NATIONAL MOWER

The World's Best Specialty Mowers

NATIONAL®

SINCE 1919

I-TRIM

OWNER'S MANUAL

Includes Specifications, Assembly, Operation, Maintenance & Parts Lists

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INTRODUCTION

Read this manual carefully to learn how to operate and maintain your product properly. The information in this manual can help you and others avoid injury and product damage. The operator is responsible for operating this product properly and safely.

This manual identifies potential hazards and has special safety messages that help you and avoid personal injury and even death. Danger, Warning, and Caution are signal words used to identify the level of hazard. Howerver, regardless of the hazard, be extremely careful.

Danger signals an extreme hazard that *will* cause series injury or death if you do not follow the recommended precautions.

Warning signals a hazard that *may* cause serious injury or death if you do not follow the recommended precautions.

Caution signals a hazard that may cause minor or moderate injury if you do not follow the recommended precautions.

This manual uses two other words to highlight information. Important call attention to special mechanical information and Note: emphasizes general information worthy of special attention.

SAFETY

This machine meets or exceeds ANSI B71.4-1999 specifications in effect at the time of production.

Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert symbols: CAUTION, WARNING, and DANGER. Failure to comply with the instruction may result in personal injury or death.

Safe Operating Practices

The following instructions are from CEN standard EN 836:1997, ISO standard 5395: 1990, and ANSI B71.4-1999.

Training

- Read the Operator's Manual and other training material carefully. Be familiar with the controls, safety signs, and the proper use of the equipment.

- Never allow children or people unfamiliar with these instructions to use or service the mower. Local regulations may restrict the age of the operator.

- Never mow while people, especially children, or pets are nearby.

- Do not carry passengers.

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

- All drivers and mechanics should seek and obtain professional and practical instruction. The owner is responsible for training the users. Such instruction should emphasize:

  - the need for care and concentration when working with ride-on machines;

  - the owner/user can prevent and is responsible for accidents or injuries occurring to himself or herself, other people, or property;

  - control of a ride-on machine sliding on a slope will not be regained by the application of the brake or putting transmission into neutral. Some reasons for loss of control are: insufficient wheel grip, driving too fast, inadequate braking, using a machine that is unsuitable for a task, lack of awareness of the effect of ground conditions (especially slopes), and incorrect load distribution.

Preparation

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.

- While mowing, always wear substantial footwear, long trousers, hard hat, safety glasses, and ear protection. Long hair, loose clothing, or jewelry may get tangled in moving parts. Do not operate the equipment when barefoot or wearing open sandals.

- Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.

- Check that operator's presence controls, safety switches, and shields are attached and functioning properly. Do not operate unless they are functioning properly.

- Warning - Fuel is highly flammable. Take the following precautions:
  - Store fuel in containers specifically designed for this purpose.
  - Refuel outdoors only and do not smoke while refuelling.
  - Add fuel before starting the engine. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot.
  - If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

Operation

- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Operate only in daylight or in good artificial light. Stay alert for holes in the terrain and other hidden hazards.
- Before attempting to start the engine, disengage all blade attachment clutches, shift into neutral, and engage the parking brake. Only start the engine from the operator's position. Use seat belts if provided.
- Never operate with the discharge deflector raised, removed, or altered, unless using a grass catcher.
- Remember there is no such thing as a safe slope. Travel on grass slopes requires particular care. To guard against overturning:
  - do not stop or start suddenly when going up or downhill.
  - machine speeds should be kept low on slopes and during tight turns.
  - stay alert for humps and hollows and other hidden hazards.
  - never mow across the face of the slope, unless the mower is designed for this purpose.
- Watch out for traffic when crossing or near roadways. Slow down and use caution when making turns and crossing roads and sidewalks. Stop the blade rotation before crossing surfaces other than grass. Stop reels or deck blades if not mowing.
- When using any attachments, never direct discharge of material toward bystanders or allow anyone near the machine while in operation.
- Never operate the machine with damaged guards, shields, or without safety protective devices in place. Be sure all interlocks are attached, adjusted properly, and functioning properly.
- Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speed may increase the hazard of personal injury.
- Disengage drive to attachements when transporting or not in use.
- Before leaving the operator's position:
  - stop on level ground;
  - disengage the power take-off and blade rotation and lower the attachments;
  - Change into neutral and set the parking brake;
  - stop the engine and remove the key.
- Keep hands and feet away from the cutting units.
- Stop the engine and disengage drive to attachment
  - before refuelling;
  - before removing the grass catchers;
  - before making height adjustment unless adjustment can be made from the operator's position.
  - before clearing blockages;
  - before checking, cleaning or working on the mower;
  - after striking a foreign opject or if an abnormal vibration occurs. Inspect the mower for damage and make repairs before restarting and operating the equipment.
- Reduce the throttle setting before stopping engine and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of mowing.
- Keep hands and feet away from cutting units.
- Look behind and down before backing up to be sure of a clear path.
- Do not operate the mower under the influence of alcohol or drugs.
- Use care when loading or unloading the machine into a trailer or truck.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

Maintenance and Storage

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition. Replace all worn or damaged decals.
- Never store the equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduct the fire hazard, keep the engine, silencer, battery compartment and fuel storage area free of grass, leaves, or excessive grease.
- Park machine on level ground. Never allow untrained personnel to service machine.
- Check the grass catcher frequently for wear or deterioration.
- Keep all parts in good working condition and all hardware and hydraulic fittings tightened.
- If the fuel tank has to be drained, do this outdoors.
- Shut off fuel while storing or transporting. Do not store fuel near flames.

- Be careful during adjustment of the machine to prevent entrapment of the fingers between moving blades and fixed parts of the machine Use care when checking blades. Wrap the blade(s) or wear gloves, and use caution when servicing them. Only replace blades. Never straighten or weld them.

- On multi-reel or blade machines, take care as rotating one blade can cause other blades to rotate.

- Disengage drives, lower the cutting units, set parking brake and stop engine. Wait for all movement to stop before adjusting, cleaning or repairing.

- Clean grass and debris from cutting units, drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.

- Use jack stands to support components when required.

- Carefully release pressure from components with stored energy.

- Disconnect battery before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.

- Keep hands and feet away from moving parts. If possible, do not make adjustments with the engine running.

- Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

Other Riding Mower Safety Instructions

- Always follow all safety instructions to avoid serious injury or death. This product is capable of amputating hands and feet and throwing objects.

- Know how to stop the engine quickly.

- Wearing safety shoes and long pants is advisable and required by some local ordinances and insurance regulations.

- The operator must be skilled and trained in how to drive on hillsides. Failure to use caution on slopes or hills may cause loss of control and cause the vehicle to tip or roll, possible resulting in personal injury or death.

- Check the safety interlock switches daily for proper operation. If a switch should fail, replace the switch before operating the machine.

- Using the machine demands attention. To prevent loss of control:
  - Do not drive close to sand traps, ditches, creeks, or other hazards.

  - Reduce speed when making sharp turns. Avoid sudden stops and starts.

  - When near or crossing roads, always yield the right-of-way.

  - Reduce foward pedal movement when going downhill to keep forward speed slow and to maintain control of the machine.

- Do not touch the engine, muffler, hydraulic components, or exhaust pipe while the engine is running or soon after it has stopped because these areas could be hot enough to cause burns.

- Make sure all hydraulic line connectors are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.

- Keep your body and hands away from pin hole leaks or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, not your hands, to search for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate the skin and cause serious injury.

- Before disconnecting or performing any work on the hydraulic sytem, all pressure in the system must be relieved by stopping the engine and lowering the cutting units and attachments to the ground.

IMPORTANT

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– California, USA residents are required by law (CA PRC 4442 & CA H & SC 13005) to equip their engines with spark arresters when operating in flammable vegitation. Arresters must be obtained from your engine dealer and are not available from National Mower Company.

DECAL IDENTIFICATION

National has provided decals in many locations throughout the machine to aid the operator in identifying, controlling and operating the I-Trim safely and correctly. It is important that all decals are clean and visable at all times. Replace decals that are damaged, missing or accidently painted over.

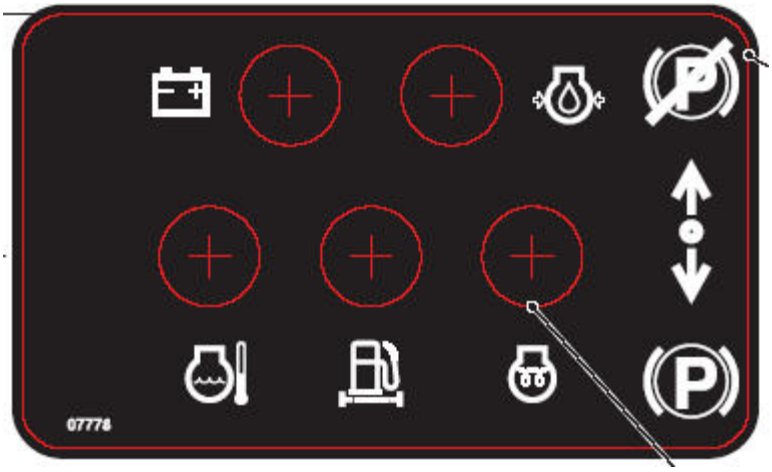
A

B

D

E

C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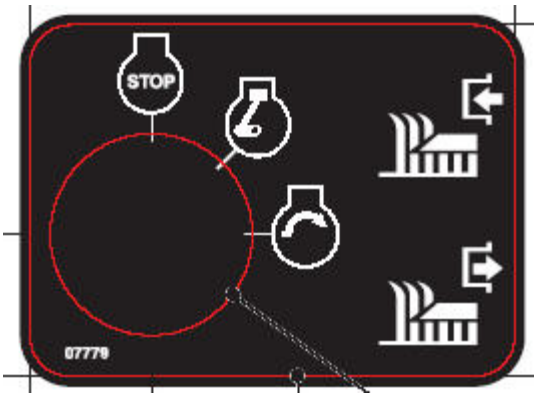
F


STOP
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G


DANGER
KEEP HANDS and FEET AWAY

I


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H


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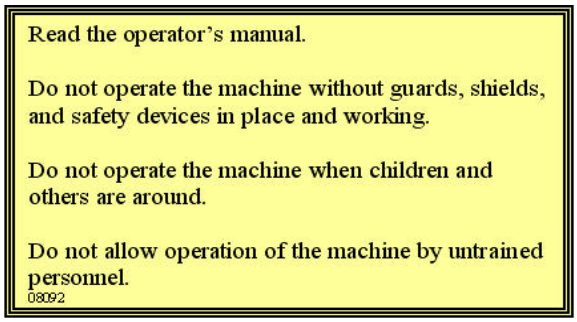
J

K

L



M

NAMES AND LOCATIONS

Item	Part No.	Description / Location
A	07792	I-Trim Model / Left and Right sides of operator panels
B	07794	Natinal Logo / Top of rear hood
C	07793	National Name / Front of steering column
D	07797	Diesel Fuel / Top of Fuel Tank
E	07796	Hydraulic Fluid / Top of hydraulic tank
F	07778	Warning light identification / Left side panel
G	07779	Key Switch and deck rotation switch / Right side panel
H	07777	Engine Speed / Left side panel
I	07411	Danger / Top of rear and wing mower decks
J	07780	Deck lift / Top of right operator panel
K	07795	Warning Decal / Top of steering column
L		I-Trim Serial Number / Right side of steering column
M	08092	Instruction Decal- ANSI / steering column

INTRODUCTION

This manual has been prepared by National Mower Company as an aid to users for set up, operation and servicing and ordering replacement parts. Additional information will gladly be furnished by calling or writing the company.

Please furnish us with the Model number, serial number and date of purchase when contacting us about your machine.

Designations of right, left, front and rear are used in the position of the operator sitting in the seat.

Metric equivalents are provided wherever possible for users outside of the United States.

RECEIPT OF SHIPMENT

Carefully inspect your machine and crates for damage that could have occured during shipment. If damages or shortages are noted, have the transportation company's representative note this on the bill of lading.

IMPORTANT

Claims for shipping damages must be noted by the consignee at the point of designation and filed with the transportation company.

1—SPECIFICATIONS

1.1—ENGINE SPECIFICATIONS

TYPE: 3 cylinder turbocharged Diesel

ENGINE MODEL: Briggs & Stratton
954 DT

HORSEPOWER: 34 hp

COOLING: Water cooled

1.2—TRANSMISSION

TRACTION DRIVE: Oilgear variable
Displacement
Hydrostatic pump

WHEEL DRIVE MOTORS: Char Lynn hydraulic motors with disc-parking brakes

1.3—STEERING

Eaton Power
Steering Control Unit

1.4—MOWER SPECIFICATIONS

FUEL TANK: 10 Gallons (38 liters)

OIL TANK: 12 Gallons (45 liters) Approx.

TIRES: Front: 16 x 6.50 - 8 (28 psi max)
Rear: 23 x 10.50 x 12 (20 psi max)

FRAME: Welded steel construction

MOWING SPEED: 0 - 7 MPH (0 - 11.3 km)

CONTROLS: Foot operated traction pedal for forward and reverse, hand operated throttle conttrol, electric valve for cutting units, and hand operated parking brake.

BATTERY TYPE: Exide Model 60 Premium
Type 78-60
12 V side post
7 3/16 (18 cm) height
6 ¾ (17 cm) width
10 1/4 (26 cm) length

1.5—CUTTING UNIT SPECIFICATIONS

CUTTING UNIT: (3) - 26" (.66m) wide decks

BLADES: (2) Right hand 26" (.66 m) wide blades
(1) Left hand 26" (.66m) wide blade

DECK MOTORS: (2) CW Hydraulic motors (Right/Rear)
(1) CCW Hydraulic motor (Left)
Rotation direction as viewed from top of deck

WIDTH OF CUT: 70" (1.778m)

HEIGHT OF CUT: 1.5" to 4" adjustment (38.1mm to 101.62mm)

1.6—LUBRICANTS

ENGINE OIL: Refer to enclosed Engine Manual

HYDRAULIC OIL: ISO 68 hydraulic grade oil.

1.7—OTHER

ROPS: Roll over protective structure meets SAE J 1194 standards

2—ASSEMBLY INSTRUCTIONS

2.1—TRACTOR ASSEMBLY

CAUTION

Handle banding material with caution. Use heavy leather gloves. Banding is sharp!

The side and rear lift arms are spring-loaded up. Take care when handeling.

1. Remove crating top, front and sides from the tractor crate. Cut banding from Roll-Over Protective Structure (ROPS) Fig A.

2. Cut banding from around tractor frame to crate base.

3. Unbolt rear deck motor from crate base and temporarily strap to rear lift arm. Leave wood spacer in place on rear lift arm to prevent damage.

3. Release parking brake and push or drive tractor off the crate. See operating instructions. Do not engage deck motors until tractor is fully assembled with decks. Re-engage parking brake.

DANGER !

Use jack stands under tractor whenever elevated off the tires.

Do not engage deck motors untill tractor is fully assembled with decks.

2.2—REAR DECK ASSEMBLY

1. Remove crating top, front and sides from deck crate. Unscrew blades from crate.

2. Remove rear deck from crate and position behind tractor as shown in Figure C. Remove roll pin and washer from attachment shaft.

3. Insert a 1/2” rod into lift arm (Fig B) to lower and line-up the lift arm with the deck bushing. Insert shaft and secure with washer and roll pin. Remove wood spacer.

2.3—LEFT/RIGHT DECK ASSEMBLY

1. Remove left and right decks from crate and position near tractor as shown in Figure D. Remove attachment bolts.

2. Hold down and line-up lift arms with decks. Attach with supplied bolts and washers. Install lift chains.

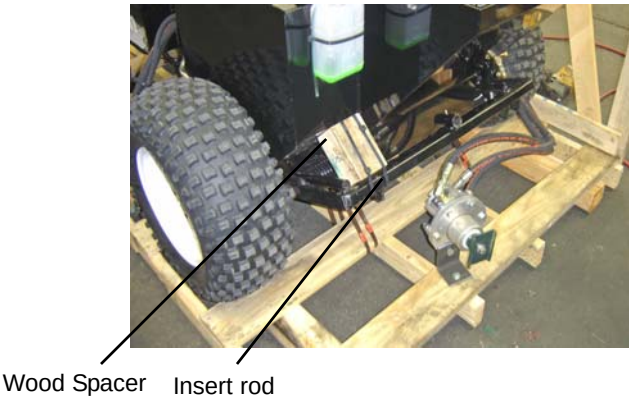


FIGURE B

FIGURE A

2.4—DECK MOTORS AND BLADES

The I-Trim is available with standard or mulching blades. The Rear/Right decks require a RH blade and the left deck uses a LH blade.

NOTE

MULCHING BLADES
Rear/Right -P/N 306245 (stamped 306245)
Left -P/N 306311 (stamped 306311)

STRAIGHT BLADES
Rear/Right - P/N 306368 (stamped 4607)
Left - P/N 306367 (stamped 6406)

Motor rotation direction is stamped on the flange of each deck motor. Rotation is clockwise (from above) on right and rear decks and counter-clockwise on left deck.

DANGER !

NEVER START TRACTOR WITH DECKS ROTATED

1. Rotate decks vertical as shown in Fig E. Install deck motors with hoses rotated as shown in Fig C and D using supplied botts and nyloc nuts. Note: install ring spacer between motor and deck.

2. Install lift chains on rear deck with supplied bolts. Note: The rear deck has a anti-flip chain with quick-release connector link to allow easy removal for HOC adjustments.

CAUTION

Make sure anti-flip chain is installed on rear deck to prevent deck from rotating during operation.

2.5—ROPS

1. Install roll-over protective structure with supplied bolts and nuts as shown on Fig E. ROPS can be installed with seat in forward position. Lower ROPS over seat and insert LH side into position. Slide ROPS to RH side and spread it slightly to clear brackets. Install with supplied fasteners.

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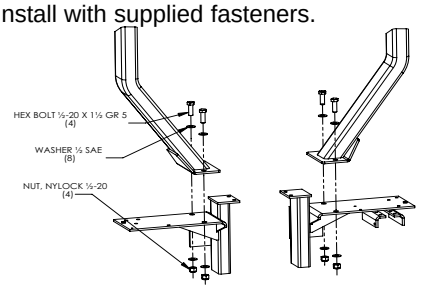

ROPS attachment points

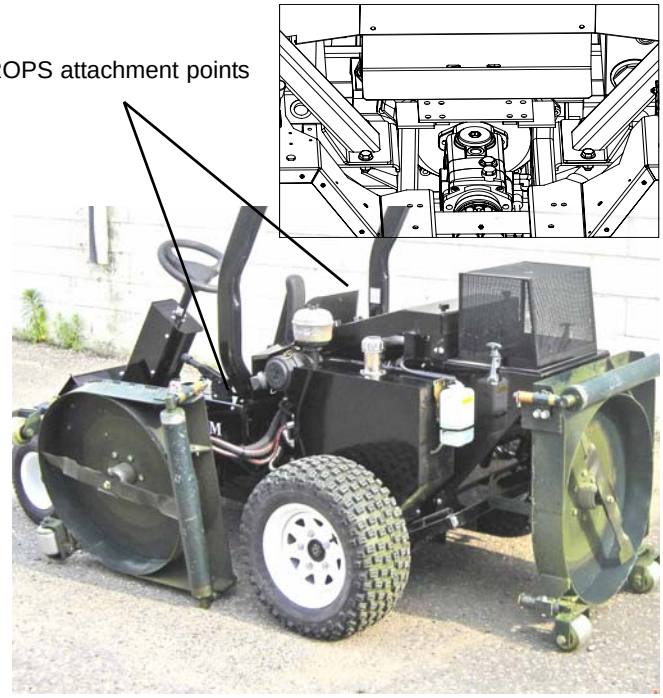

FIGURE E

Anti-flip chain

Attachment shaft and roll pin

FIGURE C

Side deck attachement bolts

FIGURE D

2.6—ENGINE CRANKCASE

Crankcase oil has been installed at the factory. However it is recommended that the engine be checked for proper oil level before starting. Refer to separate engine manual included with each I-Trim Mower.

2.7—HYDRAULIC OIL

1. The hydraulic oil has been installed in the oil tank (1, Fig. G) at the factory, however it is recommended that the oil level be check before operation.
2. Check oil level by removing pipe cap. The oil level should be at the bottom edge of the screen. If required, add a small amount of oil to the tank. and replace cap.

Recommended oil is ISO 68 Hydraulic grade oil.

2.8—BATTERY

DANGER !

Follow the battery manufacture's instructions on safety, maintenance and installation procedures.

The I-Trim is shipped with a Exide Model 60 Premium, Type 78-60. Only replace with an equivalent battery.

1. Remove rear RH wheel to replace battery. Install battery with side mount terminals facing toward engine. See Fig F.
2. Place battery hold down strap over bolts and secure with flat washers and hex nuts. Do not over-tighten.
3. Connect the red ignition wire to the positive (+) terminal of the battery. Attach the engine ground wire and frame ground wire to the negative (–) terminal of the battery.

FIGURE F

2.9—GUARD FOR DECK DISCHARGE

Each I-Trim Deck is supplied with a safety guard for the rear discharge area. These guards are supplied to prevent accidental insertion of a person's foot and need to be installed as shown in Fig. G.

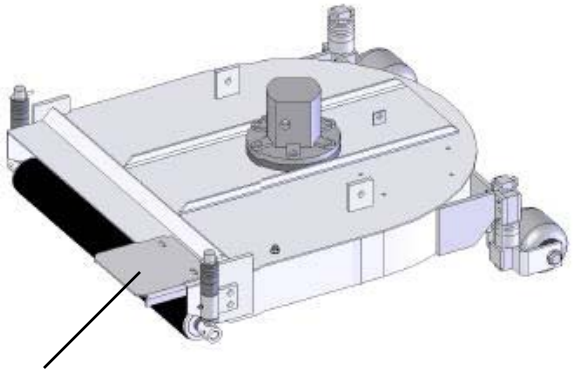

FIGURE G

2.10—SCREENBOX FOR RADIATOR

The I-Trim may be supplied with a pivoting rear screenbox as shown in Fig. H. The screenbox needs to be installed onto lower pivot brackets and secured with supplied cables and snap-latches.

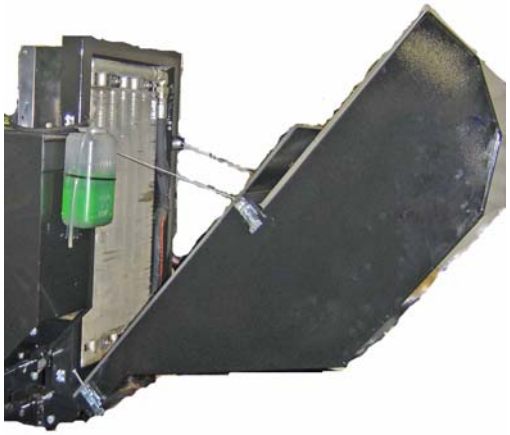

FIGURE H

3—GENERAL INFORMATION

NOTE

If adjustments are necessary see section 5.0 of the is manual for instructions.

3.1—ENGINE

Your machine is powered by a 3-cylinder Briggs and Stratton turbocharged diesel engine which uses diesel fuel. Engine speed is controlled by means of a throttle lever mounted on the dash panel.

A separate Engine Manual, prepared by the engine manufacturer is supplied. Study the manual carefully until you are familiar the maintenance, operation, adjustment and repair of your equipment. Proper attention to the engine manufacturers directions will assure maximum service life of the engine and highest operating efficiency.

3.2—TRACTION DRIVE TRAIN

Power from the engine is transmitted by direct drive to the variable displacement pump. The pump supplies hydraulic fluid to the hydraulic motors.

3.3—MOWER DECK DRIVE

Hydraulic power to the deck motors is actuated by electric switch mounted on the RH control panel. This switch actuates a solenoid valve in the deck manifold.

3.4—INTERLOCK SWITCHES

There are three safety switches on your I-Trim. They are a safety precaution, which will allow you to start your mower only when the traction pedal is in neutral, the deck motor control switch is in the disengaged position and the operator is seated on the tractor. If you are able to start your mower with the pedal or switch in any other position, adjustment of the switches may be required. After engine is started, it will continue to run if you leave the seat (as long as the deck switch is off and the pedal is in neutral).

CAUTION

Never operate the machine if the interlocks are not operating properly. Accidental startup could cause severe injury. Refer to Troubleshooting section (Sec 9).

4—CONTROLS

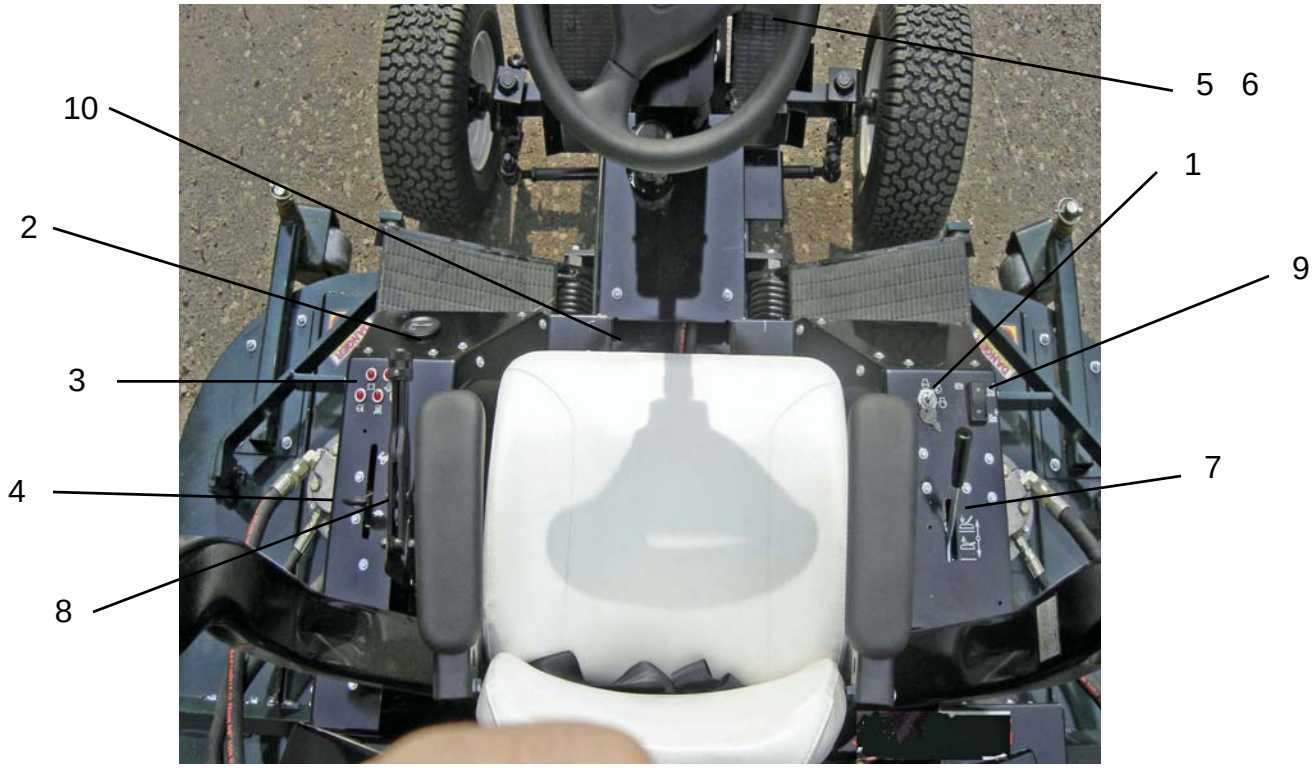

FIGURE J

4.1—IGNITION SWITCH

Insert key in switch (1, Fig.J) and turn clockwise to on position and wait until the glow plug light turns off. After light turns off, turn key clockwise as far as it will go to start engine, then release. The deck rotation control switch must be in the off position, the traction control pedal in the neutral position and a operator must be sitting on the seat before starting engine.

Do not hold key in “ON” position more than 15 second at a time.

Key should be removed when tractor is not in use to prevent unauthorized operation.

Refer to section “5.2” for complete starting information.

4.2—INDICATOR LAMPS

After engine is started, illumination of any indicator lamp will indicate a problem (3, Fig J). Stop engine and correct problem.

When Key is turned to “ON” the Battery Charging, Glow Plug ON, and the Oil Pressure indicator lamps should illuminate. After 5 seconds, the Glow Plug ON light should turn off (Fig K).

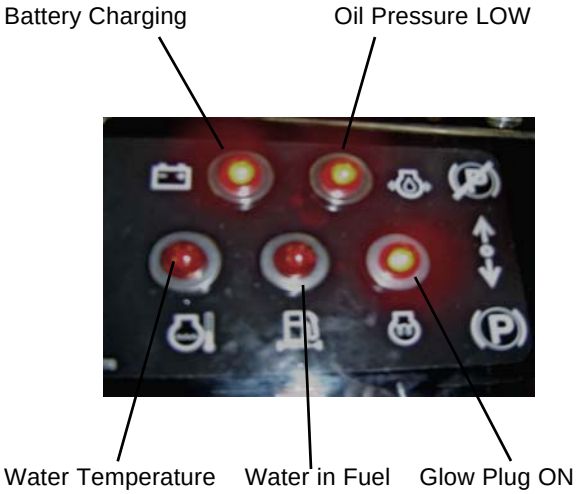

FIGURE K

4.3—HOUR METER

The hour meter (2,Fig. J) indicates the number of hours the tractor has been operated. It can be used to keep track of maintenance intervals and the amount of time required to perform various tasks. The hour meter operates whenever the ignition key is in the “on” position.

Your I-Trim Mower maybe equipped with a digital hour meter. This meter will display a signal after 5 hours and every 25 hours thereafter, recommending that you perform maintanncel and lubricate the mower. (see sec.7). The display will automaticly reset after 2 additional hours of run time.

4.4—THROTTLE LEVER

Push throttle lever (4, Fig. J) forward to increase engine speed, pull back to decrease the engine speed.

Position throttle at full throttle or slightly less for optimum power and deck speed during mowing.

4.5—TRACTION PEDAL

The traction pedal (5, Fig. J) operates the forward and the reverse direction and speed of the tractor.

Moving forward: push the forward or toe of the pedal down with the ball of your foot, to increase the forward speed.

Moving backward: push the heel of the pedal down with the heel of your foot, to increase the reverse speed.

When the traction pedal is released the machine will slow down and stop. The traction pedal must be in neutral position before mower will start.

4.6—SPEED CONTROL

The speed control (6, Fig. J) is meant to ease operator fatigue by holding the forward speed to a constant that is best suited for the present mowing conditions. The stop also prevents overloading of the pintle shaft.

Adjust the hex head bolt up or down and lock it with the lock nut to limit the pedal travel. Make sure the pintle shaft on the pump is not bottomed-out by watching the linkage deflection when pedel is all the way down.

4.7—DECK LIFT

The Deck Lift valve (7, Fig. J), will lift both wing decks and rear deck by pulling lever to rear. Pushing lever to front will lower all deck to the ground. Always lower decks for mowing and storage.

CAUTION

Do not stand on mowers when in lifted position.

4.8—PARKING BRAKE

A convenient parking brake (8, Fig. J) is located just to the left side of the operators seat.

Pulling back and over center will engage the parking brake and moving it forward, as shown, will release it. See section 6.1 for adjustments.

IMPORTANT

Always make sure brake is released before moving forward and ensure that the brake is engaged when leaving the mower. Never try to stop the forward motion of the unit with the parking brake.

4.9—DECK DRIVE CONTROL

By toggling the deck drive control switch **ON** (9, Fig. J), an electric solenoid valve is activated which engages power to the deck motors.

Pushing the switch to the **OFF** position disengages the valve. This contrtol must be in the **OFF** position before mower will start.

4.10—SEAT POSITION LEVER

The position of the seat is adjusted forward or backward by actuating the seat lever (10, Fig. J).

Releasing the lever will lock the seat at its present position.

5—OPERATION

5.1—CHECK LIST

1. Fill the fuel tank with good quality, clean, diesel with a minimum of 40 octane. Fresh fuel prevents gum from forming in the fuel system. Fill tank to 1 inch (25 mm) below filler neck. Do not overfill.

2. Check oil in the engine crankcase. It should be filled to the full mark on the dipstick. Refer to Section 1.6 in this manual for recommend oil viscosity.

3. Check all lubrication points outlined in the “Section 7.14 Lubrication” section of this manual. Check linkage for traction pedal to the pump for wear or damage.

4. Check tires for proper inflation. Refer to section 1.4 of this manual.

5. Check oil level in hydraulic reservoir. Oil level should be level with the bottom of the screen when looking into the fill neck and when unit is sitting on a level surface.

6. Check decks for desired cutting height. To provide a satisfactory cut, it is essential for all decks be accurately adjusted to exactly the same height. See 6.9 in the Adjustments Section.

OPERATING SUGGESTIONS

CAUTION

Under no circumstances should the engine be started with the operator or bystander standing next to tractor or cutting units.

1. When starting the engine, the operator must be seated on the seat, deck control switch must be **OFF** and traction pedal must be in neutral (the center position).

2. The operator should practice mowing in an open clear area, to become thoroughly familiar with the operation of the tractor.

3. Never operate the mowers when they are in the up position because of the dangers of flying objects and exposed blades.

4. Plan your cutting pattern to avoid any unnecessary stops or sharp, frequent turns. Study the area to determine the best mowing procedure. Consider the height of the grass and the type of terrain (level, hilly, or rough). Each condition will require certain adjustments or precautions.

5. Before leaving the mower, **always lower deck mowers** so that when exiting the mower and stepping on the non-skid pads of the wing mowers, it will not put excessive strain on the lift mechanism.

6. Operate at speeds which allow you to have complete control of the tractor and allow you to stop the tractor or maneuver safely in case of an emergency. It is recommended that you adjust the Speed Control (6, Fig. J), to maintain a constant pedal postion/speed and reduce the operator fatigue.

7. To obtain maximum mower life, the operator must use discretion when mowing near gravel areas (roadway, parking areas, cart paths etc.) By operating too close to overlapping gravel areas, stones maybe picked up by the mower and ejected under the deck causing wear to the blades and damage from flying objects.

5.2— STARTING THE ENGINE

1. Sit in operators seat.

2. Place deck control switch in the “OFF” position (9, Fig J).

3. Place the traction pedal in “Neutral” position (5, Fig J).

4. Engage parking brake (8, Fig J).

5. Insert ignition key, turn clockwise to “run” position and wait until the glow plug ON light turns off. Turn key clockwise to “start” and release key when engine starts. Do not hold key in “start” position for more than 15 seconds or damage to the starter may result. If engine does not start within this time, release the key and wait for a few minutes before trying again.

5.3—DRIVING THE TRACTOR

1. Position throttle at full throttle or slightly less for optimum power and deck speed.

2. Release parking brake (8, Fig. J).

3. Moving forward: Push the toe of the traction pedal forward with the ball of your foot, to increase the forward speed .

4. Moving backward: Push the heel of the traction pedal in with the heel of your foot, to increase the reverse speed.

5. To return traction pedal to neutral, rock pedal with foot until pedal stops. The pedal will stay in neutral when you remove your foot.

CAUTION

To avoid possible loss of control and/or serious bodily injury, avoid abrupt chages in the tration pedal position. Reduce speed on slopes, rough terrain, and in sharp turns to prevent tipping or loss of control.

5.4—MOWING OPERATION

1. Check the turf area for debris that would cause damage to the decks. Never operate the decks when they are in the UP position because of the danagers of flying objects and exposed blades.

2. When cutting large areas, the most satisfactory method is to first cut the outer area and then mow clockwise toward the center. The next time you cut, it is advised that you mow in the opposite direction to prevent grass matting.

3. Cutting speeds are governed by conditions of turf, type of terrain and opstacles to be encountered. Operate tractor at slow speeds when turning.

5.5—MOWING

1. Stop tractor, by releasing the traction pedal, then slowly lower the mower units (5, Fig.J) and (7, Fig. J).

> CAUTION
>
> **Dropping mower decks abruptly could damage them. Always check for bystanders before lowering.**

2. Engage deck control switch (9, Fig. J) to the **ON** position.

3. Depress traction pedal to the desired speed (sections 4.6 and 4.7). Deck speed is constant and ground speed is variable with the traction pedal. Do not try to regulate ground speed with engine throttle (section 4.5).

5.6—HILLSIDE OPERATION

The I-Trim has been designed for good traction and stability under normal mowing conditions. However, caution must still be used during slope operation, especially when the grass is wet. Wet grass limits traction and steering control.

In order to minimize the possibility of tipping, the least dangerous method of operating on hills and terraces is to travel horizontally to the hill. It is also advisable to avoid any unnecessary turns while operating on hills. Use extreme caution and travel at reduce speeds.

1. When operating on hillsides or slopes, maintain full engine speed, but let up on the traction pedal as power requirements increase. This will maintain the performance necessary.

2. It is best to mow along the side of the hill, starting at the bottom and working upwards. This allows the machine to negotiate the slope without mowing in a downhill direction.

3. It is essential for the correct tire pressure to be established for maximum traction and hillside holding.

5.7—PUSHING OR TOWING INSTRUCTIONS

The I-Trim should not be pushed or towed with the engine not running. If needed, the I-Trim can be pushed or towed at slow speeds for very short distances without starting the engine. Do not exceed 2 mph while pushing or towing.

A screw-adjustable valve is located on the underside of the pump for towing. Note: Do not exceed 2 mph while pushing or towing. Loosen the lock nut and turn the screw CCW to release pressure. After towing, tighten the screw by turning CW and lock into place with the locknut.

5.8—AFTER OPERATION

1. Clean the entire mower after use. Remove loose grass clippings and caked grass to prevent clogging the vented areas, lubrication points, and corroding parts.

2. The engine is water cooled. Do not permit dirt or grass clippings to accumulate on the air intake screen, engine or radiator/oil cooler to prevent serious heat damage to the engine,or hydraulic pump.

3. If fan blades become damaged, replace the fan.

5.9—CLEANING RADIATOR AND OIL COOLER

1. If grass clippings become trapped in radiator and oil cooler, use compressed air from fan side to blow them out. The screenbox can tilted back for cleaning by loosening quick-latches (Sec. 2.10 or Fig. H below).

2. If grass clippings become trapped between radiator and oil cooler, the oil cooler can be tilted back for cleaning (Fig M). Be careful not to damage the fins on the radiator and oil cooler during cleaning.

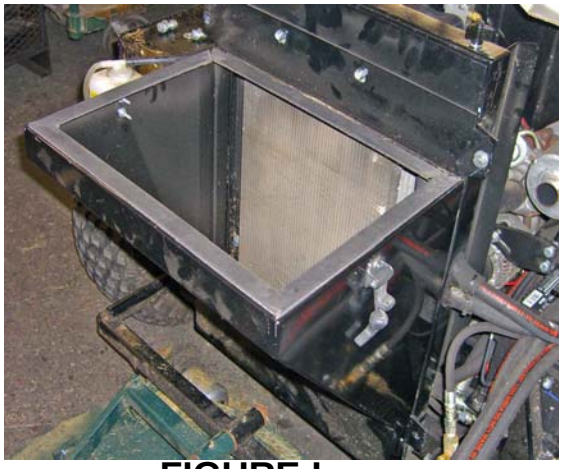

FIGURE L

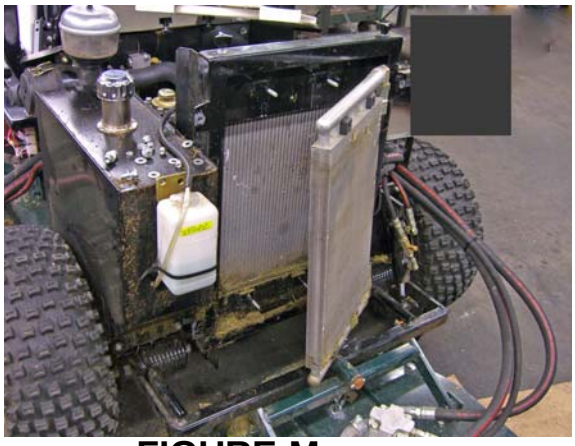

FIGURE M

6—ADJUSTMENTS

Read each instruction completely and, make sure you understand it before making any adjustments. Follow all the safety precautions.

DANGER !

To avoid possible serious injury, before making any adjustments or performing maintenance, engage parking brake, place all tractor controls in neutral, lower decks to the ground, turn ignition switch "off" and remove key.

6.1--TRACTION PEDAL ADJUSTMENTS

The traction pedal (1, Fig.M) is equipped with a safety switch (2, Fig. M) and a neutral centering device. The switch prevents the engine from starting when the pedal is positioned in reverse or forward. The centering device locates neutral positioning of the pump.

1. Prior to adjusting for creep, elevate the wheels off the ground and support the vehicle with jack stands. Any adjustments should be done while the hydraulic oil is warm.

2. To adjust the creep of the drive wheels, loosen the fastener attaching the clevis to the control arm. Rotate the clevis and re-atach to achieve neutral.

3. Once the traction pedal has been adjusted, the safety switch (2, Fig. M) should not have to be re-adjusted. Check neutral switch operation before use. If needed, adjust the switch so that the engine cannot be started unless the pedal is in the neutral position.

6.2—PARKING BRAKE ADJUSTMENT

The parking brake should be set so that it holds the tractor securely. The parking brake must be released before the traction pedal is engaged.

1. Adjust the brake by loosening set screw in the brake knob and turning knob clockwise to tighten, or counterclockwise to loosen, then retighten set screw.

2. After making any adjustment check brake on flat ground, so that the tractor will not move with brake engaged.

3. Further testing by putting tractor on a hill, leaving the engine on and engaging park brake. and then test with the engine off.

6.3—GROUND SPEED CONTROL

The I-Trim does not have an adjustable ground speed control. See Section 4.7 for pedal adjustment.

6.4—REAR MOWER LIFT

The rear mower lift height has been preset at the factory and normally will not need to be adjusted. The I-Trim may be fitted with a needle valve on the rear lift cylinder. Turning the needle valve CW will slow the lift and lowering speed of the rear deck. Always lock the adjusment knob down when done adjusting.

6.5—HEIGHT OF CUT ADJUSTMENT

1. To set the height of cut, lift the deck to a vertical position (Fig. O). Remove linch pins and assemble spacers (1 Fig. 0) to set height of cut desired. Loosen side attachmement bolts of rear roller if needed to slide rear roller out (2 Fig. O). Min HOC is 1.5" with no spacers under the roller attachment shaft. Max HOC is 4"

IMPORTANT

Rollers must be adjusted to the same height so that there will be uniform cutting the entire width of the mower.

DANGER !

To avoid possible serious bodily injury, before performing and adjustments, maintenance, or lubrication, place all controls in "neutral", lower the mowers to the ground, engage parking brake, turn ignition switch off and remove key.

Use heavy gloves and be careful. Blades are very sharp.

2. Make sure adjustment nuts are tight before mowing.

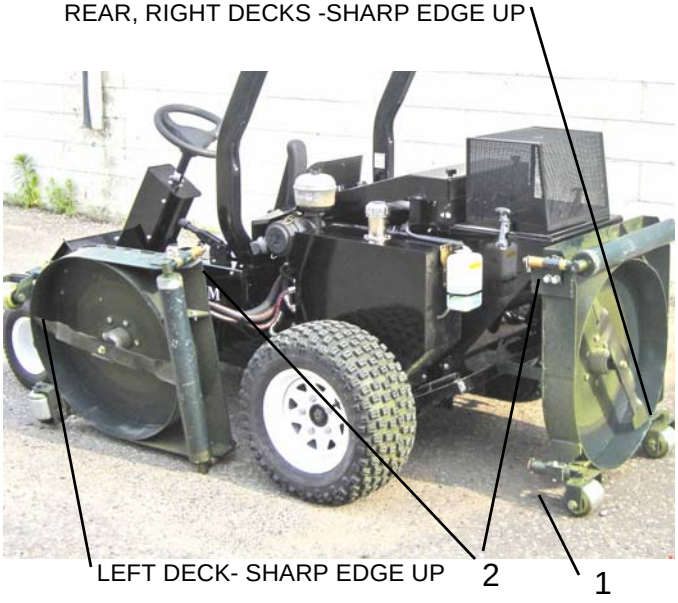

FIGURE O

6.6—BLADE REPLACEMENT PROCEDURE

Replace blades with factory blades only. Standard discharge blades and mulching blades are available. Note: The Rear and Right decks use the same blade (RH). The Left deck uses a LH blade.

DANGER !

Be extremely careful not to let tools, your fingers or clothing get caught in the blades. Use approved safety glasses to protect eyes from flying particles and abrasives.

NEVER START ENGINE WITH DECKS ROTATED UP AND NOT IN A HORIZONTAL POSITION.

1. Loosen 1/2-13 Grade 8 bolts and remove blades. Install new blades as shown in Fig. O. Make sure cutting edge is closest to ground and correct blade is on each deck.

2. Install bolts and torque to 98 ft-lbs. If needed, replace

7—MAINTENANCE

DANGER !

To avoid possible serious bodily injury, before performing and adjustments, maintenance, or lubrication, place all controls in "neutral", lower the mowers to the ground engage parking brake, turn ignition switch off and remove key.

7.1—GENERAL MAINTENANCE

The long trouble free life of your machine depends on the maintenance it receives. Set-up a maintenance program for your I-Trim to cover the following points:

Keep tractor and decks clean
.
Keep all moving parts properly lubricated (sec. 7.14).

Keep all parts properly adjusted.

Inspect for loose, worn or damaged parts.

Keep shields in place at all times.

Keep tires properly inflated.

If your inspection reveals worn or damaged parts replace these parts before operating machine or before actual breakdown occurs.

DANGER !

To avoid injury from hot, high-pressure oil, never disconnect hydraulic hoses with attachments in up position. Never rub hands across tubes, hoses or fittings to check for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate the skin.

7.2—ASSEMBLY AND DISASSEMBLY

Use the illustrations in the parts catalog as reference for disassembly and assembly of components. Always maintain relative position of parts when disassembling. Clean and lubricate individual parts and components as required.

7.3—BATTERY

1. Make certain the ignition switch is in the "off" position and the keys have been removed.

2. Refer to section 1.4 in this manual for battery specifications.

DANGER !

Always wear protective glasses or goggles and protective clothing when working with batteries. Always connect the "ground" (black) cable last and remove it first whenever performing any maintenance.
Batteries contain sulfuric acid and generate explosive mixtures of hydrogen and oxygen gases. Keep any device, which may cause sparks or flames away from the battery to prevent explosions.
Read and follow the battery manufacture's instructions on safety, maintenance and installation procedures.

3. When the battery is being installed or removed make sure that the positive and negative terminals do not come in contact with metal tractor parts at the same time or severe damage may result.

4. Battery connections must be kept clean and tight at all times. Loose cables will cause eventual battery failure. Keep terminal covers in place.

5. Use soap and water to clean the battery as required. Care must be taken to prevent soap and water from getting inside battery.

6. Clean the terminal contact surfaces with a battery terminal brush or steel wool.

7. Tighten cables securely to battery terminals.

8. Apply a light coat of petroleum jelly or chassis lubricant to terminals and cable ends after assembly to prevent corrosion.

7.4—CHARGING A BATTERY

DANGER !

To avoid possible injury, stand away from battery when charger is turned on. A damaged battery or a battery with an internal short could explode

Charge battery ONLY in a well verted location, away from sparks or open flame.

1. Remove the battery from the tractor before charging.
2. Be sure charger is “off “.
3. Connect charger leads to battery. Connect the positive (+) connector from the charger to the positive battery terminal. Connect the negative. (–) connector of the charger to the negative battery terminal.
4. Charge the battery using one of the methods shown below. Follow the manufacturer’s instructions on the charger.
5. If when charging the battery, if violent gassing or spewing of electrolyte occurs, or the battery case feel hot (125*F - 52C), reduce or temporarily halt charging to avoid damaging battery.
6. Always turn charger to “off” before removing a charger lead from the battery.

7.5—BELTS

There are no belts on the I-Trim.

7.6—ENGINE FUEL FILTER

Before servicing the fuel filter, thoroughly clean outside of filter housing and fuel hoses, dirt must not be allowed to enter into fuel or fuel system. Refer to manufacturer’s Engine Manual for instructions.

7.7—ENGINE

Refer to manufacturer’s Engine Manual for maintenance schedule recommendations**.** Change oil and oil filter after the first 50 hours of operation.

7.8—ELECTRICAL SYSTEM

Make certain all terminals and connections are kept clean and properly secured.

1. Check switches regularly to be sure they are kept clean and operating correctly
2. Keep wire harness and all individual wires away from moving parts, hot parts, or sharp edges. this will prevent abrasive wear or potential short circuits.
3. Exercise extreme care when working with electrical system.

7.9—HYDRAULIC HOSES

DANGER !

To avoid serious bodily injury, always lower mowers to the ground, place all controls in neutral and shut off engine before inspecting hydraulic lines or hoses. Never run hands across tubes, hoses or fittings to check for leaks.

Hydraulic hose and tube lines should be inspected every week to check for cuts, loose connections, kinks and wear.

Be sure tubes and hoses do not come in contact with other frame parts which could cause abrasive wear. Always replace worn hoses or tubes before operating machine.

1. Assemble nut, sleeves and tube to fitting body with minimum torque (finger tight) until flare contacts seat on fitting body.
2. For tightening reference, mark a line lengthwise on both the nut and adapter fitting with a marker.
3. Using a wrench, rotate the nut to tighten. Turn the nut the amount shown in the chart below. The line will show which fitting have been tightened and how much.
4. On hoses with “o-ring” fittings, make sure o-rings are clean and hose fittings are properly seated by hand before wrench tightening.
5. Hold the fixed portion of the hose coupling with one wrench; use a second wrench to tighten or loosen the hose nut. This will prevent damage to the fitting seal. When tightening a hose, do not allow it to twist; hold it in a normal, straight position.

Tube O.D. or hose,	Rotate Number. of flats
3/8”	2
1/2”	2
5/8”	1-1/2 to 2
1”	3/4 to 1

7.10—HYDRAULIC OIL

1. The oil level should be checked if any oil leaks are dicovered. Oil level should be brought to decal mark on the side of the oil tank.
2. Park the tractor on a level surface.
3. Oil should be at 60° F to 90° F (16 – 32 °C), when checking level. Do not check level when oil is hot.
4. Drain and replace the hydraulic oil every 200 hours. Use ISO 68 Hydraulic grade oil. Replace both hydraulic filters every 200 hours.

   The oil should be changed after a major component failure, or if you notice any of the following.

   - Present of water - (noted by a cloudy or milky appearance)
   - Present of air - (noted by foaming)
   - Excessive heat - (noted by rancid odor)

5. To drain hydraulic oil tank, remove the drain plug in the back of the hydraulic tank.
6. Reinstall drain plug and fill hydraulic tank until the oil is evel with the bottom of the screen in the fill tube. Use only filtered hydraulic oil. The total hydraulic system oil capacity is approx. 10-12 gallons.
7. Jack up rear tires so they spin freely.
8. Start engine; operate the traction pedal and turn steering from right to left to free the system of air. Recheck oil level.

7.11—HYDRAULIC OIL FILTERS

To prevent damage to the hydraulic system, the hydraulic oil filters (located under right fender and under steering column shroud) should be changed after the first 25 hours of operation and every 200 hours thereater.

1. Remove the old filter
2. Install new filter, filling filter with oil before re-installing. Apply oil to the O-ring of the filter prior to installation. Hand tighten only.
3. Run engine at idle speed with hydrostatic pump in neutral for five minutes.
4. Check hydraulic oil level and add oil if necessary. Frequent checks of oil level in the hydraulic tank. Should the pump run short of oil, immediate and perma nent damage will result

7.12—JUMPER CABLES

The battery on the I-Trim is located at the rear of the tractor, See.

1. Stop the engine on the vehicle with the good battery.
2. Connect one jumper cable to the positive terminal on the good battery. Connect the other end of the jumper cable to either the positive terminal on the dead battery or the battery side of the solenoid located on the right front of the engine.
3. Connect one jumper cable to negative terminal on dead battery. Connect the other end to ground (frame) of vehicle with the good battery.

7.13—DECK BLADE REPLACEMENT

When the deck blades become damaged or too worn to keep sharp, they must be replaced. Follow the procedure below.

1. See Section 6.13 for instructions to replace deck blades.

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7.14—LUBRICATION

Figure U shows the top view of the I-Trim with guards removed. Lubricate your tractor at the recommended locations and intervals using proper lubricants so that maximum service and long life of the machine may be obtained.

Your I-Trim Mower maybe equiped with a digital hour meter. This meter will display a signal after 5 hours and every 25 hours thereafter, recommending that you change engine oil and lubricate the mower.

CAUTION

Before doing any work on your machine, stop the engine, remove the ignition key and set parking brake.

SYMBOLS

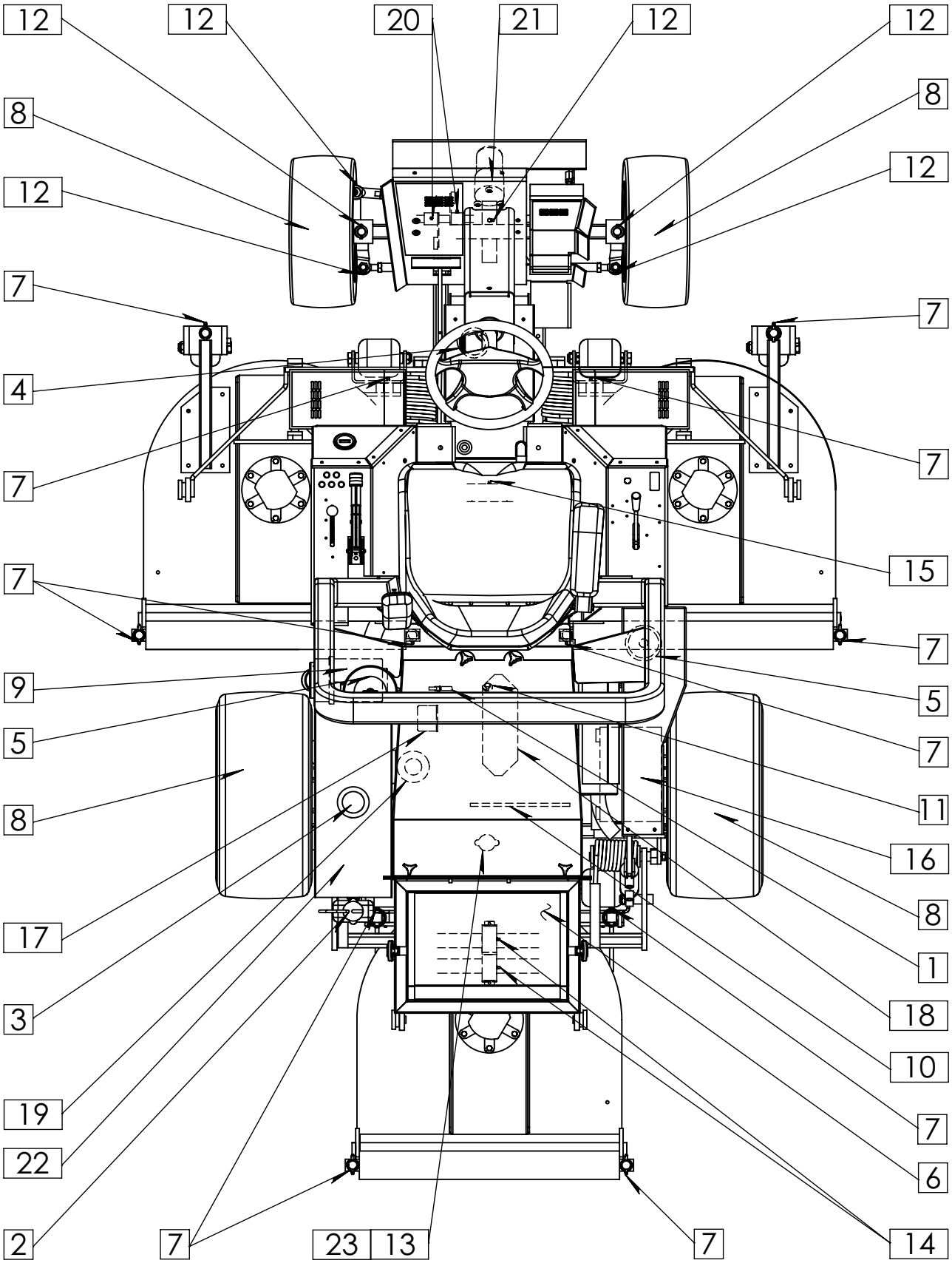
□ GREASE - Lithium base or equivalent

○ OIL - Light machine oil

FIGURE U

Item	Fre-quency (Hrs.)	Location	Type of Lubrication	No. of Places
1	Daily	Dipstick / left side of Engine	Check level	1
2	Daily	Radiator Reservoir Bottle	Check level	1
3	Daily	Hydraulic Tank	Check level	1
4	Daily	Fuel Tank	Check level	1
5	Daily*	Pre-Air Filter	Inspect/Clean	1
6	Daily*	Screenbox, Radiator Fins/ Rear	Inspect/Clean	1
7	Weekly	Height Adjustment Shaft Housings	Grease, Lithium	12
8	Weekly	Tires	Check Pressure	4
9	Weekly	Hardened Bushines/Deck Lift Arms	Light Machine Oil	10
9	100/600**	Air Filter Element / Left side of Engine	Inspect, Replace as Nec.	1
10	100	Fan Belt / Rear of Engine	Inspect, Adjust	1
11	150**	Drain Plug / Underneath Engine	Change Oil	1
12	Monthly	Front Axel - Rod Ends, King Pin.pivot	Grease, Lithium	6
13	Monthly	Radiator / Rear of Engine	Check coolant level cold	1
14	Monthly	Rear Lift Pivot / Above Rear Deck	Grease, Lithium	2
15	Monthly	Lift Shaft Bushings / Under Seat	Grease, Lithium	1
16	200	Battery / Right Side of Engine	Check Electrolyte	1
17	300**	Canistor / Left Side of Engine	Change Oil Filter	1
18	600	Rocker Arms / Top of Engine	Check Valve Clearance	1
19	800	Fuel Filter / Left side of Engine	Replace	1
20	Yearly	Pedal Shaft Bushings / Behind Bumper	Grease, Lithium	2
21	200***	Hydraulic filters (2)/RH shroud,steering	Replace	2
22	200*	Hydraulic Tank / To Left side of Engine	Drain, Flush, Refill	1
23	Yearly	Radiator, Engine Block	Change Coolant	1

* More often as necessary
** Perform first maintenance operation after 50 hours. All subsequent maintenance performed at this interval. Service more often when operating under heavy load or in high termperature.
*** Perform first change of hydraulic filters at 25 hours. All subsequent replacements at 200 hours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8—STORAGE

8.1—GENERAL INSTRUCTIONS

When you do not plan to use your vehicle for some time, it should be stored in a dry and protected place. Unnecessary exposure to the elements may deteriorate its appearance and shorten the usual service life.

8.2—ENGINE

1. Drain the fuel from the fuel tank.

2. While the engine is still warm, change oil. Refer to Engine Manual for manufacture's instructions.

3 Remove glow plugs and pour about 3cc of engine oil into each cylinder. Replace glow plugs and crank slowly to distributre oil.

4. Clean exterior of engine. Paint the exposed metal or coat it with a light coating of rust preventative oil.

8.3—BATTERY

1. Remove battery and clean it. Refer to manufacturer's manual for specific instructions.

2. Maintenance free batteries should be stored in an upright position in a cool dry place. Storage above 80° F greatly increases self-discharge. If wet batteries are discharged, the electrolyte will freeze when stored below 20° f (-7 °C)

IMPORTANT

The battery should be checked every 60 to 90 days while in storage, and should be recharged if necessary.

8.4—TRACTOR

Wash, clean and completely lubricate the tractor. Paint any exposed metal.

8.5—TIRES

1. Before storing the vehicle, clean the tires thoroughly.

2. Jack up the vehicle so that the load is off the tires. If it is not jacked up, check the tires at regular intervals and re-inflate as necessary to keep them at the recommended maximum pressure. (Indicated on tires side wall)

3. Store the vehicle so that the tires are protected from sunlight.

8.6—STARTING THE ENGINE AFTER STORAGE

If mower is cold, move the mower to a heated location and allow it to come to room temperature(70° F - 22 °C) before starting. This will prevent premature wear of hydraulic system components.

Follow the towing procedure (in Sec. 5.8).

1. Check and recharge the battery according to recommendations given in Section 7.4 page 22.

2. Reinstall the battery

3. Check oil level in crankcase and hydraulic oil tank.

4. Fill the fuel tank with fresh diesel fuel. Prime fuel filter by pushing down and releasing until firm.

5. Before driving the vehicle, check to make certain that the tires are properly inflated to the proper pressure.

6. Either move the vehicle outdoors or keep doors and or windows wide open to provide sufficient ventilation before starting engine this will prevent danger from carbon monoxide gas in the exhaust.

7. Start the engine but do not operate at high speed immediately after starting. Allow time for it to become properly warmed and lubricated.

9—TROUBLE SHOOTING

DANGER !

To avoid possible serious injury, before making any adjustments or performing maintenance, place all controls in neutral, fully lower cutting units to the ground, turn ignition switch to "OFF", remove key and set parking brake.

ENGINE WILL NOT START

The operator must be seated.

Check position of controll switch (on dash). Switch must be in the OFF position.

Check to see that the traction pedal is in neutral. (neutral is in the center position).

Check all safety switches for conductivity. See Electrical System diagram, Fig. 11, Page 48. Replace switches if necessary.

Check fuel in tank

Check battery. Check charge level, charge or replace as needed. Clean battery terminals if necessary.

Check electrical wiring and safety switch operation.

TRACTOR WILL NOT MOVE

Check that parking brake is not engaged.

Check the linkage from the traction pedal to the pump control mechanism to ensure complete attachment of all linkages.

DECKS WILL NOT TURN

Check for debris jammed between the blade and deck platform.

9.1—ADVANCED TROUBLE SHOOTING PROCEDURES

VEHICLE PREPARATION FOR DIAGNOSIS AND COMPONENT IDENTIFICATION

1. MAKE WORK AREA SAFE:

   Make sure personnel in the area are out of harms way if the engine starts or the decks run unexpectedly. Engage the vehicle parking brake.

2. READ MANUAL:
   Become familiar with wiring diagram and the locations of the various electrical components.

3. DISCONNECT HOUR METER BEFORE REMOVING SIDE COVER:
   It may be necessary to remove both side covers, rear cover and hood to give access to battery, ignition switch, circuit breaker, blade run switch, circuit board and other electrical components. It may also be necessary to remove the front bumper cover to gain access to the neutral pedal switches.

4. CHECK BATTERY:
   Make sure battery is in good condition and fully charged.

5. CHECK BATTERY CABLES:
   Check battery cables for tightness at both battery and engine.

6. CHECK GROUND STRAP:
   Check ground strap for tightness and condition.

7. DECK RUN SWITCH OFF:
   Put deck run switch in the off position.

8. RESET CIRCUIT BREAKER:
   The circuit breaker has a reset button. Reset circ uit breaker after checking for a short or grounded wire downstream of the circuit breaker.

9. SAFETY INTERLOCK BOARD (SIB):
   The ITrim is equipped with an integrated circuit board designated as the Safety Interlock Board (SIB). The SIB controls the vehicle starter cranking, engine run and deck run circuits and the indicator lights.

   The starter motor won't crank unless the following conditions are met:
   a. Operator must be sitting in the seat.
   b. Foot Pedal must be in neutral position.
   c. Deck Switch must be off.

   If the operator gets up off the seat the engine will continue to run if the following conditions are met:
   a. The foot pedal is in neutral position.

   The deck switch is off.

PROBLEM: STARTER WON'T CRANK - with pedal in neutral position, operator in seat and deck run switch in off position.

1. Using a test light, check for power to the start relay, terminal 87 when the ignition switch is turned to the start position.

   If test light doesn't come on at start relay, terminal 87:
   1. With a test light, work back from the start relay, checking for power at the ignition switch, circuit breaker and positive battery post on the starter solenoid.
   2. Replace defective components or repair wiring.

   If test light comes on at start relay, terminal 87:
   1. Remove contact terminals, terminals 87 and 30, from start relay.
   2. Connect the contact terminals together with a temporary jumper made with spade terminals and 10 GA wire.
   3. Turn the ignition switch to the start position.

If engine doesn't crank:

1. With a test light, check for power at plastic connector on the starter solenoid while an assistant turns the key.

   If test light doesn't come on:
   The problem is in the wiring or terminals between the start relay and the starter solenoid.

   If test light comes on:
   The problem is in the starter solenoid or starter.

If engine cranks:

1. Remove jumper and reinstall terminals on start relay.
2. Turn the ignition switch to the on position.
3. Check the indicator lights on the SIB with an assistant sitting on the seat of the vehicle.
   a. All four indicator lights should be on.

   If no lights come on:
1. Check for a blown fuse on the SIB and replace if faulty.

2. Check for power to the SIB by checking fuse receptacle with a test light. The left slot of the fuse receptacle should have power.

If there is no power to the left slot of the fuse receptacle:
1. Check for power at terminal J2-2 on the SIB with a test light. (Insert test light probe into backside of connector.)

If there is power at terminal J2-2 on the SIB but not at the left slot of the fuse receptacle, the SIB is faulty and should be replaced.
If there isn't power at terminal J2-2 on the SIB, the problem is in the wiring or the terminals between the ignition switch and the SIB.

If no lights come on and fuse is good and there is power to the board:

1. Make sure SIB is grounded by checking the resistance between the capacitor ground on the SIB and the vehicle frame. Resistance should be 0.

If SIB is not grounded:

1. Check the resistance between terminal J1-7 on the SIB and the vehicle frame. Resistance should be 0.

If number 1 above is not 0 and number 2 above is 0:
The SIB is faulty and should be replaced.
If number 1 above is 0 and number 2 above is not 0:

The problem is in the wiring or terminals between J1-7 and the frame ground which is located on the ROPs support behind the SIB bracket.

If SIB is grounded and lights still don't come on:

1. Temporarily put jumper between terminals J3-1 and J3-2 on SIB. (The jumper can be a thin piece of U-shaped wire inserted into the backside of the connector.)

a. The seat relay indicator light, (the first light on the left side of the SIB,) should come on.

If the seat relay indicator light doesn't come on:
The board is faulty and should be replaced.

If the seat relay indicator light comes on:
(With the jumper but not with a person in the seat) The problem is in the seat or the wiring between the SIB and seat.
If the seat relay indicator light comes on but none of the others do with the SIB grounded:
The SIB is faulty and should be replaced.

If the seat relay indicator light on the SIB and the run relay indicator light on the SIB are on but the pedal relay indicator light and/or the blade relay indicator light are not on, troubleshoot the pedal and blade relay circuits individually as follows:

If the pedal relay indicator light is off with seat and run relay indicator lights on:

Temporarily put jumper between terminals J3-3 and J3-4 on the SIB. (The jumper can be a thin piece of U-shaped wire inserted into the backside of the connector.)

The pedal relay indicator light, (the second light from the left side of the SIB,) should come on.

If the pedal relay indicator light doesn't come on with the jumper:

The board is faulty and should be replaced.

If the pedal relay indicator light comes on with the jumper:

The problem is in the pedal switches at the front of the vehicle or in the wiring from the SIB to the pedal switches. (The arms that the pedal switches are mounted on, must fully contact the foot plate of the vehicle to actuate the switches. Both switches must be actuated to complete the circuit to the SIB.)

If the blade relay indicator light is off with seat and run relay indicator lights on.

Temporarily put jumper between terminals J2-2 and J2-3 on SIB. (The jumper can be a thin piece of U-shaped wire inserted into the backside of the connector.)

The blade relay indicator light, (the third light from the left side of the SIB,) should come on.

If the blade relay indicator light doesn't come on with the jumper:
The board is faulty and should be replaced.

If the blade relay indicator light comes on with the jumper:
The problem is in the deck run switch the wiring or terminals to the deck run switch terminal 5 or the wiring or terminals from the blade switch to the SIB.

The starter should crank with all the above operating correctly.

Problem: STARTER CRANKS BUT ENGINE WON'T START

Check the electrical system after checking for fuel in the tank and after priming the fuel system.

Using a test light with the ignition switch in the on position, check for power at the fuel pump connector on the engine.

If test light comes on:

Make sure fuel pump is properly grounded by using the fuel pump for the test light ground.

If the fuel pump is properly grounded the problem is in the fuel pump.

If test light doesn't come on:

Using a test light check for power at terminal J4-2 on the SIB.

If test light comes on at terminal J4-2 on the SIB:

The problem is in the wiring or terminals between the SIB and the fuel solenoid.

If test light doesn't come on at terminal J4-2 on the SIB:

The board is faulty and should be replaced.

Problem: DECK MOTORS WON'T RUN WITH ENGINE RUNNING

1. Temporarily disconnect connector at blade run hydraulic valve.
2. Start engine, put deck run switch to on position.
3. Check terminals of wiring connector with test light.

If light comes on:

Test the resistance of the deck run hydraulic valve coil (at coil connector). The resistance should be approximately 4c ohms. Current flow through the coil therefore should be approximately 3 amps. at 14 volts.

If the coil resistance is correct the problem is not in the electrical system.

If light doesn't come on:

1. Check for power at terminal J2-6 on the SIB.
2. Check for power at terminal 2 on the Deck Run Switch.
3. Check for power at terminal 1 on the Deck Run Switch.

If the light doesn't come on for number 1 above:

The board is faulty and should be replaced.

If the light comes on for number 1 above but not 2:

The problem is in the wiring or terminals between the SIB and the deck run switch.

If the light comes on for numbers 1 and 2 above but not 3:

The deck run switch is faulty and should be replaced.

If the light comes on for numbers 1,2 and 3 above:

The problem is in the wiring or terminals between the deck run switch and the blade run valve.

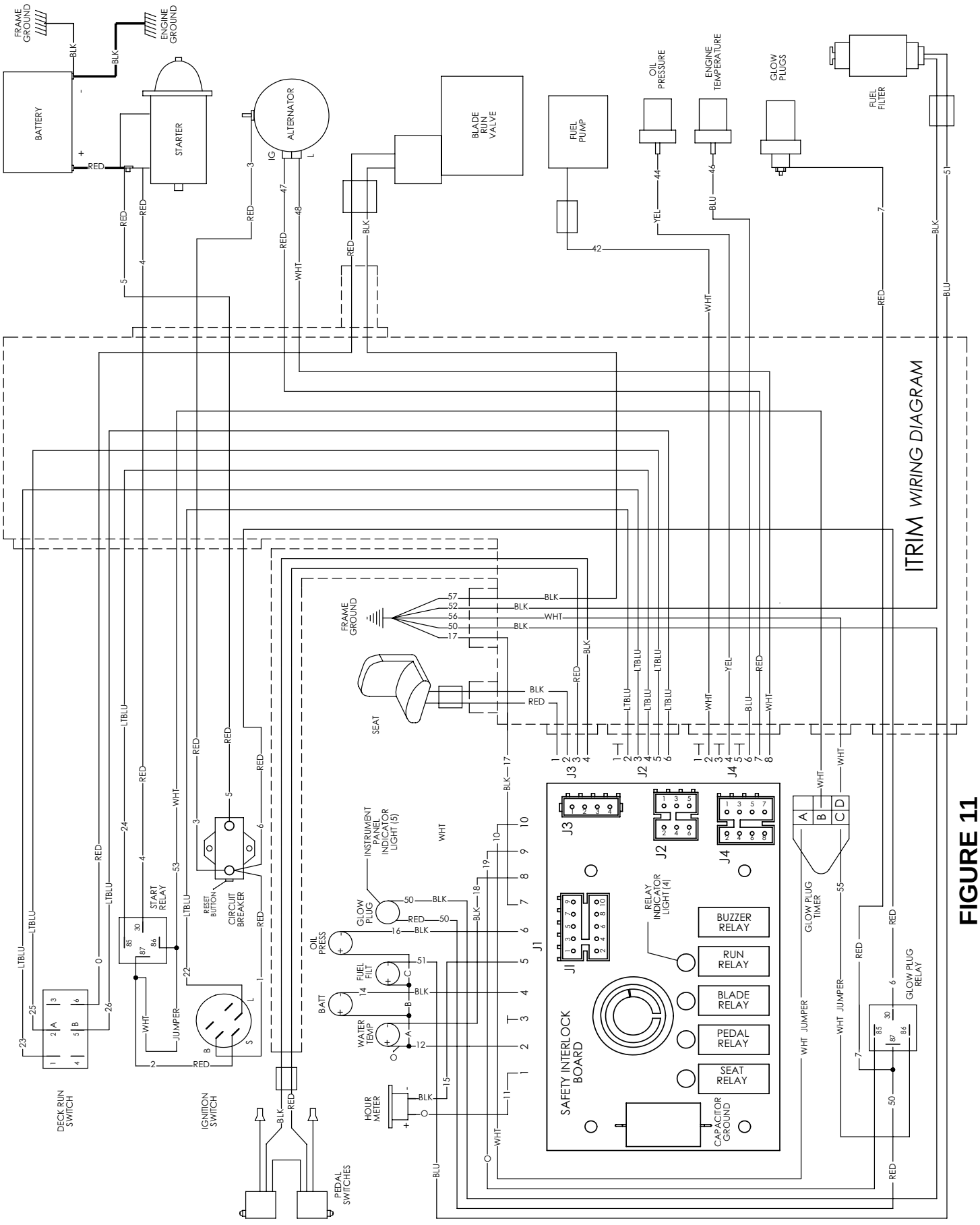
ITRIM WIRING DIAGRAM
FRAME GROUND
ENGINE GROUND
BATTERY
STARTER
ALTERNATOR
BLADE RUN VALVE
FUEL PUMP
OIL PRESSURE
ENGINE TEMPERATURE
GLOW PLUGS
FUEL FILTER
SAFETY INTERLOCK BOARD
BUZZER RELAY
RUN RELAY
BLADE RELAY
PEDAL RELAY
SEAT RELAY
CAPACITOR GROUND
RELAY INDICATOR LIGHT (4)
INSTRUMENT PANEL INDICATOR LIGHT (5)
GLOW PLUG
OIL PRESS
FUEL FILT
BATT
WATER TEMP
HOUR METER
SEAT
FRAME GROUND
START RELAY
RESET BUTTON
CIRCUIT BREAKER
DECK RUN SWITCH
IGNITION SWITCH
PEDAL SWITCHES
GLOW PLUG TIMER
GLOW PLUG RELAY
WHT JUMPER
JUMPER
J1
J2
J3
J4

FIGURE 11

MAINTENANCE RECORD

Date	Maintenance Task	Person

PARTS ORDERING INFORMATION

When ordering replacement parts, always furnish:

1. Your complete name, address, and phone number.
2. Model Number and Serial Number of the mower (stamped on the serial number plate located below seat)
3. Part Number (it is recommended that the correct number be verified with a current Master Price List).
4. The full Description of the part.
5. Quantity desired

If the Part Number and the Description of your order do not agree, the Part Number will be used to fill your order.

Note: For your records and future ordering, fill in the following information:

Date Purchased	
Model Number	
Serial Number	
Distributor Name	
Address	
Phone	
FAX	
Web Site	
Sales Person	

Contact your distributor for all parts orders.

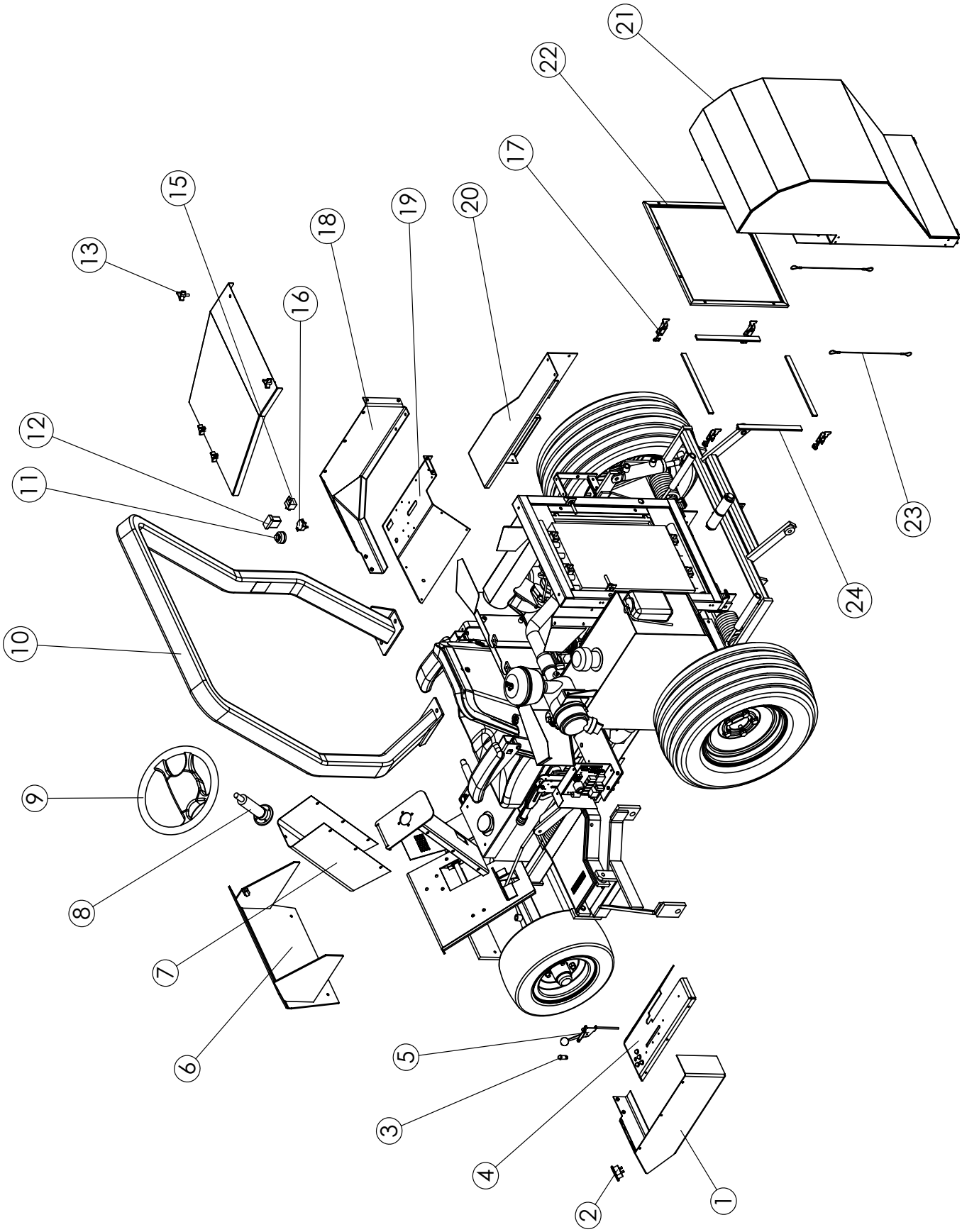

FIGURE 1

FIGURE 1—SCREEN BOX, GUARDS, ROPS, MISC

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306435	WELDMENT - SIDE COVER, LH
2	1	07063	HOUR METER
3	5	07697	LED
4	1	306341	PANEL - INSTRUMENT, LH
5	1	203086	THROTTLE CONTROL
6	1	306162	WELDMENT - BUMPER PLATE
7	1	306298	COVER - STEERING TOWER
8	1	305984	STEERING COLUMN
9	1	07071	STEERING WHEEL
10	1	07731	ROPS, FULL VISION
11	1	07065	KEY SWITCH
12	1	07496	SWITCH - DECK MOTOR
13	4	07399	KNOB, DAVIES MOULDING CO #3035
14	1	306227	HOOD
15	1	07695	STARTER SOLENOID RELAY, WAYTEK #75002
16	1	07700	CIRCUIT BREAKER, WAYTEK #46374
17	4	07840	LATCH
18	1	306438	WELDMENT - SIDE COVER, RH
19	1	306351	ASSY - INSTRUMENT PANEL, RH
20	1	306350	WELDMENT - REAR COVER
21	1	306489	WELDMENT - SCREENBOX
22	1	~~306488~~ 306526	ASSY - SCREEN
23	2	306498	ASSY - SCREENBOX CABLE
24	1	306427	WEATHERSTRIP ASSY

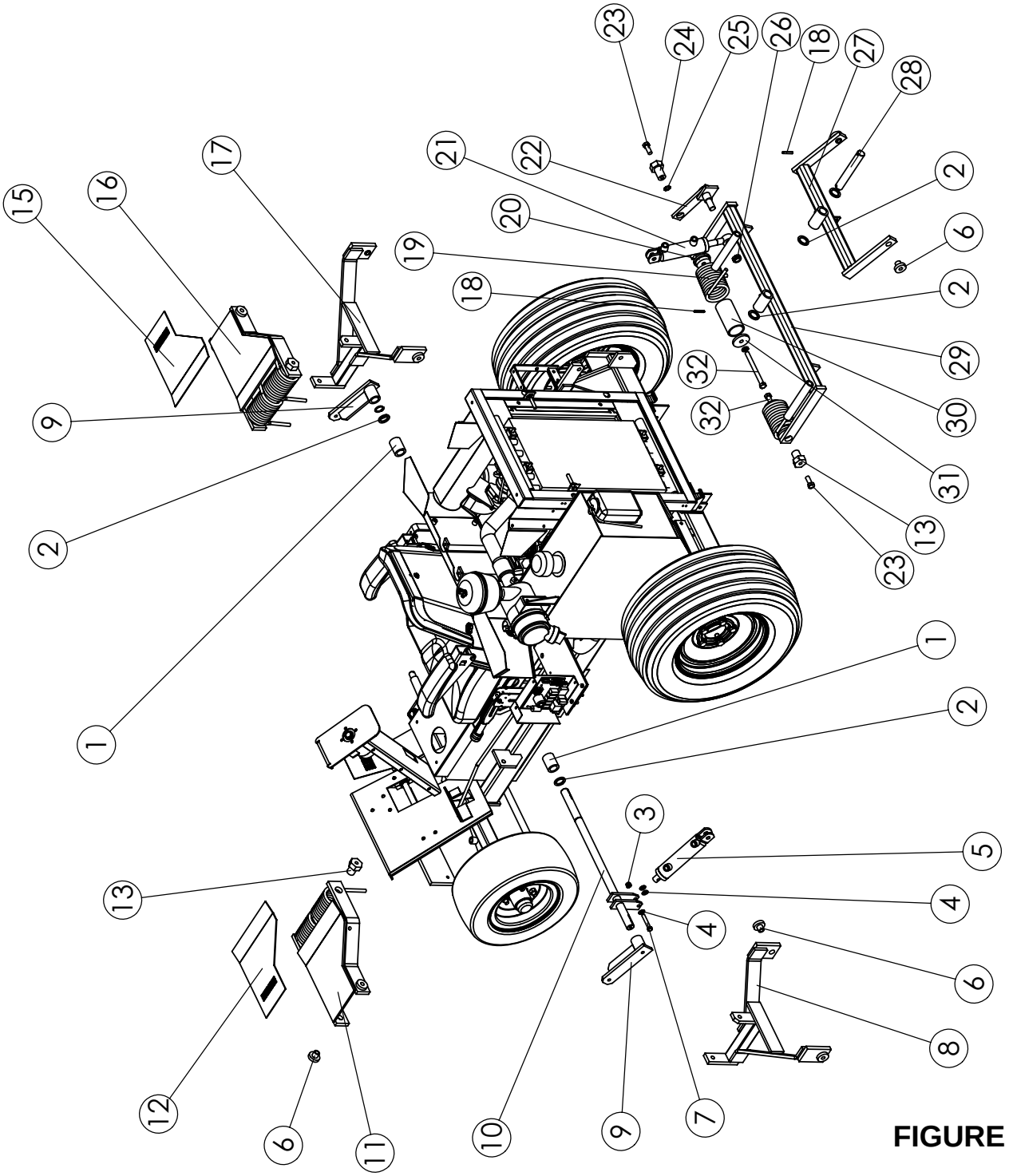
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FIGURE 2

FIGURE 2—DECK LIFT ARMS AND PULL ARMS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	07719	BUSHING - 1X1.5X2, BOSTON #B1624-16
2	5	02511	THRUST WASHER
3	1	02263	HEX NUT 3/8-24 NYLOCK
4	3	02403	FLAT WASHER - 3/8 SAE
5	1	07709	LIFT CYL - WING DECK
6	10	204447	BUSHING - PULL ARM
7	1	02036	HEX BOLT, 0.375 -24 UNF x 2¼ ZINC PL
8	1	306062	WELDMENT - LOWER PULL ARM, L
9	2	306188	WELDMENT - WING LIFT ARM
10	1	306191	WELDMENT - WING LIFT X-SHAFT
11	1	306061	WELDMENT - UPPER PULL ARM L
12	1	306242	NON SKID - WING PULL ARM
13	5	306177	BUSHING - PULL ARM INNER
14	1	04079	EXTERNAL RETAINING RING, 1.00 ID, H/D, McM #98585A121
15	1	306359	NON SKID - WING PULL ARM
16	1	306232	WELDMENT - UPPER PULL ARM R
17	1	306234	WELDMENT - LOWER PULL ARM R
18	4	04048	ROLL PIN, .25 X 1.5
19	2	07714	LIFT SPRING - REAR PULL ARM
20	2	306320	END CAP - SPRING MOUNT, OUTER
21	1	07710	LIFT CYL - REAR DECK
22	1	306128	WELDMENT - LIFT ARM, RR PULL FRAME
23	2	02061	HEX BOLT, ½ -13 UNC x 1¼
24	1	306129	BUSHING - LONG, RR PULL FRAME
25	2	02333	EXTERNAL TOOTH LOCK WASHER, 1/2 ADAMS #348800
26	1	02751	HEX JAM NUT, NYLOCK, 3/4-16
27	1	306123	WELDMENT - PIVOT FRAME, RR PULL ARM
28	1	306241	PIVOT PIN - REAR DECK
29	1	306120	WELDMENT - LIFT FRAME, RR PULL ARM
30	2	306167	MOUNT - SPRING, RR DECK
31	2	306185	END CAP - SPRING MOUNT
32	2	02166	HEX BOLT, ½ -13 UNC x 5½

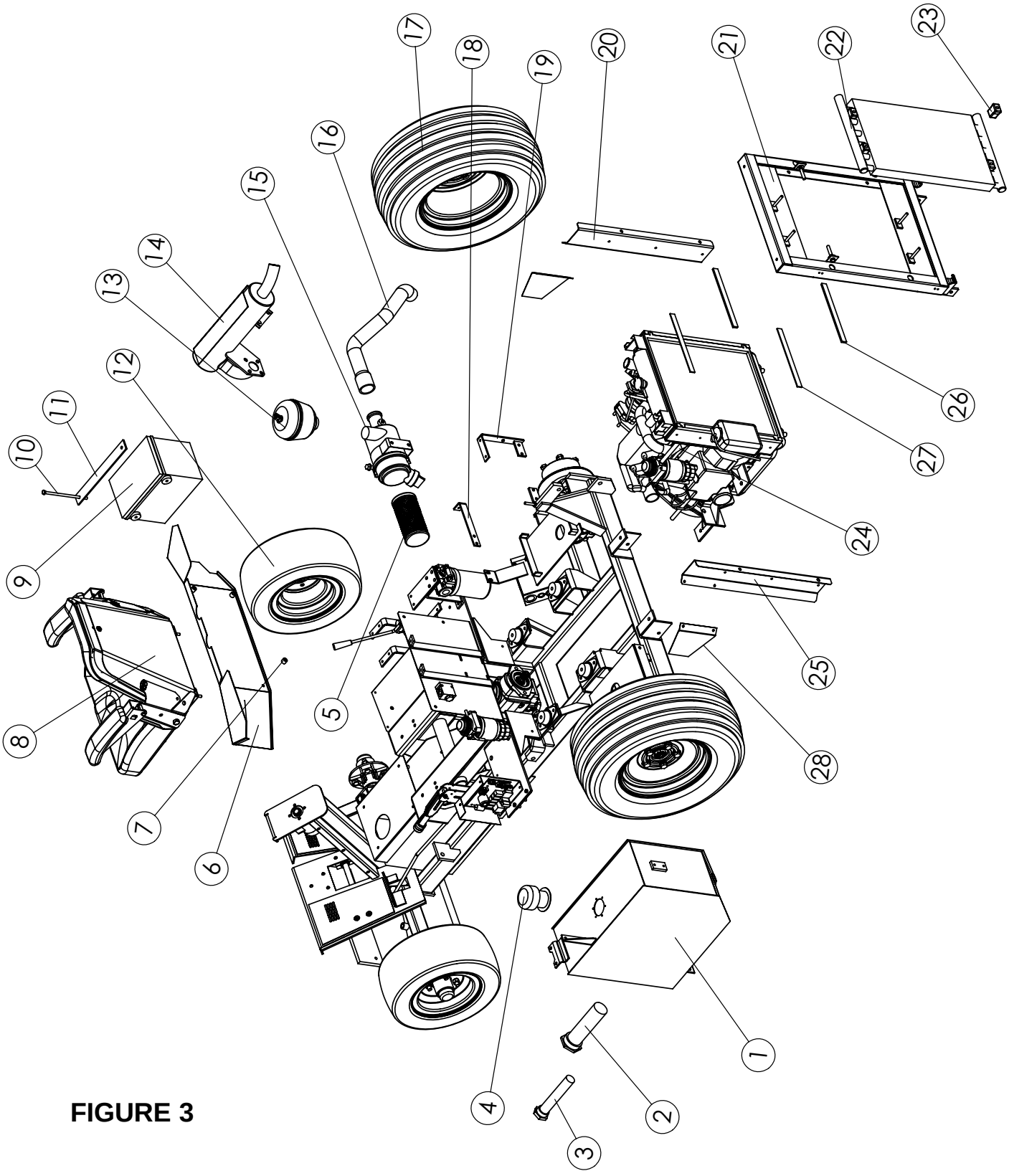

FIGURE 3

FIGURE 3— SEAT, WHEELS, ENGINE, RADIATOR, HYD TANK

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306195	WELDMENT - HYDRAULIC RESERVOIR
2	1	305497	STRAINER
3	1	07316	STRAINER
4	1	07783	CAP & FILL TUBE - HYDRAULIC TANK
5	1	B&S 820263	FILTER - AIR CLEANER, CARTRIDGE
6	1	306421	HOT AIR DEFLECTOR
7	4	306407	SPACER - HOT AIR DEFLECTOR
8	1	07706	SEAT
9	1	07185	BATTERY - ITRIM, EXIDE 78-60
10	1	02167	HEX BOLT, .312-18 X 7, McM #91247A609
11	1	306238	STRAP - BATTERY HOLDDOWN
12	2	07018	FRONT WHEEL & TIRE
13	1	07733	PRE-CLEANER
14	1	07708	MUFFLER
15	1	B&S 825117	CLEANER AIR
16	1	07771	AIR INLET HOSE
17	2	07681	REAR WHEEL & TIRE, TURF TAMER 23X10.5X12
18	1	306369	STRUT - REAR COVER
19	1	306361	WELDMENT - SUPPORT, REAR COVER
20	1	306226	RADIATOR SUPPORT - RH
21	1	306210	WELDMENT - RAD FRAME
22	1	07683	OIL COOLER
23	4	07684	OIL COOLER MOUNT
24	1	07677	BRIGGS ENGINE AND ASSO. PARTS 3\LC 954 DTH
25	1	306225	RADIATOR SUPPORT - LH
26	1	306509	WEATHERSTRIP RAD SUPPORT
27	1	306508	WEATHERSTRIP RADIATOR
28	2	306502	PLATE

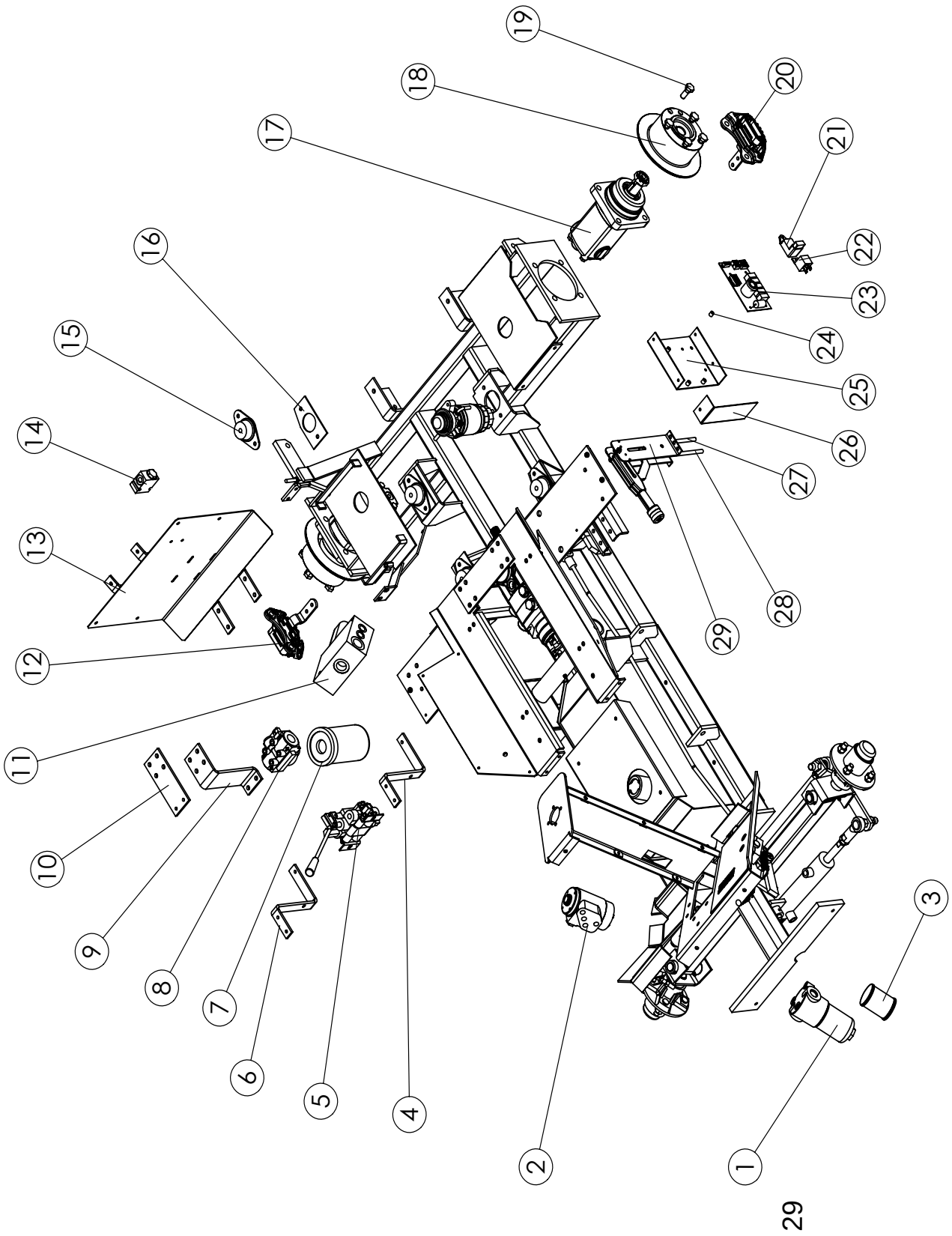

FIGURE 4

FIGURE 4—WHEEL MOTORS, FILTERS, HYD COMPONENTS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	07688	STEERING FILTER
2	1	07690	STEERING VALVE
3	1	07689	FILTER ELEMENT
4	1	306357	BRKT - LIFT VALVE, LH
5	1	07692	LIFT VALVE,
6	1	306356	BRKT - LIFT VALVE
7	1	305034	FILTER CANISTER, HYDRAULIC
8	1	305037	BASE - HYDRAULIC FILTER
9	1	306262	BRACKET - HYD FILTER
10	1	306358	TIE PLATE
11	1	07691	DECK LIFT VALVE
12	1	07726	BRAKE CALIPER - RH
13	1	306221	WELDMENT - FIREWALL
14	1	07687	CHECK VALVE, HYDRAULIC
15	4	07682	ISOLATION MOUNT
16	4	306150	PLATE - ENGINE MOUNT
17	2	07693	WHEEL MOTOR - END PORT, CHAR LYNN
18	2	07727	HUB - REAR WHEEL
19	10	07269	LUG BOLT
20	1	07725	BRAKE CALIPER - LH
21	1	B□S 820373	MODULE - PREHEAT
22	1	07695	GLOW PLUG RELAY, WAYTEK #75002
23	1	07716	CIRCUIT BOARD
24	4	07728	SPACER - CIRCUIT BOARD, McM#94639A454
25	1	306360	BRKT - CIRCUIT BOARD
26	1	306439	SPLASH GUARD - CIRCUIT BOARD
27	1	07798	BRAKE CABLE - LH
28	1	07348	BRAKE CABLE - RH
29	1	07346	PARKING BRAKE LEVER

29 1 07689 FILTER, ELEMENT ONLY, MP-HP0502A-03AN

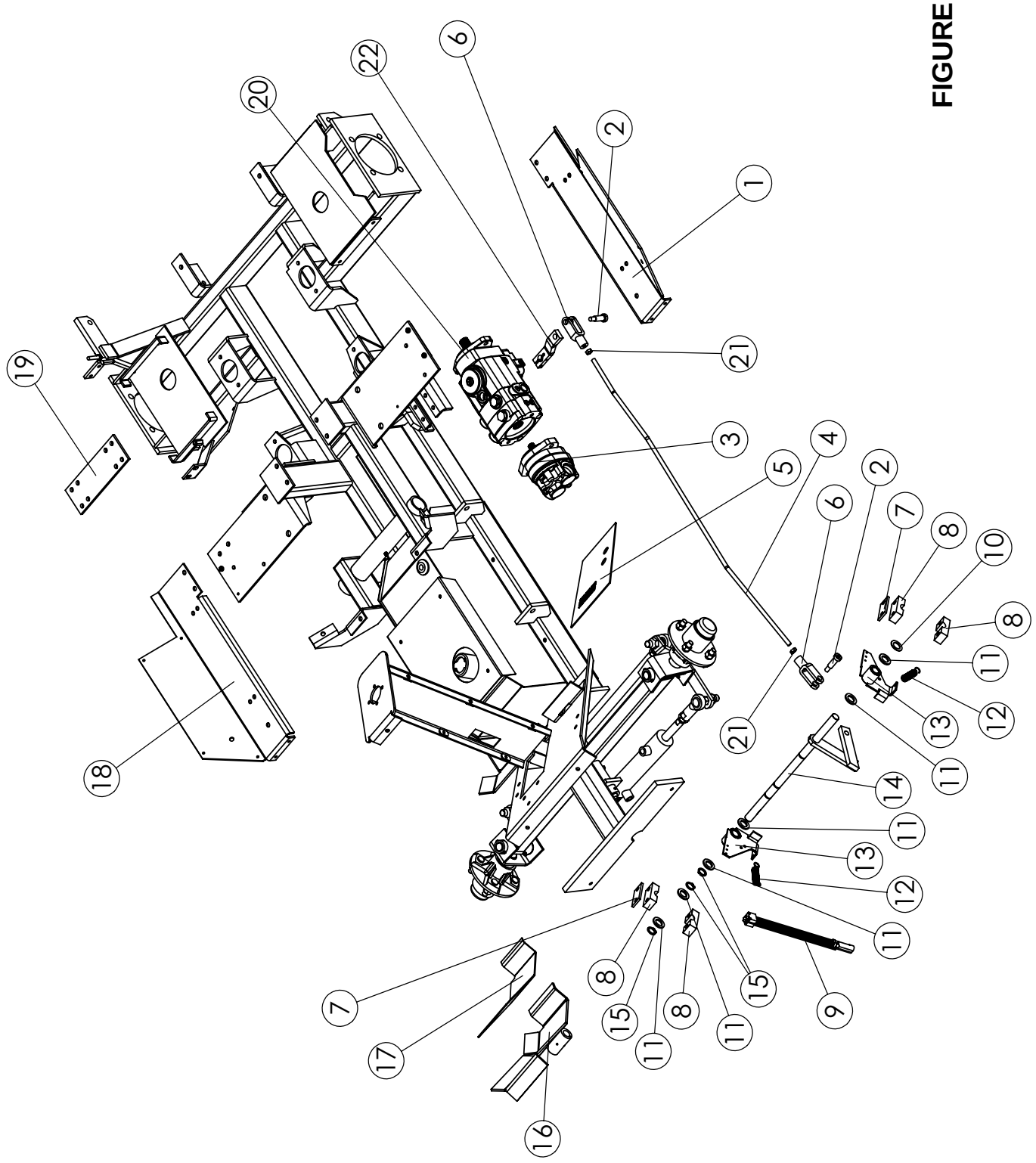

FIGURE 5

FIGURE 5—PEDAL ASSY, HYD PUMPS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306328	BRACKET - SEAT, LH
2	2	07773	SHOULDER BOLT ½'' x 1¼'', McM #91259A714
3	1	07686	GEAR PUMP, EATON 26005-RZE
4	1	306158	LINK ROD
5	1	306243	NON SKID - FOOT PLATE
6	2	07772	CLEVIS - LINK ROD, McM #1583K15
7	2	306146	BEARING BLOCK SPACER
8	4	06127	BEARING BLOCK
9	1	306473	SWITCH ASSY, PEDAL NEUTRAL
10	1	02502	WASHER - THRUST
11	6	02503	WASHER - THRUST
12	2	202798	SPRING - SWITCH ARM
13	2	306322	WELDMENT - SPRING DOG
14	1	306164	WELDMENT - PEDAL SHAFT
15	3	04078	RETAINING RING, EXTERNAL, .75 ID, HEAVY DUTY
16	1	306163	WELDMENT - FOOT PEDAL
17	1	306244	NON SKID - FOOT PEDAL
18	1	306331	BRACKET - SEAT, RH
19	1	306230	FRAME BRIDGE
20	1	07685	PROPULSION PUMP,OIL GEAR # PVWC-022
21	2	02230	NUT 3/8-24 JAM
22	1	306326	PINTLE ARM

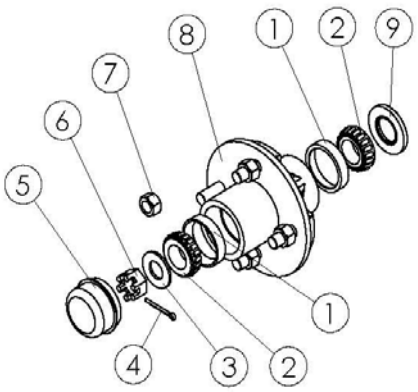

FIGURE 6B

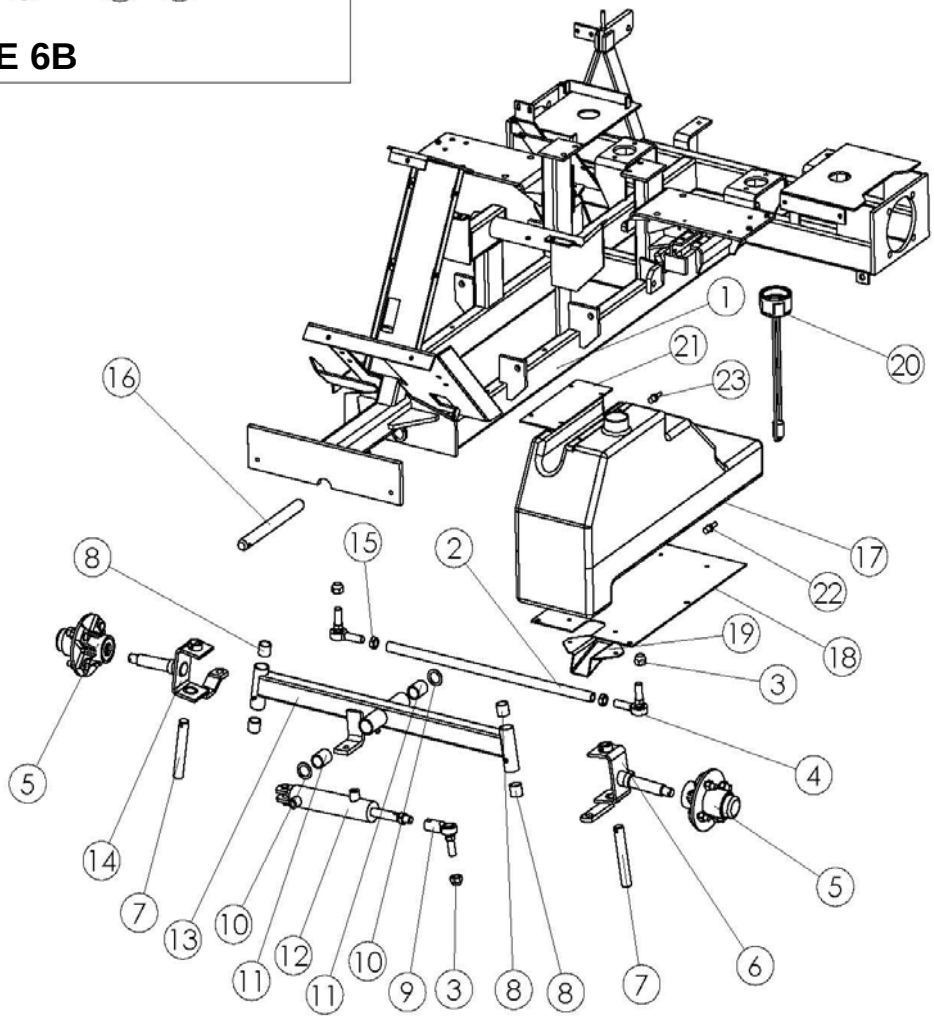

FIGURE 6A

FIGURE 6A — FRONT AXLE, FUEL TANK, AND FRAME

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306002	WELDMENT - FRAME
2	1	204456	TIE ROD
3	3	02293	LOCK NUT .625-18 NF
4	2	04096	ROD END
5	2	204383	HUB-WHEEL INCL. 06130, 06131
6	1	306313	WELDMENT - YOKE, LH
7	2	204404	KING PIN
8	4	06009	BUSHING
9	1	04097	ROD END
10	2	02512	THRUST WASHER
11	2	06008	BUSHING, AXEL PIVOT
12	1	204382	STEERING CYLINDER
13	1	306312	WELDMENT - AXEL
14	1	306314	WELDMENT - YOKE, RH
15	3	02237	NUT, HEX, JAM, .625-18 NF
16	1	203480	SHAFT - AXEL PIVOT
17	1	306520	FUEL TANK
18	1	306522	SKID/MOUNTING PLATE
19	1	306523	GUARD
20	1	07867	GAS CAP WITH GAUGE
21	1	306521	TANK TRAY COVER
22	1	07868	FITING 1/4 NPT - 5/16 BARB
23	1	07608	FITING 1/4 NPT - 1/4 BARB

FIGURE 6B - FRONT WHEEL ASSY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	06131	CUP, BEARING, L44610
2	2	06130	BEARING, ROLLER, L44643
3	1	02651	WASHER, .75 ID
4	1	04029	COTTER PIN .125 X 1.5
5	1	07258	CAP, BEARING
6	1	02294	NUT, CASTLE, 3/4-16
7	4	02212	NUT, HEX, 1/2"-20 NF
8	1	HUB W-STUDS	BARE HUB W-STUDS
9	1	03518	SEAL, OIL

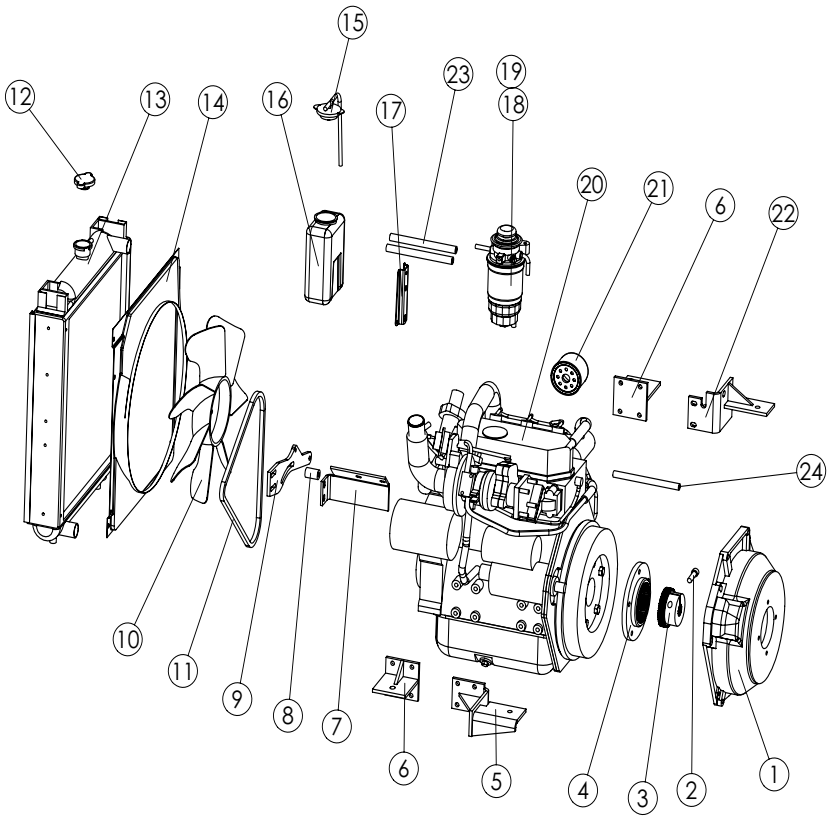

FIGURE 7

FIGURE 7—ENGINE AND RADIATOR ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	B&S 825098	HOUSING - FLYWHEEL (KTR)
2	1	HEX SOCKET HEAD SCREW	M10-1.5 X 30
3	1	KTR M42ED-13	COUPLER HALF - PUMP SHAFT
4	1	KTR 48FLE-PA-DIA 150	COUPLER HALF - FLYWHEEL
5	1	306284	WELDMENT - MOUNT BRKT, FRNT R
6	2	306293	WELDMENT - REAR ENGINE MOUNT
7	1	306383	MUFFLER BRKT, MUFFLER SIDE
8	2	306391	SPACER - ALTERNATOR BRKT
9	1	306382	MUFFLER BRKT, ALT SIDE
10	1	B&S 821013	RADIATOR FAN
11	1	B&S 821075	BELT - VEE
12	1	B&S 820258	CAP - RADIATOR
13	1	B&S 825645	RADIATOR
14	1	B&S 821019	RADIATOR SHROUD
15	1	B&S 825461	CAP/HOSE - RESERVE
16	1	B&S 825462	TANK - RESERVE
17	1	B&S 825106	BRACKET - MOUNTING (RESERVE TANK)
18	1	B&S 825219	ASSEMBLY - FUEL PRIMER, FILTER
19	1	B&S 820311	FUEL FILTER
20	1	B&S 54A447 0205	954 DT ENGINE, COMPLETE
21	1	B&S 820314	FILTER - OIL
22	1	306288	WELDMENT - MOUNT FRNT L
23	1	306505	FUEL LINE 5/16" INJ/ PRIMER-16", INJ/TANK-58"
24	1	306507	FUEL LINE 1/4X60.5" RETURN

NOTE: CONTACT BRIGGS & STRATTON FOR P/NS STARTING WITH B&S

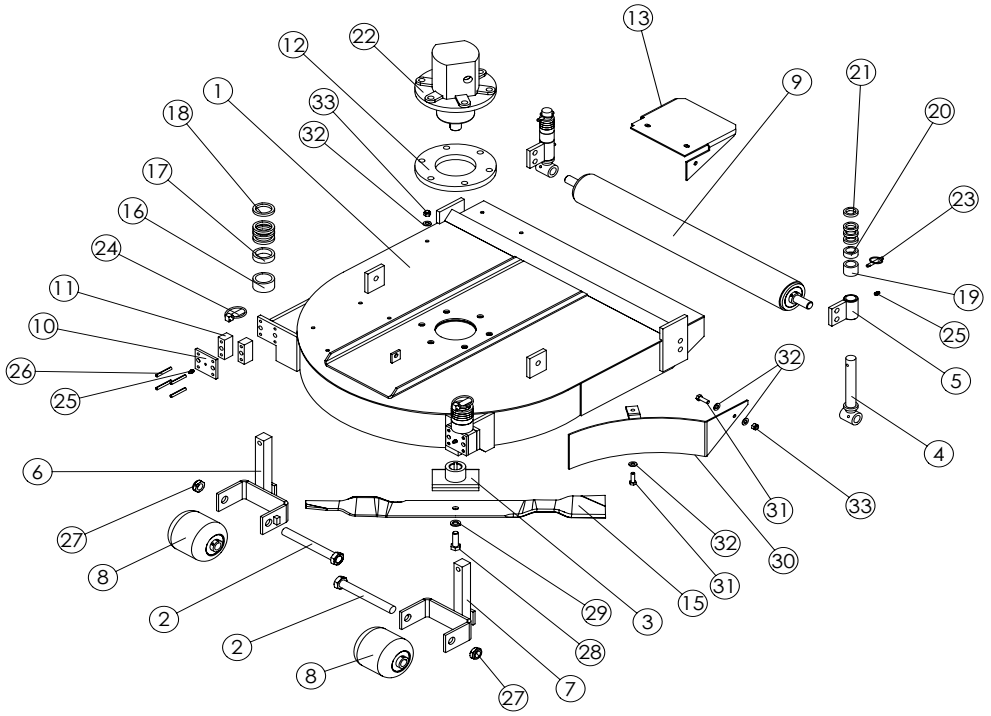

FIGURE 8—REAR MOWER DECK ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1*	306171	WELDMENT - DECK PLATFORM RR
2	2	306064	WELDMENT - FRONT ROLLER AXEL
3	1	306074	WELDMENT - BLADE HOLDER
4	2	306067	WELDMENT - REAR ROLLER ADJUSTER
5	2	306069	WELDMENT - HOUSING, REAR ROLLER ADJUSTER
6	1	306376	WELDMENT - FRONT ROLLER FRAME
7	1	306379	WELDMENT - FRONT ROLLER FRAME, RH
8	2	306443	ASSEMBLY - FIXED ROLLER
9	1	306442	ASSEMBLY - REAR ROLLER
10	2	306373	FACE PLATE
11	4	306374	SPACER BLOCK
12	1	306028	SPACER PLATE
13	1	306476	DISCHARGE SHIELD RH
14	1	306368	BLADE - STANDARD, RH *OPTIONAL PURCHASE
15	1	306245	MULCHING BLADE RH
16	2	306402	WASHER SPACER 1.0X1.88
17	2	306403	WASHER SPACER .5X1.88
18	8	306404	WASHER SPACER .25X1.88
19	2	306318	DECK SPACER 1.0X1.25
20	2	306319	DECK SPACER .5X1.25
21	8	306364	DECK SPACER .25X1.25
22	1	305737	DECK MOTOR - R, REAR DECKS, CCW
23	2	07781	LYNCH PIN, 1/4", McM #90170A212
24	2	07782	LYNCH PIN, .44", McM #90170A221
25	4	04006	GREASE FITTING, STRAIGHT, 1/4-28 THRD
26	8	04016	SPRING PIN .25 X 1.75
27	2	02751	HEX JAM NUT, NYLOCK, 3/4-16
28	1	02186	BOLT HH 1/2-20 X 1.50 GR8
29	1	02305	LOCK WASHER, ½"
30	1	306235	WELDMENT - MULTCHING DEFLECTOR, R, RR
31	2	02012	5/16-18 X 1.00 HHCS
32	4	02402	WASHER FLAT 5/16
33	2	02262	5/16-24 NYLOCK NUT

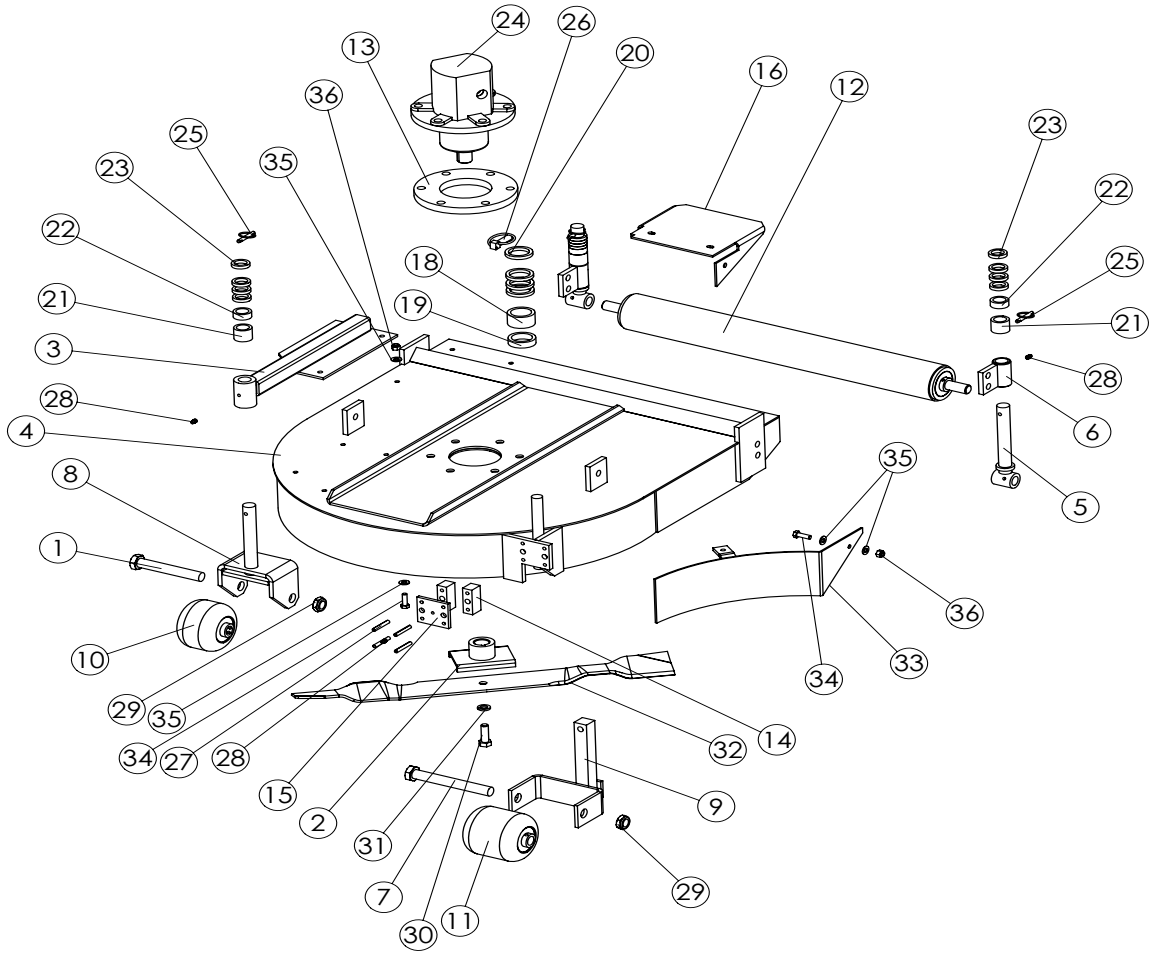

FIGURE 9—RIGHT HAND MOWER ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306058	WELDMENT - CASTER AXEL
2	1	306074	WELDMENT - BLADE HOLDER
3	1	306170	WELDMENT - CASTER PIVOT MOUNT RH
4	1	306169	WELDMENT RH DECK PLATFORM
5	2	306067 *	WELDMENT - REAR ROLLER ADJUSTER
6	2	306069	WELDMENT - HOUSING, REAR ROLLER ADJUSTER
7	1	306064	WELDMENT - FRONT ROLLER AXEL
8	1	306355	WELDMENT - CASTER FRAME
9	1	306379	WELDMENT - FRONT ROLLER FRAME, RH
10	1	306444	ASSEMBLY - CASTER ROLLER
11	1	306443	ASSEMBLY - FIXED ROLLER
12	1	306442	ASSEMBLY - REAR ROLLER
13	1	306028	SPACER PLATE
14	2	306374	SPACER BLOCK
15	1	306373	FACE PLATE
16	1	306476	DISCHARGE SHIELD RH
17	1	306368	BLADE - STANDARD, RH *OPTIONAL BLADE
18	1	306402	WASHER SPACER 1.0X1.88
19	1	306403	WASHER SPACER .5X1.88
20	4	306404	WASHER SPACER .25X1.88
21	3	306318	DECK SPACER 1.0X1.25
22	3	306319	DECK SPACER .5X1.25
23	12	306364	DECK SPACER .25X1.25
24	1	305737	DECK MOTOR - R, REAR DECKS, CCW
25	3	07781	LYNCH PIN, 1/4", McM #90170A212
26	1	07782	LYNCH PIN, .44", McM #90170A221
27	4	04016	SPRING PIN .25 X 1.75
28	4	04006	GREASE FITTING, STRAIGHT, 1/4-28 THRD
29	2	02751	HEX JAM NUT, NYLOCK, 3/4-16
30	1	02186	BOLT HH 1/2-20 X 1.50 GR8
31	1	02305	LOCK WASHER, ½"
32	1	306245	MULCHING BLADE RH
33	1	306235	WELDMENT - MULTCHING DEFLECTOR, R, RR
34	2	02012	5/16-18 X 1.00 HHCS
35	4	02402	WASHER FLAT 5/16
36	2	02262	5/16-24 NYLOCK NUT

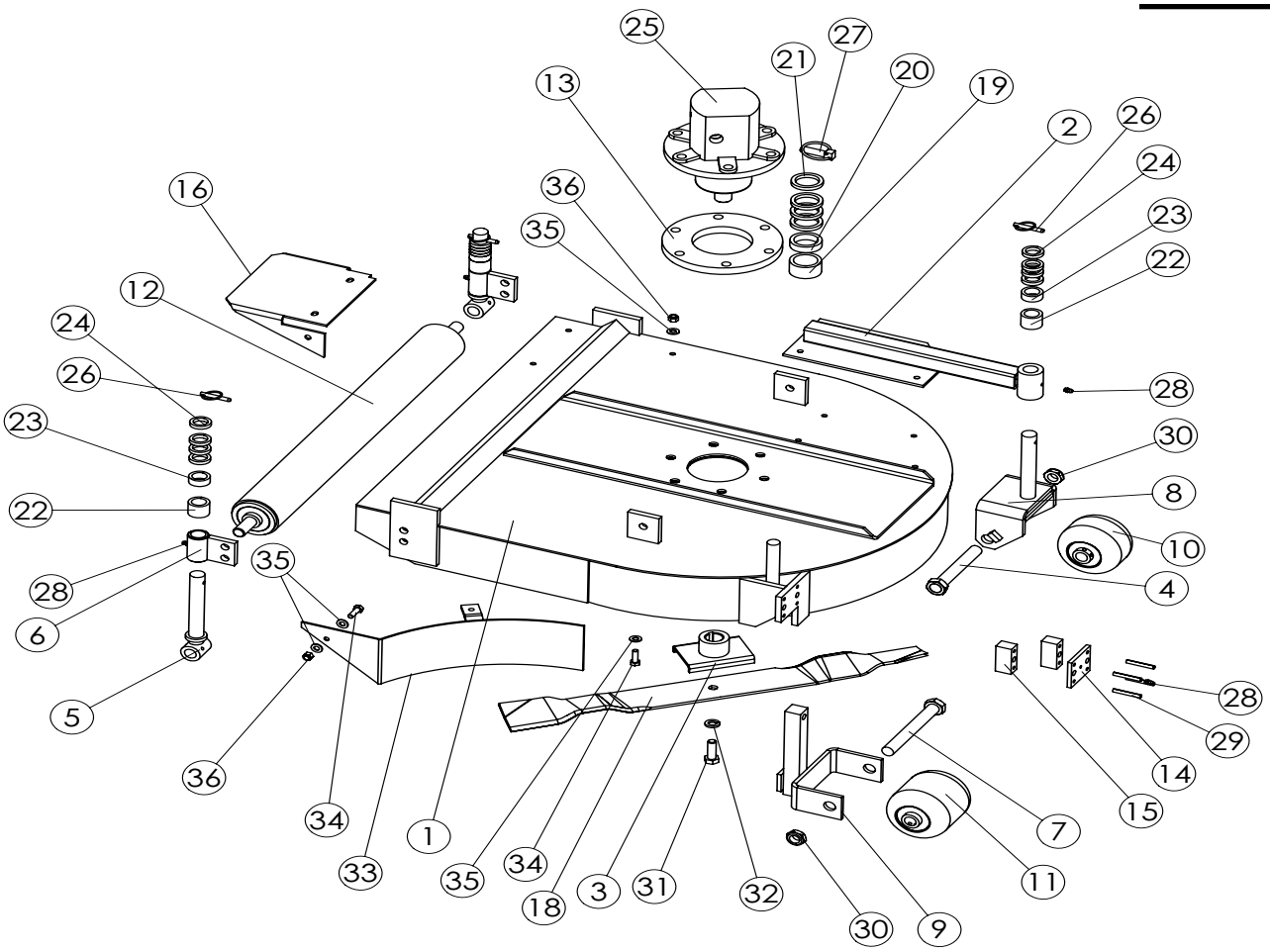

FIGURE 10—LEFT HAND MOWER ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306107	WELDMENT - L DECK PLATFORM
2	1	306108	WELDMENT - CASTER PIVOT MOUNT
3	1	306074	WELDMENT - BLADE HOLDER
4	1	306058	WELDMENT - CASTER AXEL
5	2	306067	WELDMENT - REAR ROLLER ADJUSTER
6	2	306069	WELDMENT - HOUSING, REAR ROLLER ADJUSTER
7	1	306064	WELDMENT - FRONT ROLLER AXEL
8	1	306355	WELDMENT - CASTER FRAME
9	1	306376	WELDMENT - FRONT ROLLER FRAME
10	1	306444	ASSEMBLY - CASTER ROLLER
11	1	306443	ASSEMBLY - FIXED ROLLER
12	1	306442	ASSEMBLY - REAR ROLLER
13	1	306028	SPACER PLATE
14	1	306373	FACE PLATE
15	2	306374	SPACER BLOCK
16	1	306476	DISCHARGE SHIELD LH
17	1	306367	BLADE - STANDARD, LH *OPTIONAL BLADE
18	1	306311	MULCHING BLADE LH
19	1	306402	WASHER SPACER 1.0X1.88
20	1	306403	WASHER SPACER .5X1.88
21	4	306404	WASHER SPACER .25X1.88
22	3	306318	DECK SPACER 1.0X1.25
23	3	306319	DECK SPACER .5X1.25
24	12	306364	DECK SPACER .25X1.25
25	1	305736	DECK MOTOR - L DECK CW
26	3	07781	LYNCH PIN, 1/4", McM #90170A212
27	1	07782	LYNCH PIN, .44", McM #90170A221
28	4	04006	GREASE FITTING, STRAIGHT, 1/4-28 THRD
29	4	04016	SPRING PIN .25 X 1.75
30	2	02751	HEX JAM NUT, NYLOCK, 3/4-16
31	1	02186	BOLT HH 1/2-20 X 1.50 GR8
32	1	02305	LOCK WASHER, ½"
33	1	306113	WELDMENT - MULCHING DEFLECTOR, LH
34	2	02012	5/16-18 X 1.00 HHCS
35	4	02402 *	WASHER FLAT 5/16
36	2	02262	5/16-24 NYLOCK NUT

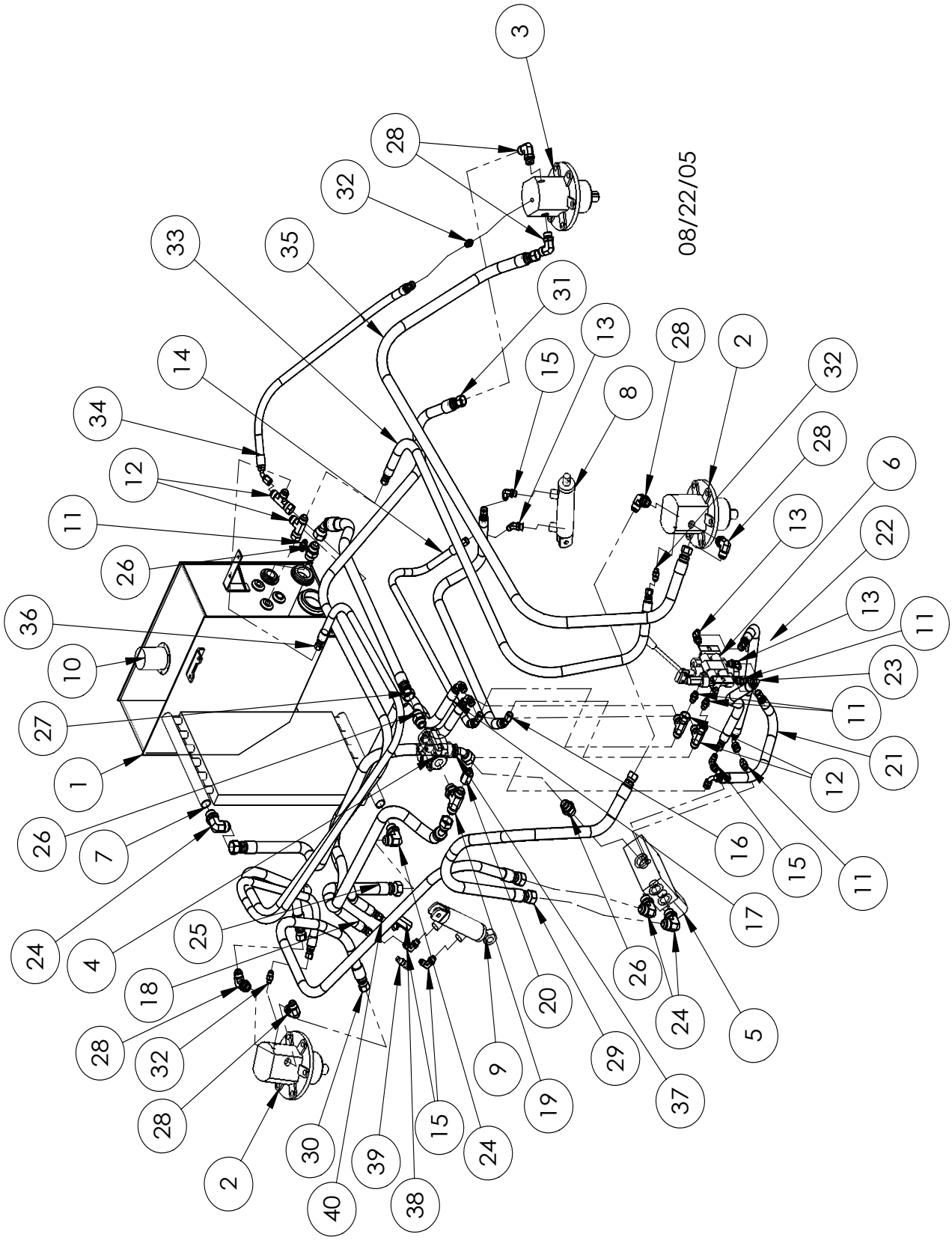
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FIGURE 11—HYDRAULIC DECKS AND OIL COOLER

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306195	WELDMENT - HYDRAULIC RESERVOIR
2	2	305737	DECK MOTOR - R, REAR DECKS, CCW
3	1	305736	DECK MOTOR - L DECK CW
4	1	305037	BASE - HYDRAULIC FILTER
5	1	07691	DECK VALVE MANIFOLD ASSY
6	1	07692	LIFT VALVE,
7	1	07683	OIL COOLER, HAYDEN #038674
8	1	07709	LIFT CYL - WING DECK, AURELIUS #
9	1	07710	LIFT CYL - REAR DECK, AURELIUS #
10	1	07783	CAP & FILL TUBE, HYDRAULIC RESERVOIR ASSY
11	5	07285	STRAIGHT ADAPTER STEEL
12	4	07810	SWIVEL NUT RUN TEE
13	3	07297	FITTING 6-V50X-S
14	1	07753	HOSE #20
15	4	07421	STRAIGHT THREAD ELBOW
16	1	07754	HOSE #21
17	1	07755	HOSE #22
18	1	07756	HOSE #23
19	1	07807	STRAIGHT THREAD RUN TEE
20	1	07813	TUBE END REDUCER
21	1	07757	HOSE #24
22	1	07758	HOSE #25
23	1	07759	HOSE #26
24	4	07811	STRAIGHT THREAD ELBOW
25	1	07760	HOSE #27
26	3	07800	STRAIGHT THREAD CONNECTOR
27	1	07761	HOSE #28
28	6	07287	STRAIGHT THREAD ELBOW
29	1	07762	HOSE #29
30	1	07763	HOSE #30
31	1	07764	HOSE #31
32	3	07281	STRAIGHT THREAD CONNECTOR
33	1	07765	HOSE #32
34	1	07766	HOSE #33
35	1	07767	HOSE #34
36	1	07768	HOSE #35
37	1	07769	HOSE #36
38	1	07279	REGULATOR
39	1	07825	FITTING 6F6X-S
40	1	07834	FITTING 6FTX-S STR

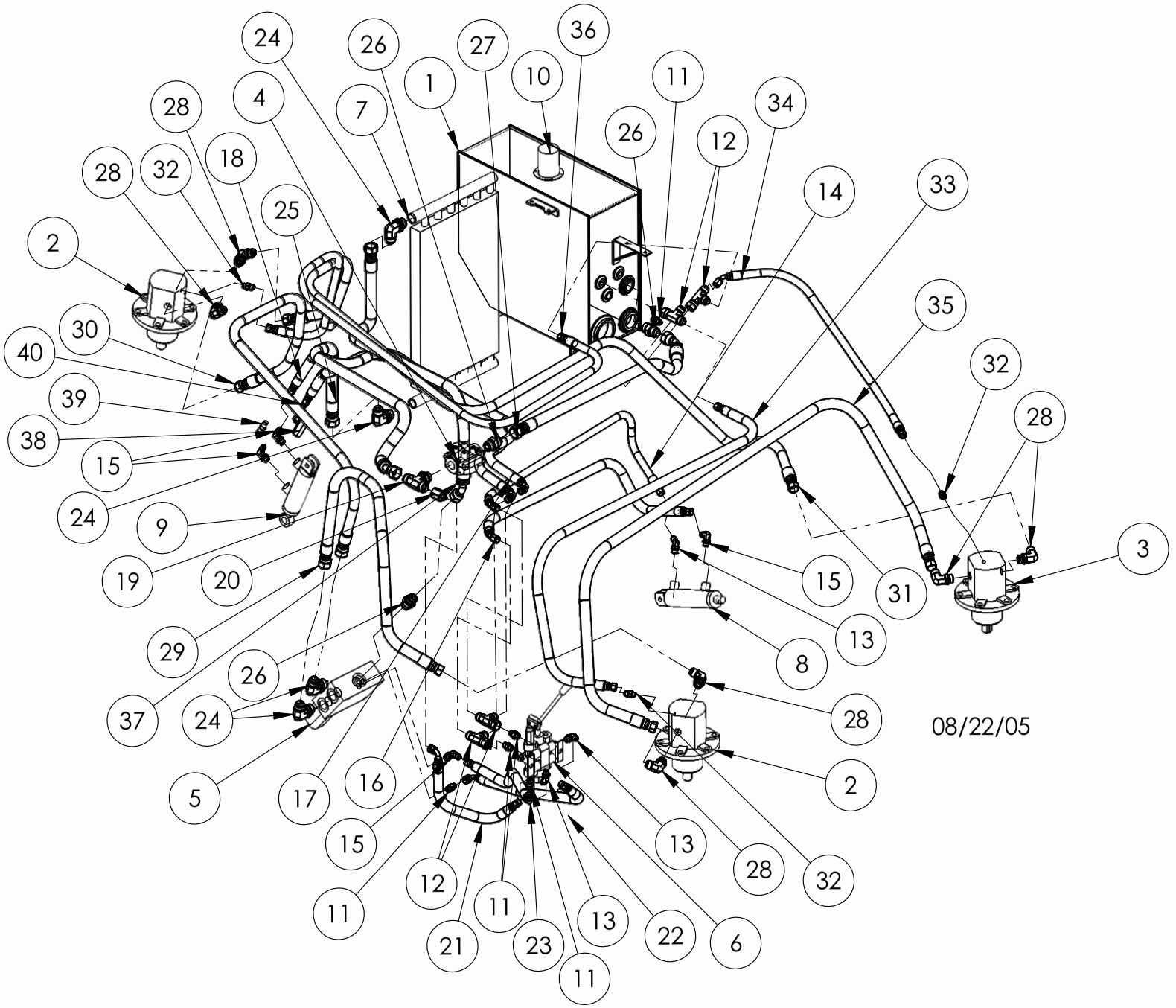
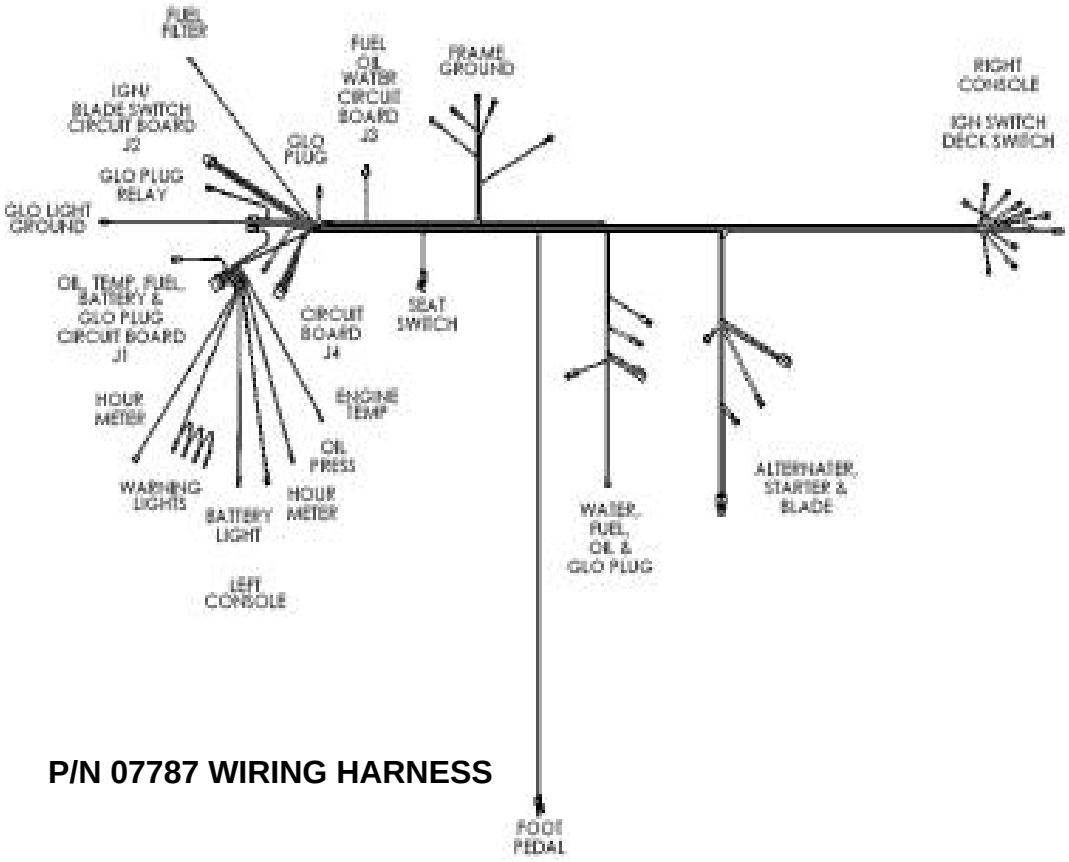


FIGURE 12

FIGURE 12—HYDRAULIC WHEEL MOTORS, STEERING

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	306195	WELDMENT - HYDRAULIC RESERVOIR
2	1	306316	ASSY - FRONT AXEL
3	1	07685	PROPULSION PUMP
4	2	07693	WHEEL MOTOR - END PORT, CHAR LYNN #105-1473-006
5	1	07686	GEAR PUMP, EATON 26005-RZE
6	1	07691	DECK VALVE, POWER SYSTEMS #VAO 963-04 REV.A
7	1	07690	STEERING VALVE, EATON #
8	1	07687	CHECK VALVE
9	1	07688	STEERING FILTER, MP #FMM0502BA-GA03-NP02
10	1	305497	STRAINER
11	1	07316	STRAINER, FLOWEASY #ST-10-100-RV3
12	1	07783	CAP & FILL TUBE - HYDRAULIC TANK, FLOW EASY #ABG1000-3 HI NK
13	2	07803	STRAIGHT THREAD CONNECTOR
14	3	07421	STRAIGHT THREAD ELBOW
15	1	07734	HOSE #1
16	1	07735	HOSE #2
17	5	07812	STR THRD ELBOW
18	1	07736	HOSE #3
19	1	07737	HOSE #4
20	3	07285	STRAIGHT ADAPTER STEEL
21	1	07738	HOSE #5
22	5	07799	STRAIGHT THREAD CONNECTOR
23	1	07811	STRAIGHT THREAD ELBOW
24	1	07739	HOSE #6
25	1	07800	STRAIGHT THREAD CONNECTOR
26	1	07805	STRAIGHT THREAD ADAPTER
27	1	07841	HOSE #7
28	1	07741	HOSE #8
29	1	07802	STRAIGHT THREAD CONNECTOR
30	1	07801	STRAIGHT THREAD CONNECTOR
31	1	07824	FITTING 20C6X-S 90DEG
32	1	07742	HOSE #9
33	1	07297	FITTING 6-V50X-S
34	1	07810	SWIVEL NUT RUN TEE
35	2	07281	STRAIGHT THREAD CONNECTOR
36	1	07743	HOSE #10
37	1	07744	HOSE #11
38	2	07804	STRAIGHT THREAD CONNECTOR
39	2	07809	SWIVEL NUT RUN TEE
40	1	07746	HOSE #13
41	1	07748-1	HOSE #15
42	1	07749	HOSE #16
43	1	07748-2	HOSE #17
44	1	07806	STRAIGHT THREAD CONNECTOR
45	1	07752	HOSE #19



P/N 07787 WIRING HARNESS

FIGURE 13—ELECTRICAL SYSTEM COMPONENTS

Item	Part No.	Description	Qty.
1	07063	HOURMETER	1
2	07697	LED LIGHTS ON INSTRUMENT	5
3	07065	KEYSWITCH	1
4	07496	SWITCH, DECK MOTOR	1
5	07695	RELAY, STARTER SOLENOID	1
6	07700	CIRCUIT BREAKER	1
7	B&S 820373	TIME DELAY MODULE-GLOWPLUG PREHEAT	1
8	07695	RELAY, GLOW PLUG	1
9	07716	SAFETY INTERLOCK PC BOARD	1
10	07787	WIRING HARNESS	1
11	07784	BATTERY CABLE, NEGATIVE	1
12	07785	BATTERY CABLE, POSITIVE	1
13	07786	GROUND STRAP	1
14	07835	CABLE, 5.5” LONG	1
15	07836	CABLE, 6” LONG	1
16	07723	SWITCH, PEDAL NEUTRAL	2
17	ATC-10 AMP	FUSE, 10 AMP, LOCATED IN SIB BOARD	1
18	SV12-34	SOLENOID VALVE, HYDR., HYDRA FORCE	1
-	-	-	-

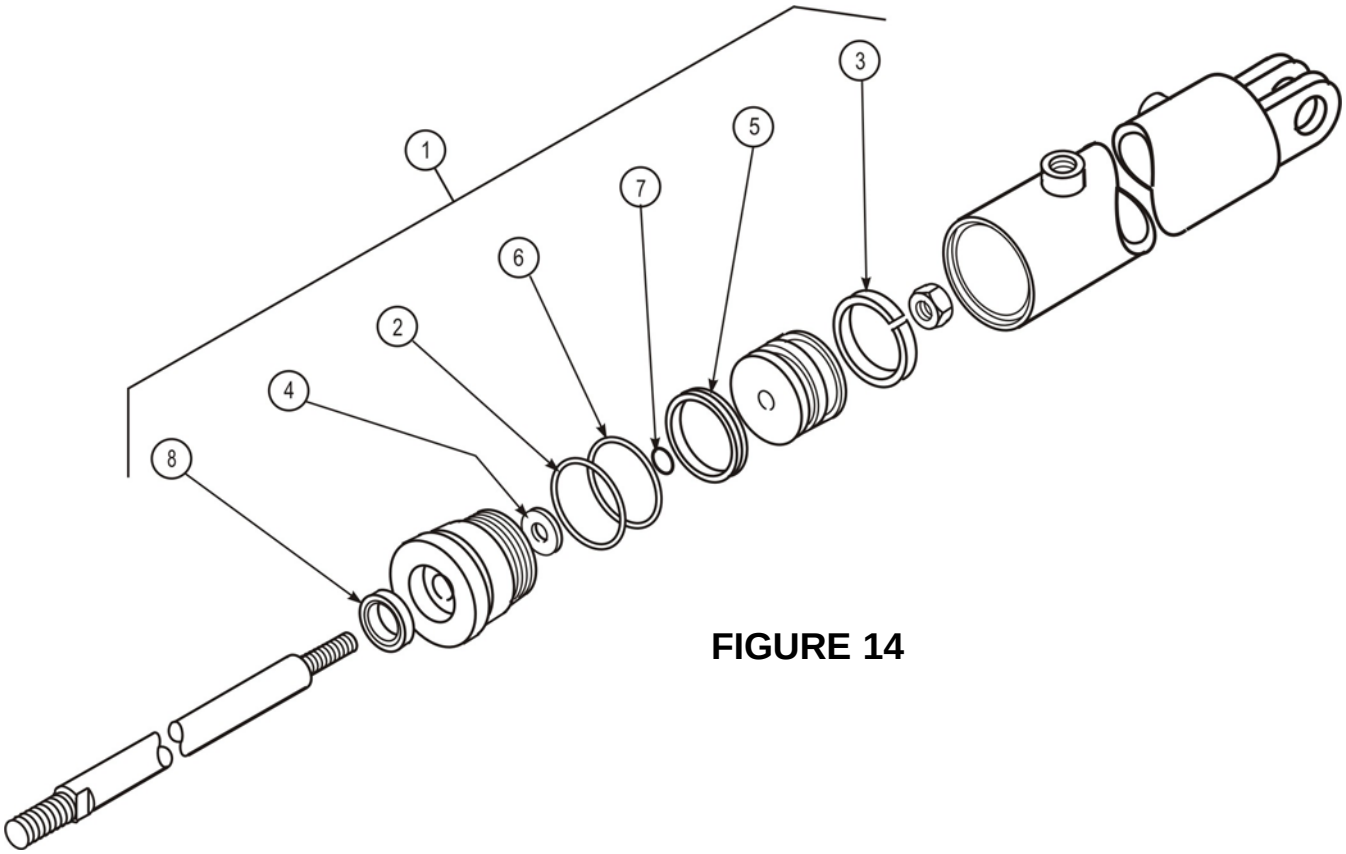
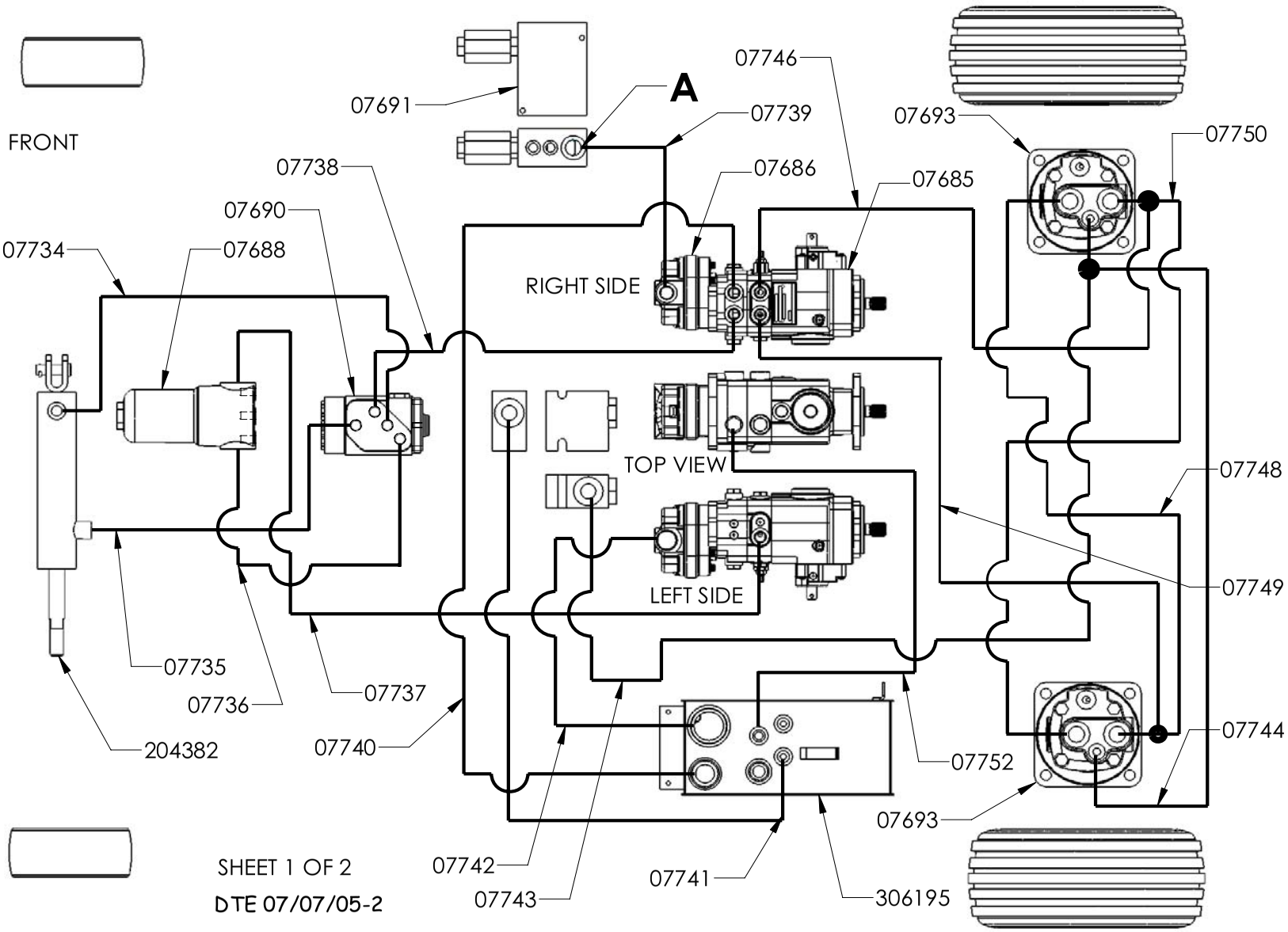


FIGURE 14

FIGURE 14—STEERING CYLINDER, 204382

Item	Part No.	Description	Qty.
1	07501	SEAL KIT (Includes all of below)	1
2	---------	O-RING, 1-1/4”	1
3	---------	WEAR RING, 1.5” x .38” Wide	1
4	---------	WASHER	1
5	---------	CROWN SEAL, 1.5”	1
6	---------	O-RIING	1
7	---------	O-RING	1
8	---------	WIPER	1

STEERING AND DRIVE CIRCUIT



SHEET 1 OF 2

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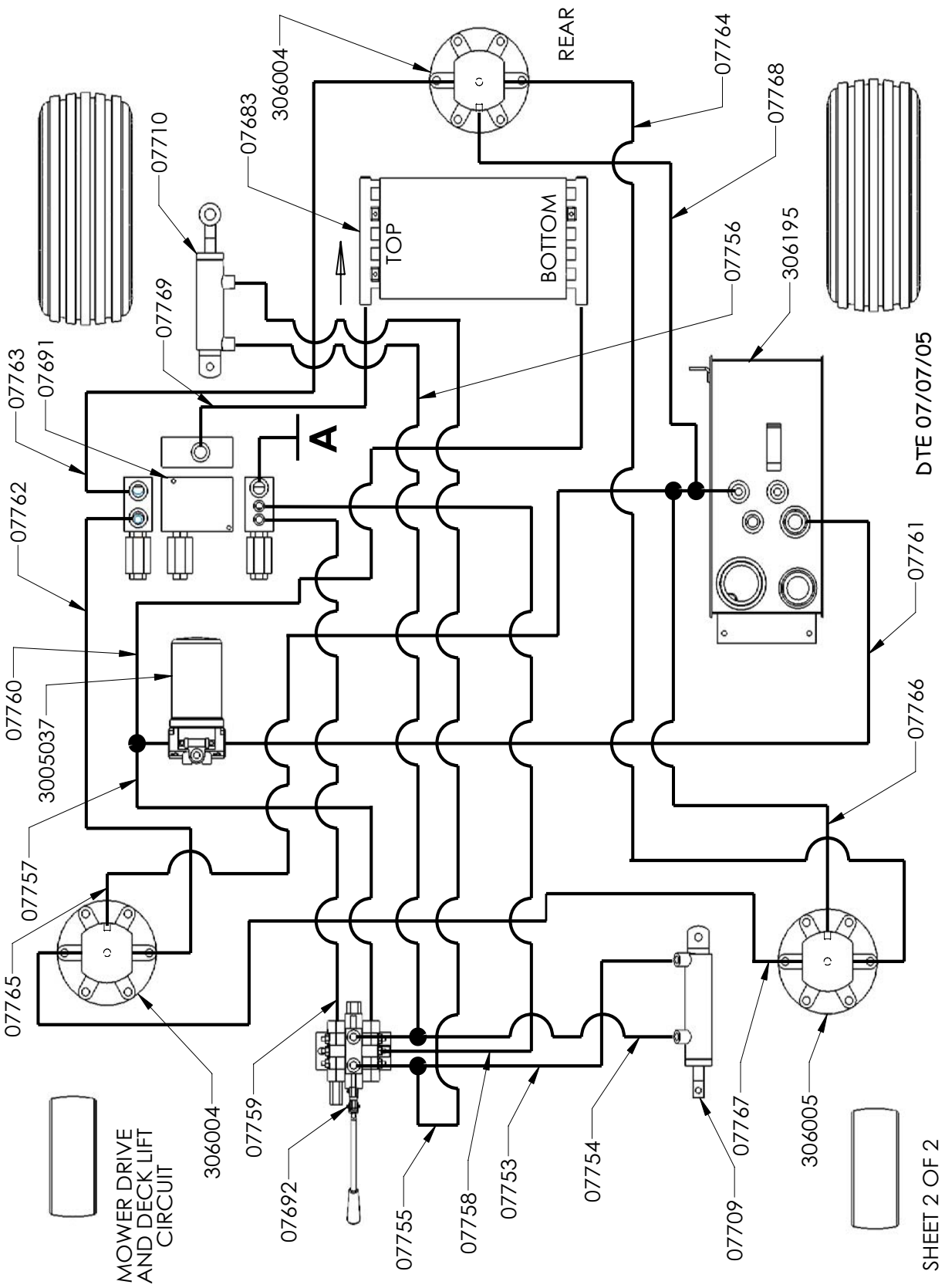
REAR
306004
07683
07764
07768
07710
TOP
BOTTOM
07769
07756
306195
07763
07691
A
07762
07761
DTE 07/07/05
07760
3005037
07766
07757
07765
306004
07759
07692
07755
07758
07753
07754
07767
07709
306005
MOWER DRIVE AND DECK LIFT CIRCUIT
SHEET 2 OF 2

NATIONAL MOWER COMPANY

TWO YEAR LIMITED WARRANTY FOR I-TRIM MOWERS

For the period of two years from the date of purchase, or 1,500 hours, whichever occurs first (45 days if the product is used for rental purposes), National Mower Company will repair or replace free of charge, for the original purchaser, any I-Trim part (except as excluded below) found by inspection to be defective by our Factory Authorized Service Station or by the Factory at St. Paul, Minnesota to be defective in material or workmanship or both. The warranty period for the Hayden oil cooler, Oilgear propulsion pump, and Parker deck motor is 12 months from date of purchase. All transportation charges on parts submitted for repair or replacement under this warranty shall be paid for by the purchaser.

This warranty does not include engines (2 years Briggs & Stratton), engine parts, batteries, or tires which are covered under separate warranties furnished by their manufacturer or supplier.

All service under this warranty will be furnished and performed by our Factory Authorized Service Stations.

This warranty does not cover any product or accessory that has been subject to misuse, neglect, negligence, or accident, or that has been operated or maintained in any way contrary to the operating or maintenance instructions as specified in the Operator's Manual. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which in the reasonable judgment of National are either incompatible with the product or adversely affect its operation, performance or durability.

National reserves the right to change or improve the design of any product or accessory without assuming any obligation to modify any product previously manufactured.

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