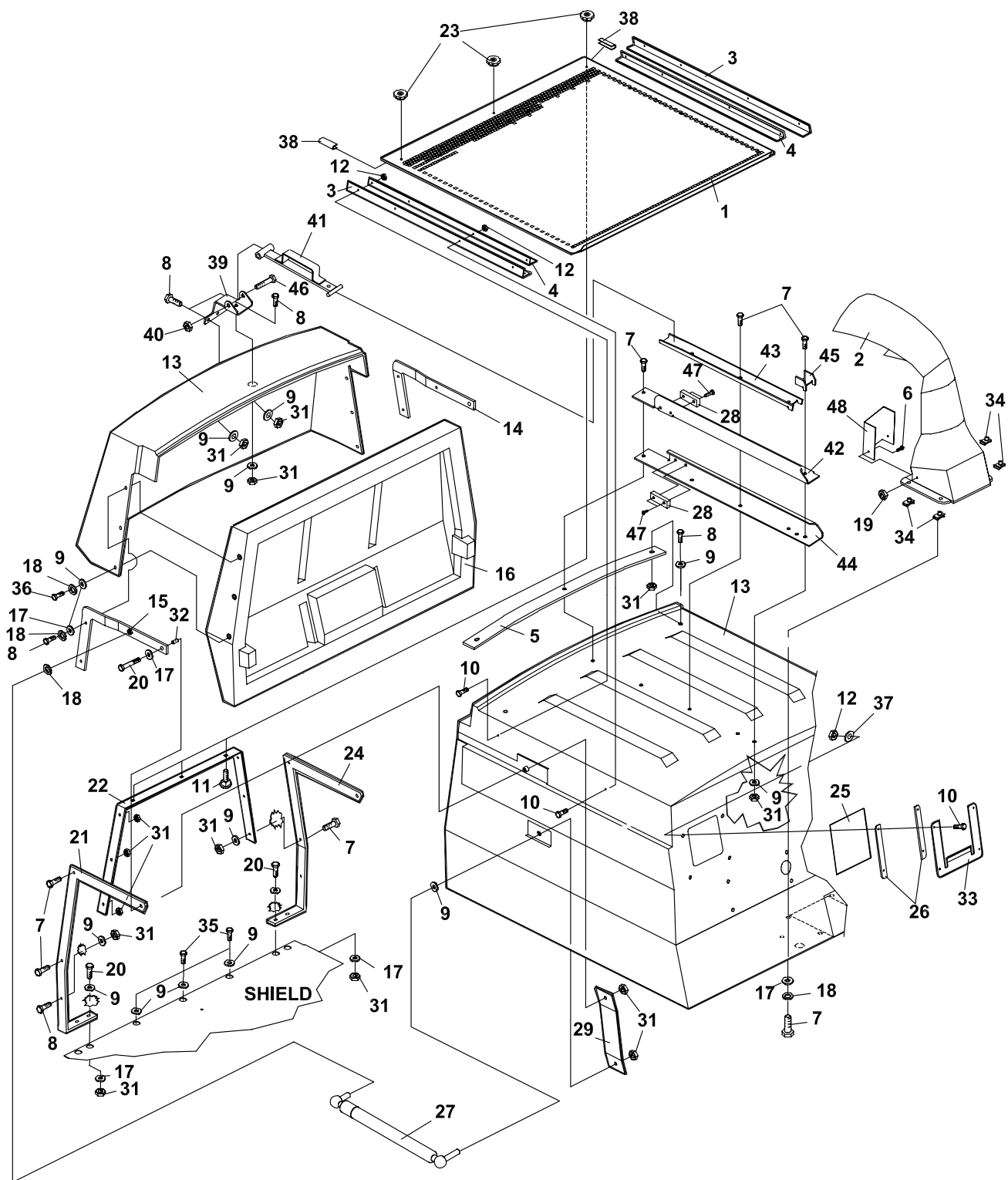
## HEAVY DUTY AIR CLEANER

2228089-01

FIGURE 8

| ITEM | PART NO.   | DESCRIPTION                    | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|--------------------------------|-----|------|----------|-------------|-----|
| 8-1  | 4114350.7  | BUMPER-AIR CLNR UPPER          | 1   |      |          |             |     |
| 8-2  | 4114359.7  | BUMPER-AIR CLNR LOWER          | 1   |      |          |             |     |
| 8-3  | 4109180.7  | BRACE-FRAME                    | 1   |      |          |             |     |
| 8-4  | 4109261.7  | BRACKET-A/C MOUNTING           | 1   |      |          |             |     |
| 8-5  | 2198297    | CLAMP-AIR CLEANER              | 1   |      |          |             |     |
| 8-6  | 2722703    | HOSE-AIR                       | 1   |      |          |             |     |
| 8-7  | 64123-50   | BOLT-HEX 3/8-16X1              | 2   |      |          |             |     |
| 8-8  | 64229-03   | LOCKNUT-NYLON 3/8-16           | 7   |      |          |             |     |
| 8-9  | 64123-47   | BLT-HEX 5/16-18X1-1/4          | 2   |      |          |             |     |
| 8-10 | 64163-29   | WASHER                         | 2   |      |          |             |     |
| 8-11 | 64123-87   | BLT-HEX 3/8-16X1-3/4           | 1   |      |          |             |     |
| 8-12 | 64163-31   | WASHER, 25/64X1X12             | 4   |      |          |             |     |
| 8-13 | 64229-02   | LOCKNUT-NYLON 5/16-18          | 2   |      |          |             |     |
| 8-14 | 64123-16   | BLT-HEX 3/8-16X1-1/4           | 2   |      |          |             |     |
| 8-15 | A1105061   | BOLT-M12-1.75X30               | 1   |      |          |             |     |
| 8-16 | 64237-06   | LOCKNUT-NYLON M12-1.75         | 1   |      |          |             |     |
| 8-17 | 108094-09  | CLAMP-HOSE SAE36               | 4   |      |          |             |     |
| 8-18 | 2198147    | AIR CLEANER                    | 1   |      |          |             |     |
|      |            | (INCLUDES AIR CLEANER ELEMENT) |     |      |          |             |     |
|      | 2198147-01 | ELEMENT                        | 1   |      |          |             |     |
| 8-19 | 24 029 21  | ELBOW                          | 1   |      |          |             |     |
|      |            | (AVAILABLE THRU KOHLER)        |     |      |          |             |     |
| 8-20 | 2720885    | PRECLEANER-AIR FILTER          | 1   |      |          |             |     |
| 8-21 | 2198191    | HOSE-AIR INTAKE                | 2   |      |          |             |     |
| 8-22 | 2208292    | COVER, HOSE                    | 1   |      |          |             |     |
|      |            | (NOT ILLUSTRATED)              |     |      |          |             |     |

FIGURE 9



# ZT 100 Series

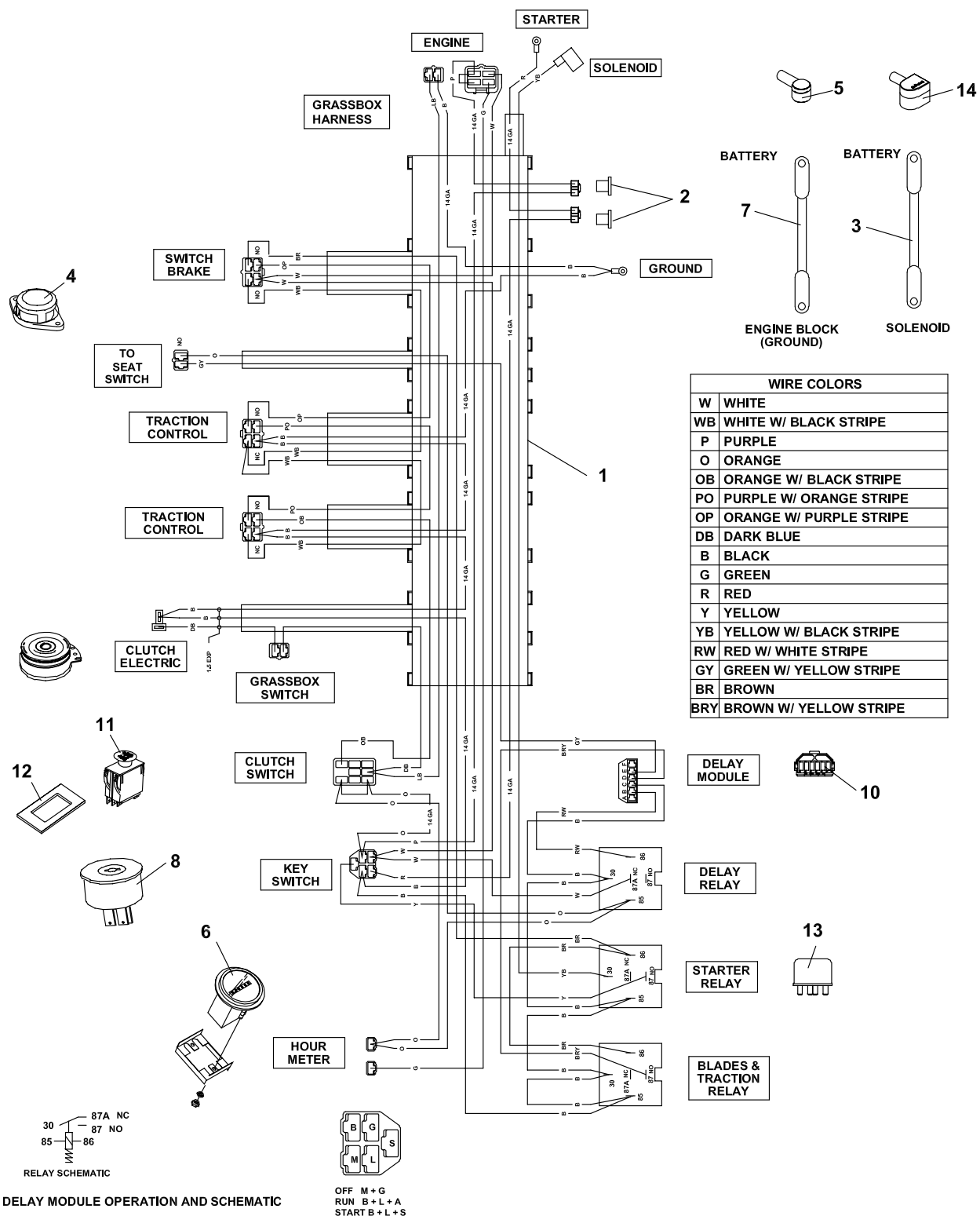
2187148

# GRASSBOX

FIGURE 9

| ITEM | PART NO.  | DESCRIPTION            | QTY | ITEM | PART NO.  | DESCRIPTION          | QTY |
|------|-----------|------------------------|-----|------|-----------|----------------------|-----|
| 9-1  | 2222198.7 | SCREEN-GRASSBOX        | 1   | 9-41 | 2720928.7 | WELDMENT-LIFT HANDLE | 1   |
| 9-2  | 4124677   | CHUTE-GRASSBOX         | 1   | 9-42 | 2720933.7 | BRKT-LIFT OUTER RH   | 1   |
| 9-3  | 2222107.7 | SCREEN-SLIDE A         | 2   | 9-43 | 2720936.7 | BRKT-LIFT INNER      | 1   |
| 9-4  | 2222108.7 | SCREEN-SLIDE B         | 2   | 9-44 | 2720934.7 | BRKT-LIFTOUTER LH    | 1   |
| 9-5  | 2720449.7 | SUPPORT-GRASSBOX       | 1   | 9-45 | 2720935.7 | BRKT-LIFT STOP       | 1   |
| 9-6  | 64139-04  | BOLT-WLF 1/4-20X3/4    | 3   | 9-46 | 64123-75  | BLT-HEX 3/8-16X3     | 1   |
| 9-7  | 64123-47  | BLT-HEX 5/16-18X1-1/4  | 13  | 9-47 | 64152-56  | BLT-HEX              | 4   |
| 9-8  | 64123-68  | BLT-HEX 5/16-18X1      | 11  | 9-48 | 2722460.7 | SUPPORT-GRASS CHUTE  | 1   |
| 9-9  | 64163-29  | 21/64X1X11GA.WASHER    | 28  |      |           |                      |     |
| 9-10 | 64152-49  | SCR-SLT HH 10-24X3/4   | 9   |      |           |                      |     |
| 9-11 | 64018-2   | BLT-CRG 1/4-20X3/4     | 3   |      |           |                      |     |
| 9-12 | 64025-15  | NUT-HEX #10-24 KEPS    | 10  |      |           |                      |     |
| 9-13 | 4124681   | GRASSBOX & DEFLECTOR   | 1   |      |           |                      |     |
| 9-14 | 2722643.7 | WLDMT-LH DOOR HINGE    | 1   |      |           |                      |     |
| 9-15 | 2722644.7 | WLDMT-RH DOOR HINGE    | 1   |      |           |                      |     |
| 9-16 | 4124678   | DOOR-GRASS BOX         | 1   |      |           |                      |     |
| 9-17 | 64163-55  | WASHER                 | 16  |      |           |                      |     |
| 9-18 | 64006-02  | LOCKWSHR-HELICAL 5/16  | 12  |      |           |                      |     |
| 9-19 | 64229-01  | LOCKNUT-NYLON 1/4-20   | 3   |      |           |                      |     |
| 9-20 | 64123-69  | BLT-HEX 5/16-18X1-1/2  | 6   |      |           |                      |     |
| 9-21 | 2721080.7 | BRACE-GRSBX HINGE RH   | 1   |      |           |                      |     |
| 9-22 | 2222199.7 | JAMB-GRASSBOX          | 1   |      |           |                      |     |
| 9-23 | 2228080   | KNOB-KNURLED FEMALE    | 3   |      |           |                      |     |
| 9-24 | 2721079.7 | BRACE-GRSBX HINGE LH   | 1   |      |           |                      |     |
| 9-25 | 2228082   | WINDOW-GRASSBOX        | 1   |      |           |                      |     |
| 9-26 | 2720971.7 | SPACER-WINDOW          | 2   |      |           |                      |     |
| 9-27 | 2722332   | SPRING-EXT W/DAMPING   | 2   |      |           |                      |     |
| 9-28 | 2721056   | BLOCK                  | 2   |      |           |                      |     |
| 9-29 | 2222098.7 | BRACKET-RH SPRING      | 1   |      |           |                      |     |
| 9-30 | 2222097.7 | BRACKET-LH SPRING      | 1   |      |           |                      |     |
|      |           | (NOT ILLUSTRATED)      |     |      |           |                      |     |
| 9-31 | 64229-02  | LOCKNUT-NYLON 5/16-18  | 24  |      |           |                      |     |
| 9-32 | 43094A    | TUBING,SPACR PTO T-20N | 2   |      |           |                      |     |
| 9-33 | 2222185.7 | RETAINER-WINDOW        | 1   |      |           |                      |     |
| 9-34 | 64259-01  | U-NUT MTH 5/16 THICK   | 4   |      |           |                      |     |
| 9-35 | 64197-001 | BLT-TDFM 5/16-18X3/4   | 9   |      |           |                      |     |
| 9-36 | 64123-54  | BLT-HEX 5/16-18 X 3/4  | 2   |      |           |                      |     |
| 9-37 | 64163-03  | WSHR-.256IDX .62OD     | 5   |      |           |                      |     |
| 9-38 | 108194-22 | CHANNEL FLEX TRIM      | 2   |      |           |                      |     |
| 9-39 | 2720930.7 | BRACKET-DOOR           | 1   |      |           |                      |     |
| 9-40 | 64229-03  | NUT 3/4 NYLOCK         | 1   |      |           |                      |     |

FIGURE 10



# ZT 100 Series

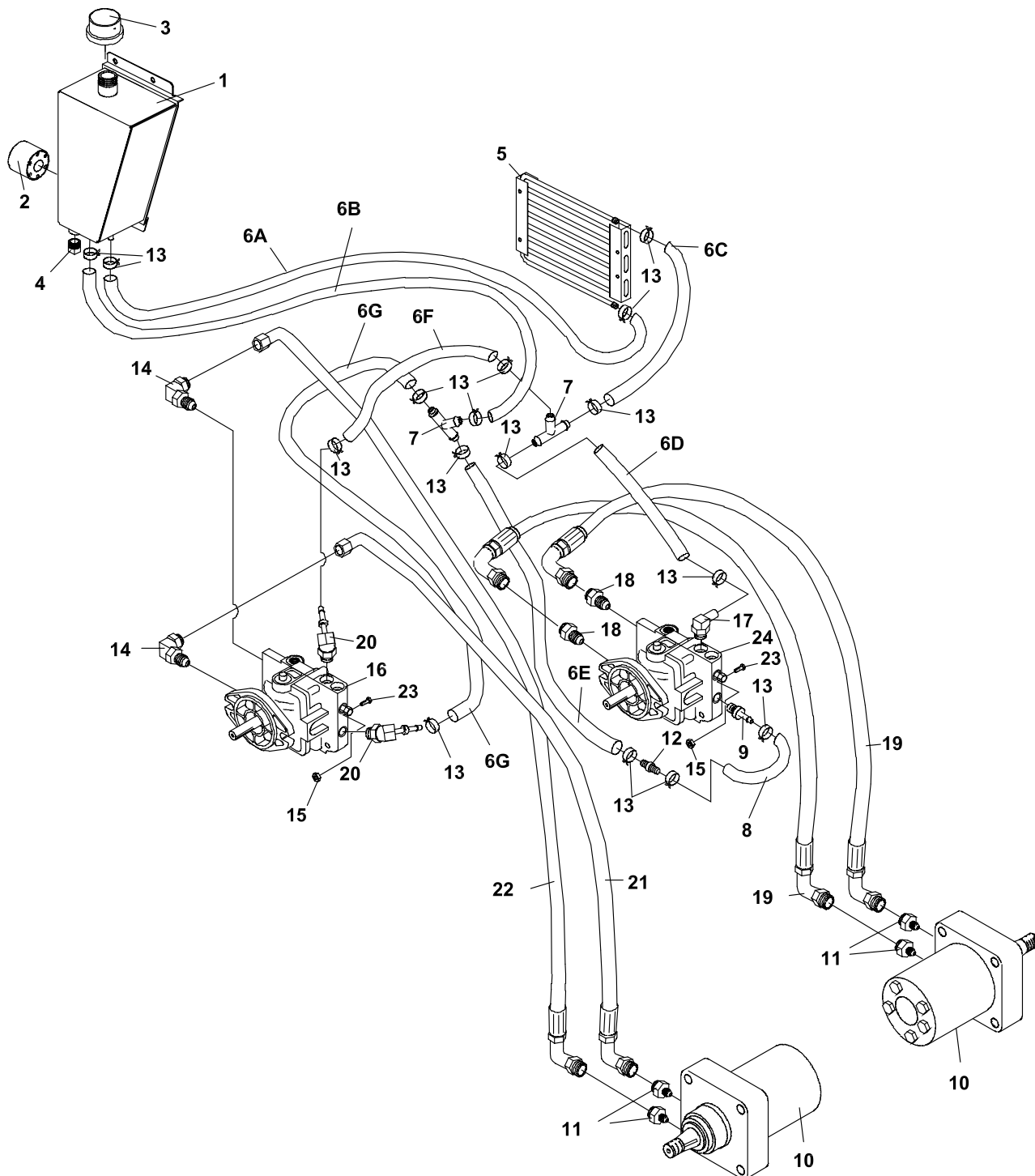
2187149

## ELECTRICAL

FIGURE 10

| ITEM  | PART NO.   | DESCRIPTION                       | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|-------|------------|-----------------------------------|-----|------|----------|-------------|-----|
| 10-1  | 2228060    | HARNESS-WIRE 100 KHLR             | 1   |      |          |             |     |
| 10-2  | 148082-20  | FUSE 20 AMP                       | 2   |      |          |             |     |
| 10-3  | 108061-10  | CABLE-BATTERY 49 RED              | 1   |      |          |             |     |
| 10-4  | 158135-01  | SWITCH-SEAT, NO                   | 1   |      |          |             |     |
| 10-5  | 2308095    | COVER-TERMINAL                    | 1   |      |          |             |     |
| 10-6  | 48030N     | HOUR METER ASSEMBLY               | 1   |      |          |             |     |
| 10-7  | 108061-14  | CABLE-BATTERY 45 BLK              | 1   |      |          |             |     |
| 10-8  | 2228044    | SWITCH-IGNITION                   | 1   |      |          |             |     |
| 10-9  | 2228044-01 | KEY-IGNITION<br>(NOT ILLUSTRATED) | 1   |      |          |             |     |
| 10-10 | 2188154    | MODULE-DELAY                      | 1   |      |          |             |     |
| 10-11 | 2188153    | SWITCH, CLUTCH                    | 1   |      |          |             |     |
| 10-12 | 2188178    | SWITCH-RETAINER                   | 1   |      |          |             |     |
| 10-13 | 2722325    | RELAY                             | 3   |      |          |             |     |
| 10-14 | 112386     | BOOT,BAT TERM POS                 | 1   |      |          |             |     |

FIGURE 11



# ZT 100 Series

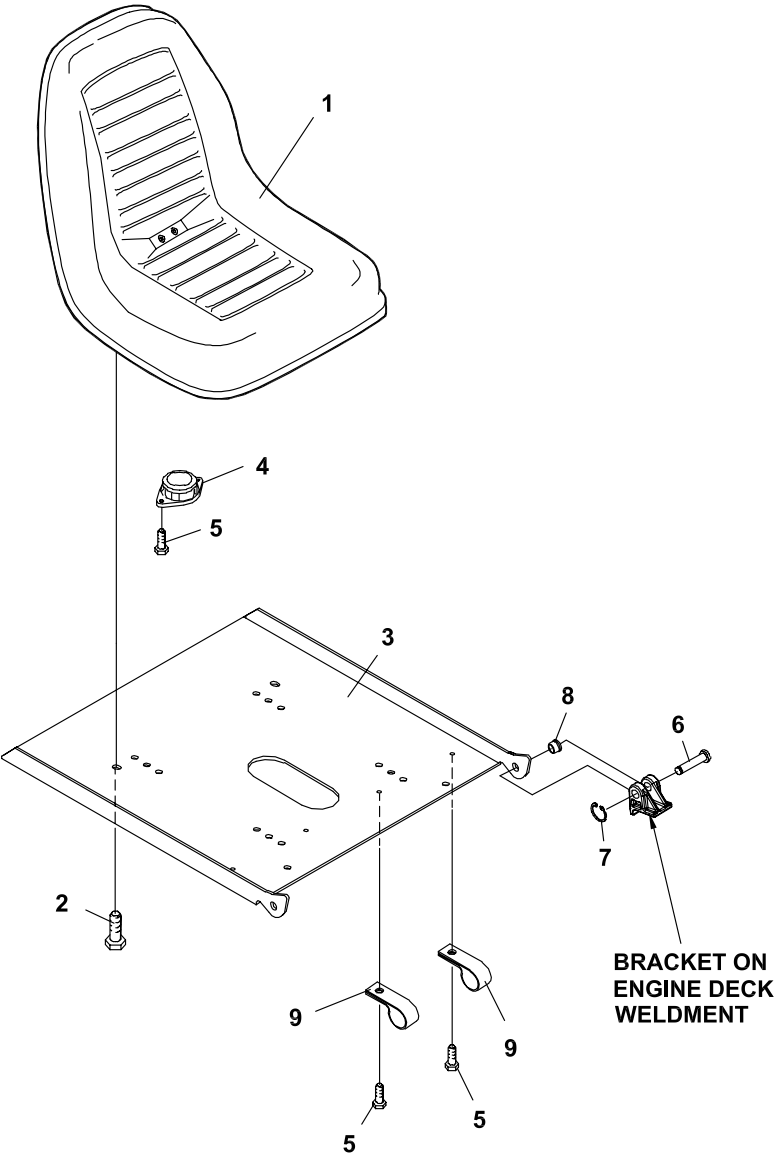
2187150

## HYDRAULICS

FIGURE 11

| ITEM                                      | PART NO.   | DESCRIPTION               | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|---|------------|---------------------------|-----|------|----------|-------------|-----|
| 11-1                                      | 2226015.7  | WLDMT-RESERVOIR W/LAB     | 1   |      |          |             |     |
| 11-2                                      | 2720396    | FILTER 25 MICRON          | 1   |      |          |             |     |
| 11-3                                      | 69216.7    | CAP-RESERVOIR             | 1   |      |          |             |     |
| 11-4                                      | 108029     | PLUG-MAGNETIC             | 1   |      |          |             |     |
| 11-5                                      | 2188173    | COOLER-OIL                | 1   |      |          |             |     |
| (69053-05 IS A SERVICEABLE LENGTH OF 55") |            |                           |     |      |          |             |     |
| 11-6A                                     | 69053-05   | 3/8 HIGH TEMP HSE 49"     | 1   |      |          |             |     |
| 11-6B                                     | 69053-05   | 3/8 HIGH TEMP HSE 25"     | 1   |      |          |             |     |
| 11-6C                                     | 69053-05   | 3/8 HIGH TEMP HSE 20"     | 1   |      |          |             |     |
| 11-6D                                     | 69053-05   | 3/8 HIGH TEMP HSE 8.5"    | 1   |      |          |             |     |
| 11-6E                                     | 69053-05   | 3/8 HIGH TEMP HSE 8"      | 1   |      |          |             |     |
| 11-6F                                     | 69053-05   | 3/8 HIGH TEMP HSE 2.50"   | 1   |      |          |             |     |
| 11-6G                                     | 69053-05   | 3/8 HIGH TEMP HSE 2.25"   | 1   |      |          |             |     |
| 11-7                                      | 58026-01   | 3 WAY CONNECTOR 3/8       | 2   |      |          |             |     |
| 11-8                                      | 2228085    | HOSE-FORMED 3/8 ID        | 1   |      |          |             |     |
| 11-9                                      | 69060-01   | FTG, BARB 9/16X3/8 ST     | 1   |      |          |             |     |
| 11-10                                     | 4117905-01 | MOTOR-WHEEL               | 2   |      |          |             |     |
| 11-11                                     | 48089-02   | FTG-STR 10 ORB X 8 JIC    | 4   |      |          |             |     |
| 11-12                                     | 2228172    | CONNECTOR-3/8 STRAIGHT    | 1   |      |          |             |     |
| 11-13                                     | 88042-04   | CLAMP-HOSE 5/8            | 16  |      |          |             |     |
| 11-14                                     | 108035-01  | ELBOW ADJUSTABLE 3/4-16   | 2   |      |          |             |     |
| 11-15                                     | 64229-01   | LOCKNUT-NYLON 1/4-20      | 2   |      |          |             |     |
| 11-16                                     | 4121333    | PUMP-HYDRO BDP-10A-440    | 1   |      |          |             |     |
| 11-17                                     | 158058-04  | FITTING-BARB 90, ADJ      | 1   |      |          |             |     |
| 11-18                                     | 48089-03   | FTG-ST 8 ORB X 8 JIC      | 2   |      |          |             |     |
| 11-19                                     | 2692274-03 | HOSE-1/2 90 37/90 37 18.0 | 2   |      |          |             |     |
| 11-20                                     | 2690030-01 | FTG-9/16-18 ORBX3/8 BARB  | 2   |      |          |             |     |
| 11-21                                     | 2692274-05 | HOSE-1/2 90 37/90 37 22.0 | 1   |      |          |             |     |
| 11-22                                     | 2692274-04 | HOSE-1/2 90 37/90 37 25.0 | 1   |      |          |             |     |
| 11-23                                     | 64123-60   | BOLT-1/4-20 X 2 HEX       | 2   |      |          |             |     |
| 11-24                                     | 4121332    | PUMP-HYDRO BDP-10A-439    | 1   |      |          |             |     |

FIGURE 12





# ZT 100 Series

2720227

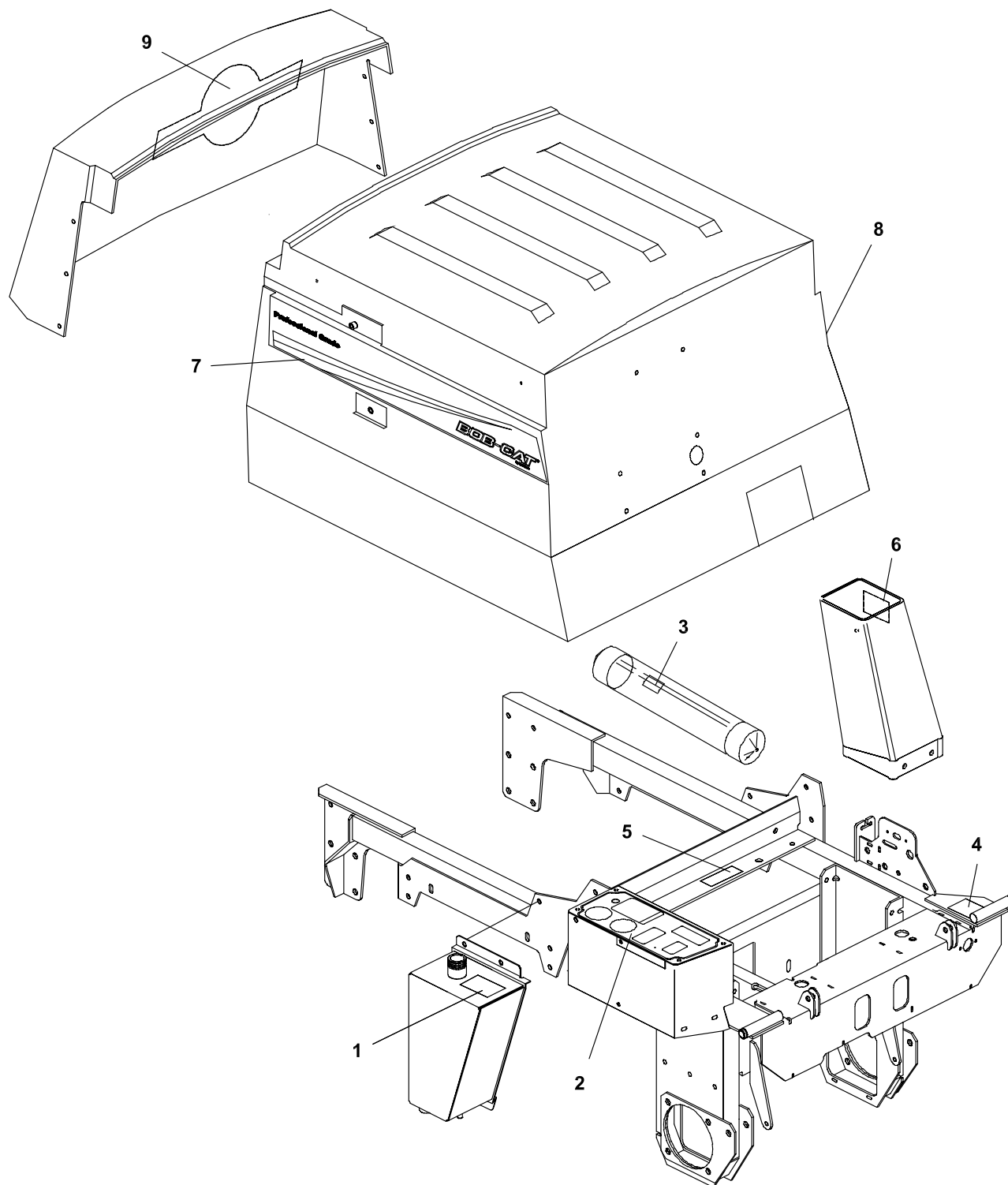
## SEAT ASSEMBLY

FIGURE 12

| ITEM | PART NO.  | DESCRIPTION              | QTY |
|------|-----------|--------------------------|-----|
| 12-1 | 198057    | SEAT                     | 1   |
| 12-2 | 64139-16  | BOLT-WLF 5/16-18X5/8     | 4   |
| 12-3 | 4126808.7 | PLATE-SEAT               | 1   |
| 12-4 | 158135-01 | SWITCH-SEAT, NO          | 1   |
| 12-5 | 64152-23  | 1/4-20X3/8 LG SP SCR     | 4   |
| 12-6 | 33138-09  | PIN-CLEVIS GRVD .38x1.31 | 2   |
| 12-7 | 64144-30  | SNAP RING .375           | 2   |
| 12-8 | 38371-01  | BRG-NYLINER 3/8          | 2   |
| 12-9 | 48228A    | CABLE CLIP-INSULATED     | 2   |

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|-------------|-----|
|------|----------|-------------|-----|

FIGURE 13



# ZT 100 Series

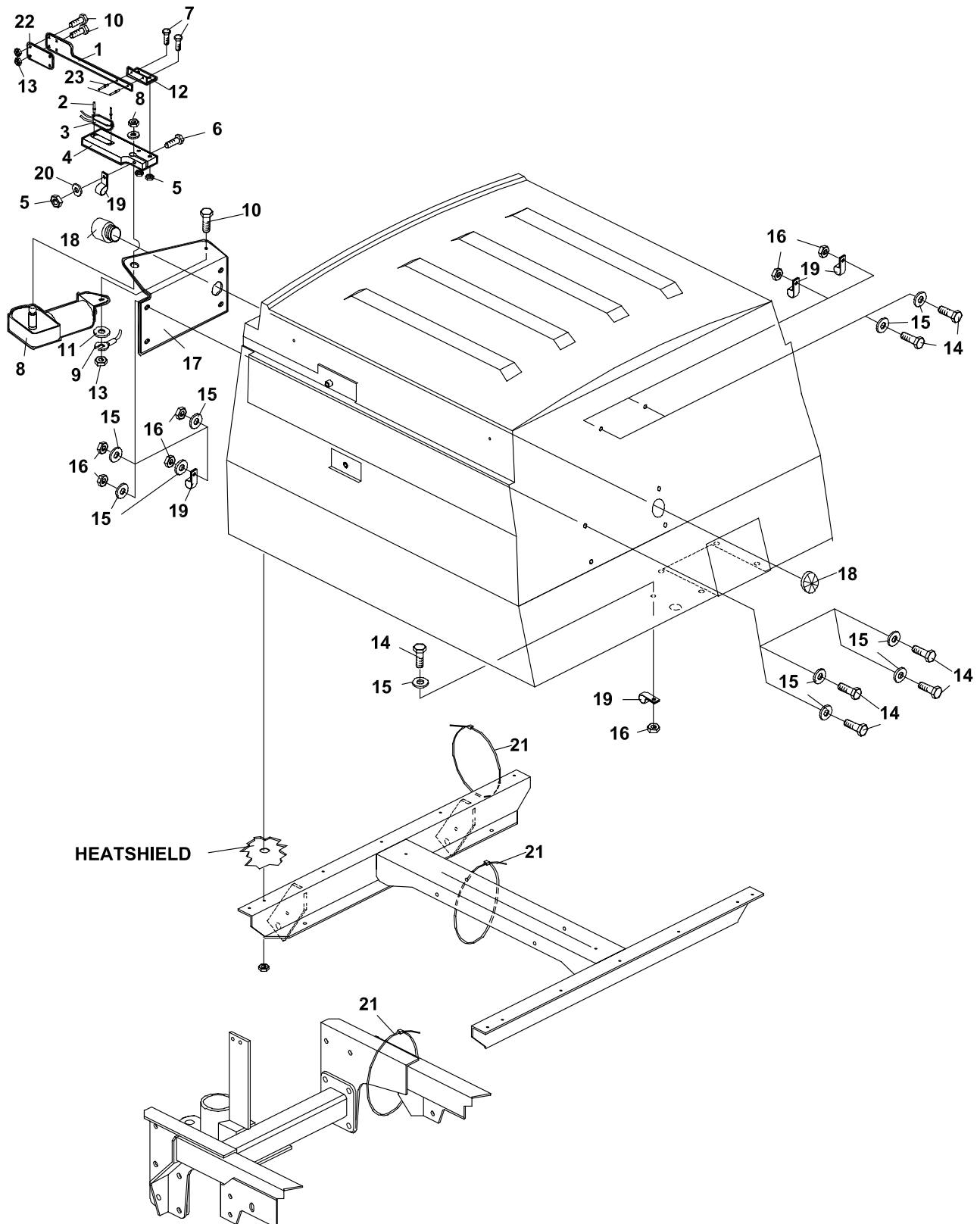
2187152

## DECALS-GRASSBOX

FIGURE 13

| ITEM | PART NO. | DESCRIPTION            | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|------------------------|-----|------|----------|-------------|-----|
| 13-1 | 2000691  | LBL - HYDR OIL FILL    | 1   |      |          |             |     |
| 13-2 | 4124228  | LABEL-CONTROL PANEL    | 1   |      |          |             |     |
| 13-3 | 2000735  | LABEL-OPER MAN         | 1   |      |          |             |     |
| 13-4 | 2000774  | LABEL-PARK BRAKE       | 1   |      |          |             |     |
| 13-5 | 2000590  | LABEL, WARN BATTERY    | 1   |      |          |             |     |
| 13-6 | 2000775  | LABEL-DANGER           | 1   |      |          |             |     |
| 13-7 | 4124317  | LABEL-GRASSBOX, RH ZT1 | 1   |      |          |             |     |
| 13-8 | 4124316  | LABEL-GRASSBOX, LH ZT1 | 1   |      |          |             |     |
| 13-9 | 4124262  | LABEL-BOBCAT DIECUT    | 1   |      |          |             |     |

FIGURE 14



# ZT 100 Series

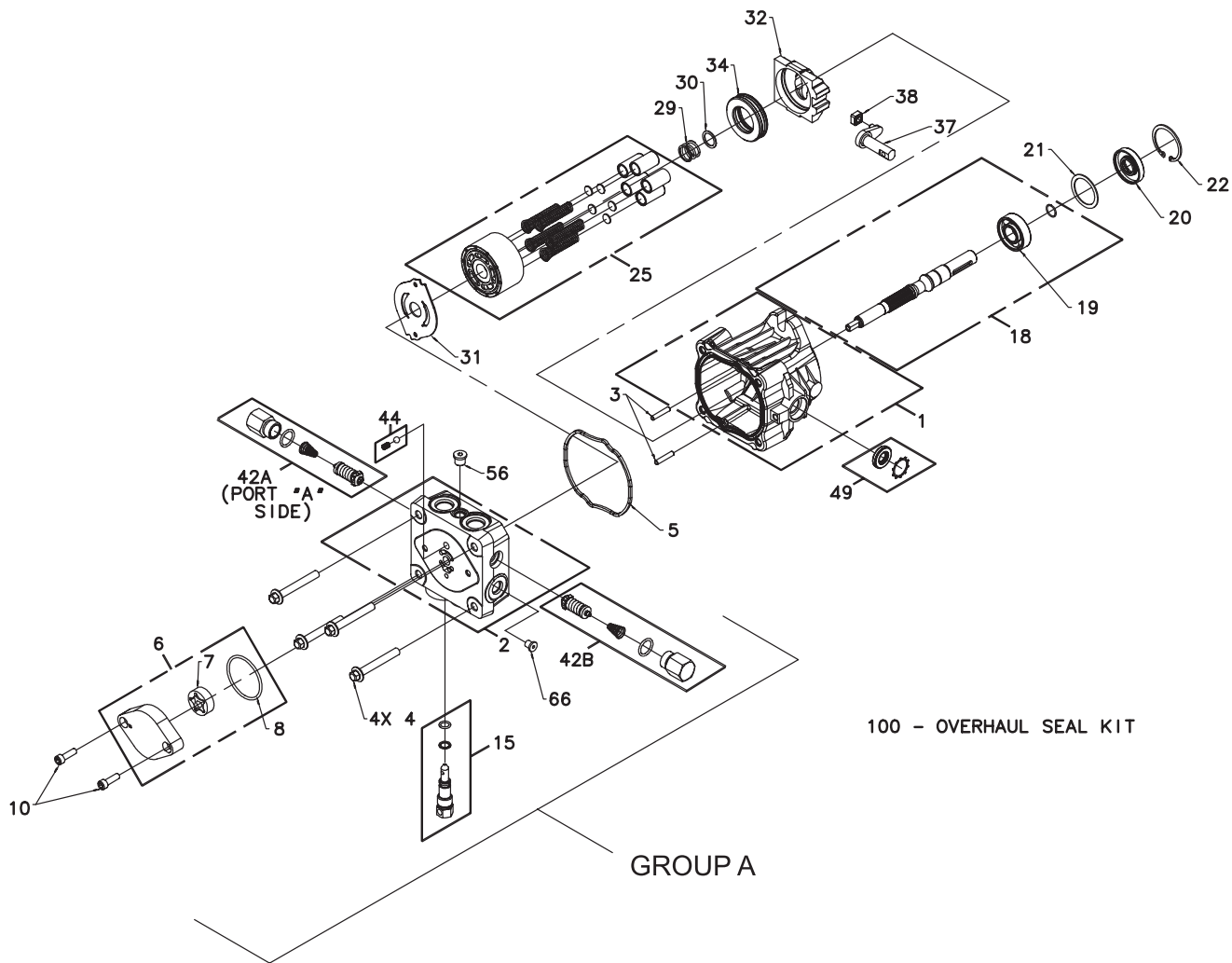
## OPTIONAL FILL INDICATOR : 970145

2187153

FIGURE 14

| ITEM  | PART NO.  | DESCRIPTION            | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|-------|-----------|------------------------|-----|------|----------|-------------|-----|
| 14-1  | 2222153   | PADDLE-FILL INDICATOR  | 1   |      |          |             |     |
| 14-2  | 64215-02  | RIVET-POP IFI# 44      | 2   |      |          |             |     |
| 14-3  | 2228057   | SWITCH-POLARITY        | 1   |      |          |             |     |
| 14-4  | 2228055   | BLOCK-MOTOR ADAPTOR    | 1   |      |          |             |     |
| 14-5  | 64229-01  | LOCKNUT-NYL 1/4-20     | 3   |      |          |             |     |
| 14-6  | 64123-60  | BLT-HEX 1/4-20X2       | 1   |      |          |             |     |
| 14-7  | 64123-114 | BLT-HEX 1/4-20X1       | 2   |      |          |             |     |
| 14-8  | 2228058   | MOTOR-WIPER            | 1   |      |          |             |     |
| 14-9  | 2228061   | HARNESS-FILL INDICATOR | 1   |      |          |             |     |
| 14-10 | 64152-46  | SCR-SLT HH 10-24X1/2   | 3   |      |          |             |     |
| 14-11 | 64002-02  | LOCKWSHR-TTH,EXT,#10   | 1   |      |          |             |     |
| 14-12 | 2222166.7 | BRACKET-PADDLE MTG     | 1   |      |          |             |     |
| 14-13 | 64025-15  | NUT-HEX #10-24         | 3   |      |          |             |     |
| 14-14 | 64123-68  | BOLT-HEX 5/16-18X1     | 7   |      |          |             |     |
| 14-15 | 64163-55  | WASHER                 | 11  |      |          |             |     |
| 14-16 | 64229-02  | LOCKNUT-NYL 5/16-18    | 7   |      |          |             |     |
| 14-17 | 2222160.7 | BRACKET-MOTOR MTG      | 1   |      |          |             |     |
| 14-18 | 2228059   | ALARM-AUDIBLE          | 1   |      |          |             |     |
| 14-19 | 48228-07  | CLIP-CABLE INSULATED   | 5   |      |          |             |     |
| 14-20 | 64163-03  | WASHER                 | 2   |      |          |             |     |
| 14-21 | 48228-3A  | CABLE CLIP 1/8         | 1   |      |          |             |     |
| 14-22 | 2222165   | PLATE-PADDLE ADJ       | 1   |      |          |             |     |
| 14-23 | 64215-04  | RIVET-POP              | 2   |      |          |             |     |
| 14-24 | 65286-4A  | TIE,CABLE 11-5/8       | 3   |      |          |             |     |

FIGURE 15



# ZT 100 Series

2722087-08

## HYDROGEAR PUMP

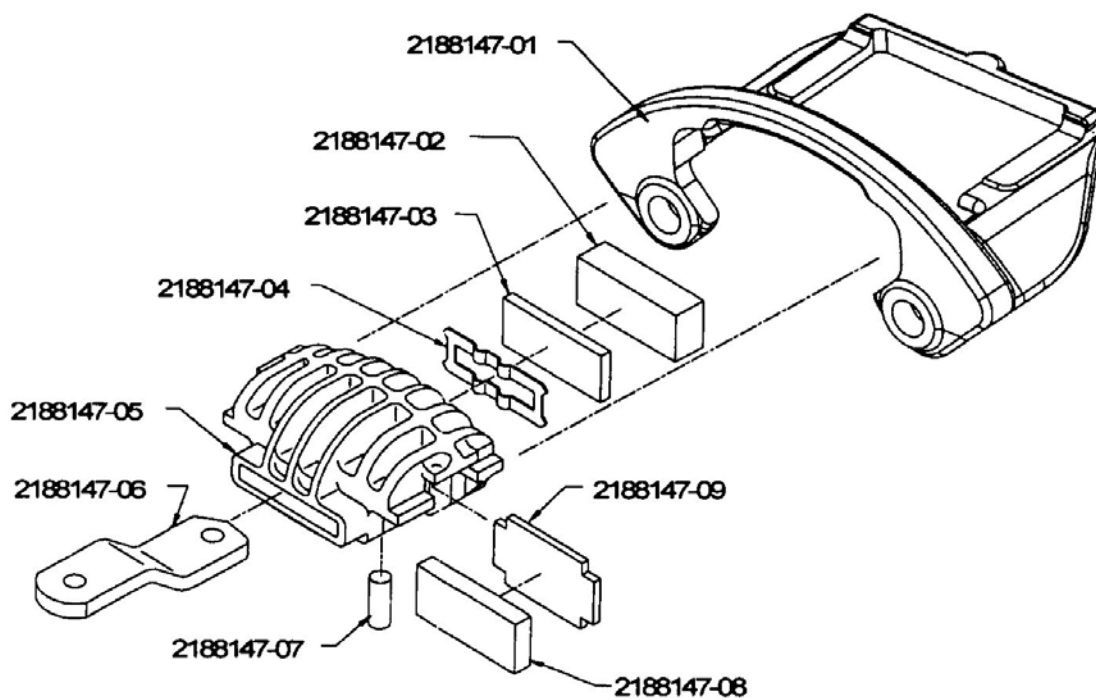
FIGURE 15

**4121332 PUMP-HYDRO LH ILLUSTRATED AS SHOWN EXCEPT "GROUP A" IS ROTATED 180° AROUND THE CENTERLINE OF THE PUMP AND THE POSITION OF "42A" & "42B" ARE REVERSED.**

**4121333 PUMP-HYDRO RH ILLUSTRATED AS SHOWN EXCEPT "GROUP A" IS ROTATED 180° AROUND THE CENTERLINE OF THE PUMP.**

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

FIGURE 16





# ZT 100 Series

2187172

## BRAKE ASSEMBLY

FIGURE 16

| ITEM  | PART NO. | DESCRIPTION           | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|---|----------|-----------------------|-----|------|----------|-------------|-----|
| SERVICE PARTS FOR 2188147 AND 2188148<br>BRAKE ASSEMBLIES |          |                       |     |      |          |             |     |
| 2188147-01  |          | BRACKET-MACHINED      | 1   |      |          |             |     |
| 2188147-02  |          | PAD-CAM SIDE          | 1   |      |          |             |     |
| 2188147-03  |          | PAD-SUPPORT           | 1   |      |          |             |     |
| 2188147-04  |          | SPRING-LEVER RETAINER | 1   |      |          |             |     |
| 2188147-05  |          | HOUSING               | 1   |      |          |             |     |
| 2188147-06  |          | CAM LH                | 1   |      |          |             |     |
| 2188147-07  |          | PIVOT PIN             | 1   |      |          |             |     |
| 2188147-08  |          | PAD-CARRIER SIDE      | 1   |      |          |             |     |
| 2188147-09  |          | PAD-SUPPORT           | 1   |      |          |             |     |
| 2188147-09  |          | PAD-SUPPORT           | 1   |      |          |             |     |
| 2188148-01  |          | CAM RH                | 1   |      |          |             |     |

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Equipment from Jacobsen, a Textron company, 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 backed by Textron Parts Xpress provide reliable, high-quality product support.



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***BOB-CAT BROUWER BUNTON CUSHMAN RYAN STEINER***