

# **Parts & Maintenance Manual**

## **HR-9016 Turbo™ Rotary Mower**

70524 - Detroit Diesel D704LT, 4WD

70525 - Detroit Diesel D704LT, 4WD with ROPS

# To Order Parts

---

1. Write your **full** name and **complete** address on the order.
2. Explain where and how to make shipment.
3. Give product number, name and serial number that is stamped on the name plate or serial plate located on the left rear frame of your product.
4. Order by the quantity desired, the part number, and description of the part as given in the parts list.
5. Send or bring the order to an authorized Textron Turf Care And Specialty Products Dealer.
6. Inspect all shipments on receipt. If any parts are damaged or missing, file a claim with the carrier before accepting.
7. Do not return material without a letter of explanation, listing the parts being returned. Transportation charges must be prepaid.

**Use of other than Textron Turf Care And Specialty Products authorized parts and accessories will void the warranty.**

## Table of Contents

<b>1</b>	<b>Safety</b>		<b>4</b>	<b>Maintenance</b>	
1.1	Operating Safety .....	4	4.1	General .....	16
1.2	Important Safety Notes .....	5	4.2	Inspecting Blades .....	16
<b>2</b>	<b>Specifications</b>		4.3	Sharpening Blades .....	17
2.1	Product Identification .....	6	4.4	Engine .....	18
2.2	Engine .....	6	4.5	Engine Oil .....	18
2.3	Tractor .....	6	4.6	Muffler and Exhaust .....	18
2.4	Weights and Dimensions .....	7	4.7	Air filter .....	19
2.5	Cutting Units .....	7	4.8	Fuel .....	19
2.6	Accessories & Support Literature .....	7	4.9	Fuel System .....	20
<b>3</b>	<b>Adjustments</b>		4.10	Battery .....	20
3.1	General .....	8	4.11	Jump Starting .....	20
3.2	Leveling Decks .....	8	4.12	Charging Battery .....	21
3.3	Servicing Front Deck .....	9	4.13	Hydraulic Hoses .....	21
3.4	Winglet Adjustment .....	9	4.14	Hydraulic Oil .....	22
3.5	Cutting Height .....	10	4.15	Hydraulic Filters .....	22
3.6	Parking Brake .....	11	4.16	Radiator & Oil Cooler .....	23
3.7	Neutral Adjustment .....	11	4.17	Care and Cleaning .....	24
3.8	Neutral Sensing Switch .....	12	4.18	Electrical System .....	24
3.9	Forward Sensing Switch .....	12	4.19	Tires .....	26
3.10	Lift Limit Switches .....	13	4.20	Wheel Mounting Procedure .....	26
3.11	Traction Pedal .....	14	4.21	Rollover Protection Structure (ROPS) .....	27
3.12	Steering Toe-In .....	14	4.22	Storage .....	27
3.13	Steering Stop Bolts .....	14	4.23	Maintenance Chart .....	28
3.14	Torque Specification .....	15	4.24	Lubrication Chart .....	29
			<b>5</b>	<b>Troubleshooting</b>	
			5.1	General .....	30
			<b>6</b>	<b>Parts List</b>	
			6.1	Table of Contents .....	31

# Suggested Stocking Guide

To Keep your Equipment fully operational and productive, Textron Turf Care And Specialty Products suggests you maintain a stock of the more commonly used maintenance items. We have included part numbers for additional support materials and training aids.

To order any of the following material:

1. Write your full name and complete address on your order form.
2. Explain where and how to make shipment:
  - UPS
  - Regular Mail
  - Overnight
  - 2nd Day
3. Order by the quantity desired, the part number, and the description of the part.
4. Send or bring the order to your authorized Textron Turf Care And Specialty Products Dealer.

## Service Parts

Qty.	Part No.	Description	Qty.	Part No.	Description
	5003207	Engine Oil Filter		5003691	Hydraulic Charge Filter
	5003370	Engine Air Filter		5002693	Hydraulic Return Filter
	5003212	Engine Fuel Filter			

## Service Support Material

Qty.	Part No.	Description
	2810264	Safety & Operation Manual
	2810223	Parts & Maintenance
	5003465	Video, Operator Training

Qty.	Description
	Service Manual

## How To Use This Manual

### Abbreviations

**N/S** - Not serviced separately, can only be obtained by ordering main component or kit.

**AR** -Variable quantity or measurement is required to obtain correct adjustment.

**Symbols** such as ●, next to the item number, indicate that a note exists which contain additional information important in ordering that part.

### Bulleted Items

Bulleted items indicate component parts that are included as part of an assembly or another component. These parts can be ordered separately or as part of the main component.

Item	Part No.	Qty	Description	Serial Numbers/Notes
● 1	123456	1	Mount, Valve	<i>Indicates a piece part</i>
2	789012	1	Valve, Lift	<i>Includes Items 2 and 3</i>
3	345678	1	• Handle	<i>Serviced part included with Item 2</i>
4	N/S	1	• Seal Kit	<i>Non serviced part included with Item 2</i>
5	901234	1	Screw, 1/4-20 x 2" Hex Head	

# 1 SAFETY

## 1.1 OPERATING SAFETY

### **WARNING**

#### **EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.**

Familiarize yourself with the location and proper use of all controls. Inexperienced operator's should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Safety and Operation manual, engine manual, accessories and attachments). If the operator can not read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions; or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears hands and feet. Operate the machine only in daylight or in good artificial light.
6. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.) Enter a new area cautiously. Stay alert for hidden hazards.
7. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator can prevent and is responsible for injuries inflicted to themselves, to bystanders and damage to property.
8. Never operate equipment that is not in perfect working order or is without decals, guards, shields, discharge deflectors or other protective devices securely fastened in place.
9. Never disconnect or bypass any switch.
10. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation.
11. Fuel is highly flammable, handle with care.
12. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
13. Disengage all drives and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat, never while standing beside the unit.
14. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads.
15. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
16. Operate the machine up and down the face of the slopes (vertically), not across the face (horizontally).
17. To prevent tipping or loss of control, do not start or stop suddenly; reduce speed when making sharp turns. Use caution when changing direction on slopes.
18. Always use the seat belt when operating tractors equipped with a ROPS.  
*Never use a seat belt when operating tractors without a ROPS.*
19. Keep legs, arms and body inside the seating compartment while the vehicle is in motion.

***This machine is to be operated and maintained as specified in this manual and is intended for the professional maintenance of specialized turf grasses. It is not intended for use on rough terrain or long grasses.***



## 1.2 IMPORTANT SAFETY NOTES



*This safety alert symbol is used to alert you to potential hazards.*

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

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

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

*For pictorial clarity, some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place*



### WARNING

The operator back-up system on this tractor prevents the tractor from starting unless the brake pedal is engaged, mower switch is off and traction pedal is in neutral. The system will stop the engine if the operator leaves the seat without engaging the parking brake or setting the mower switch off.

**NEVER** operate tractor unless the operator back-up system is working.



### WARNING

1. Before leaving the operator's position for any reason:
  - a. Return traction pedal to neutral.
  - b. Disengage all drives.
  - c. Lower all implements to the ground.
  - d. Engage parking brake.
  - e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers, unless a seat is provided for them.
5. Never operate mowing equipment without the discharge deflector securely fastened in place.

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact your Authorized Textron Turf Care And Specialty Products Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service. **Use of other than original or authorized Textron Turf Care And Specialty Products parts and Accessories will void the warranty.**

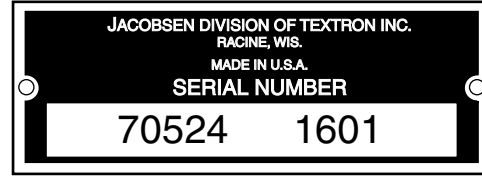
## 2 SPECIFICATIONS

### 2.1 PRODUCT IDENTIFICATION

70524 ..... HR 9016 Turbo, 4 Wheel Drive  
70525 ..... HR 9016 Turbo, 4 Wheel Drive  
with ROPS

Serial Number ..... An identification plate, like the one shown, listing the serial number, is attached to the frame of the tractor and is located to the operator's right just over the rear axle.

Always provide the serial number of the unit when ordering replacement parts or requesting service information.



Product*	EEC Sound Power	Sound Pressure Level Operator Ear	Vibration M/S <sup>2</sup>	
			Arms	Body
70524	105 dba	90 dba	.755	.026
70525	105 dba	90 dba	.755	.026

\* With engine at 2400 RPM (No Load)

### 2.2 ENGINE

Make ..... Detroit Diesel Corp  
Model ..... D704LT  
Horsepower ..... 87 hp (66 kW) @ 3000 rpm  
Displacement ..... 169.4 cu. In. (2.776 liter)  
Torque ..... 236 ft. lbs. (320 Nm) @ 1200 rpm  
Fuel:  
Type ..... No. 2 Diesel (CUNA NC 630.01)  
Rating ..... Min. cetane rating 45  
Capacity ..... 35 U.S. Gal. (151 liters)

Governor Setting:  
High Idle:  
Throttle Stop On ..... 2400 rpm (PTO off)  
2300 rpm (PTO engaged)  
Throttle Stop Off ..... 2750 rpm (Non EU only)  
Low Idle ..... 1050 rpm  
Lubrication:  
Capacity ..... 7 qts.  
Type ..... SAE 15 W40  
API Classification ..... CF 4, CD-II, CE  
Air Filter ..... Dry type with evacuator valve and  
service indicator.  
Alternator ..... 55 amp

### 2.3 TRACTOR

Tires:  
Front ..... 29 x 14 - 15: 8 ply  
Rear ..... 24 x 12 - 12: 6 ply  
Pressure ..... 20-22 psi (138-152 kPa)  
Battery:  
Type ..... Two maintenance Free 12 Volt  
Batteries  
1390 CCA @ 0°F (-18°C)  
Group ..... 75-84N  
Brakes:  
Service ..... Dynamic braking through traction  
circuit.  
Parking ..... Mechanical front wheel drum  
Hand lever actuated  
Turn-assist ..... Mechanical front wheel drum  
Two pedal actuation

Speed:  
Mow ..... 0 - 8.5 mph (13.6 kph)  
Transport - 2 WD ..... 0-20 mph (32 kph)  
Reverse - 2WD ..... 0-5.5 mph (8.9 kph)  
Reverse - 4 WD ..... 0 - 3 mph (4.8 kph)  
Production ..... 16.5 acres per hour @ 8.5 mph

**Hydraulic System:**  
Capacity ..... 55 U.S. gal. (208 liters) System  
Reservoir ..... 33 U.S. gal. (125 liters)  
Fluid Type ..... ISO VG 68  
Cooling ..... Hydraulic oil Cooler  
Charge Filter ..... 10 micron  
Return Line Filter ..... 10 micron  
Steering ..... Hydrostatic power steering

## 2.4 WEIGHTS AND DIMENSIONS

<b>Dimensions:</b>	<b>Inches</b>	<b>(mm)</b>	<b>Weights:</b>	<b>Lbs.</b>	<b>(kg)</b>
Length - Front deck down.....	174	(4420)	Overall (less operator) .....	6385	(2880)
Height - Top of Steering Wheel .....	60	(1524)			
Height - Top of ROPS.....	94	(2388)			
Width - Mow .....	198	(5029)			
Width - Transport.....	95	(2413)			

## 2.5 CUTTING UNITS

Width	Blade size .....	21 in. (533 mm)
Front Deck.....	Tip speed.....	16,500 ft./min. (5029 m/min.)
Side Decks .....	Tires	
Number of Blades	Size.....	Ten 11 x 4.00 - 5.0 (4 ply)
Front Deck.....		Two 13 x 6.50 - 6.0 (4 ply)
Side Decks .....	Pressure .....	20-25 psi (138-173 kPa)
Overall Cutting Width .....		
Cutting Height .....		

## 2.6 ACCESSORIES & SUPPORT LITERATURE

Contact your area Textron Turf Care And Specialty Products Dealer for a complete listing of accessories and attachments.



### CAUTION

Use of other than Textron Turf Care And Specialty Products authorized parts and accessories may cause personal injury or damage to the equipment and will void the warranty.

Air Blow Gun .....	JAC5098	Rear Steering Wheel Weight Kit .....	2812307
Orange Touch-up Paint (12 oz. spray) .....	554598	Carefree Tire Kit .....	2811453
2-Post ROPS with Seat Belt.....	78138	Hood Locking Latch.....	1004049
● All Weather Cab w ROPS and Seat Belt.....	See Below	Cruise Control.....	67888
● Air Conditioner Kit .....	See Below	◆ Snowthrower .....	See Below
Leaf Mulching Kit .....	71055	▲ Rotary Broom .....	See Below
High Lift Blade Kit .....	4116825	<b>Service and Support Literature</b>	
Light Harness Kit.....	5003564	Safety and Operation Manual .....	3010791
Road Light Kit (Requires 5003564).....	78154	Parts and Maintenance Manual .....	2810223
Work Light Kit (Requires 5003564).....	78155	Operator Training Video.....	5003465
Canopy / Sunshade.....	67857	Service & Repair Manual	
● Contact:	Jodale Perry Corporation	▲ Contact:	M-B Companies, Inc.
	Box 990, 300 Route 100		1200 S. Park Street, Box 148
	Morden, Manitoba, Canada R6M 1A8		Chilton, WI 53014
	Phone: (204) 822-9100		Phone: (888) 558-5801
	Fax: (204) 822-9111		Fax: (920) 898-4588
◆ Contact:	Loftness Specialized Equipment, Inc.		
	South Highway 4		
	Hector, MN 55342		
	Phone 800-828-7624		
	Fax (320) 848-6269		
	ATTN Doug Haley		

## 3 ADJUSTMENTS

### 3.1 GENERAL

#### **WARNING**

To prevent injury, lower implements to the ground, disengage all drives, engage parking brake, stop engine and remove key from ignition switch before making any adjustments or performing maintenance.

Make sure the tractor is parked on a solid and level surface. Never work on a tractor that is supported only by the jack. Always use jack stands.

If only the front or rear of the tractor is raised, place chocks in front of and behind the wheels that are not raised.

1. Adjustments and maintenance should always be performed by a qualified technician. If proper

adjustment cannot be made, contact an authorized Textron Turf Care And Specialty Products Dealer.

2. Replace, do not adjust, worn or damaged components.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.

#### **CAUTION**

Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.

4. Do not change governor settings or overspeed the engine.

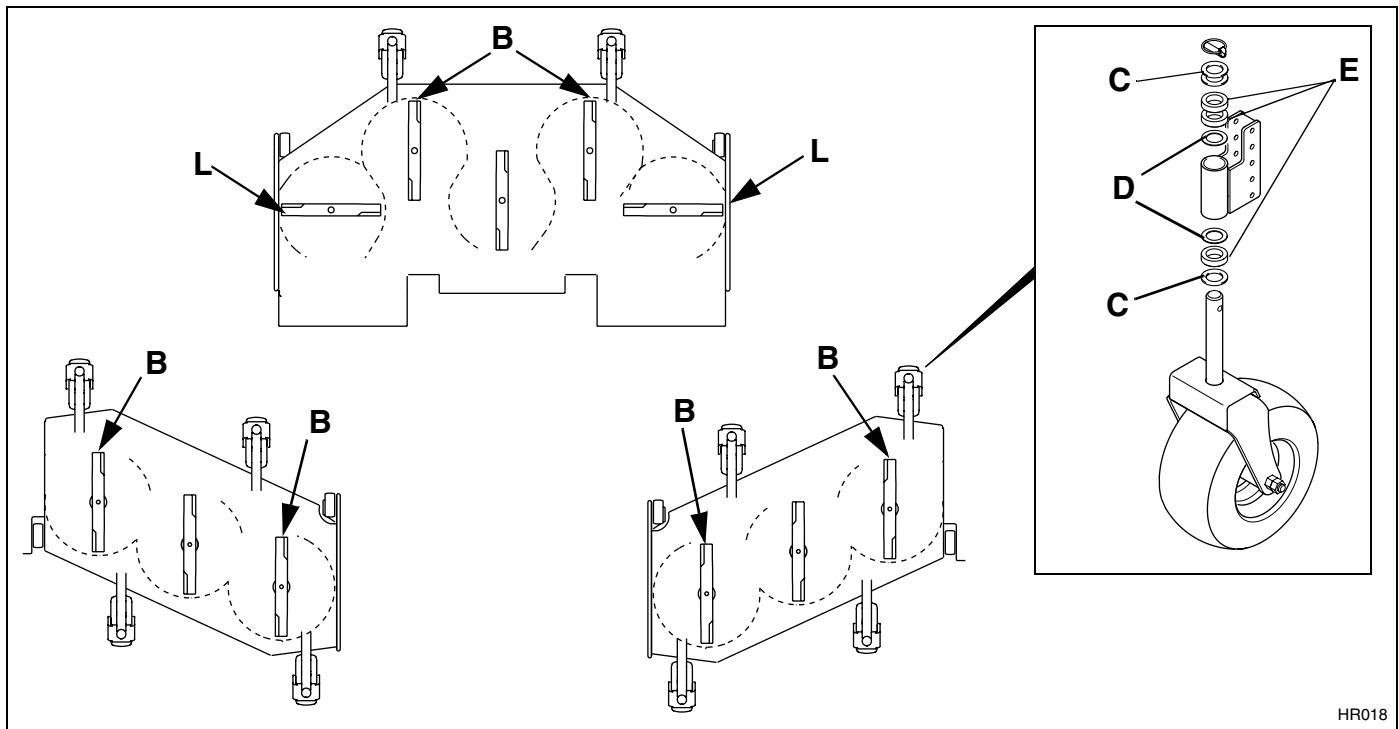
### 3.2 LEVELING DECKS

If the decks or casters have been removed for service or cutting height appears uneven, it may be necessary to level decks. **Adjust casters so cutting heights of outer blades are within 1/8" (3 mm) of each other.**

1. Position tractor and decks on a hard, flat, level surface. Position blades parallel to tractor as shown.
2. Check that air pressure in all caster tires is adjusted **equally**.

3. Set desired cutting height of deck using the 1/2" (13 mm) spacers (**E**) provided. See Section 3.5

4. Measure the height from the ground surface to the front edge (**B**) of the two outer blades for the wing decks and the center section of the front deck. Position the 1/8" (3 mm) leveling washers (**C**) above or below caster pivot as needed to obtain an even cutting height across decks. Keep the 1/16" (1.5 mm) thrust washers (**D**) positioned as shown, one above and one below caster pivot.



HR018

Figure 3A

### 3.3 SERVICING FRONT DECK


The front deck can be raised and tilted up to improve access to the cutting unit and blades for service and cleaning. Be sure to disengage all drives, engage parking brake, stop engine and remove ignition key before working around deck.

#### To tilt front deck up to its service position:

1. Rotate anti-sway mechanism **(F)**, located under left side floor panel, to Service position. Figure 3C
2. Start engine and raise deck until rear gauge wheels are off ground. Stop engine.
3. Remove cut height adjustment pins from gauge wheel bracket so yoke assembly floats freely.
4. Start engine and raise deck to full up position. Stop engine.
5. Manually lift and rotate front of deck up until it is securely latched.

#### To return deck to service:

1. Lift up on deck and pull locking latch **(A)** out.

 <b>CAUTION</b>
<p>Pulling latch out will release the full weight of the deck. Make sure anyone assisting in this procedure is made aware of this before the latch is released.</p>

2. Start engine and lower deck until it is level and caster wheels are just above ground. Stop engine.

### 3.4 WINGLET ADJUSTMENT

1. Winglets must be adjusted to front deck to prevent scalping and possible damage to deck winglets.
2. Rotate front deck blades to positions shown in **Figure 3A**.
3. Measure the height from the ground to the front edge of the center front deck blade **(B)** and the outside edges of winglet blades **(L)**. Add or remove shims **(G)** as required between pad **(H)** and support bracket of winglets, until all front deck blades are at the same height.
4. Store excess shims **(G)** above support bracket.
5. Adjust front winglet support arms **(J)** up or down as required until arm is resting against stop **(K)**.

3. Insert height adjustment pin for rear casters to match cutting height. Figure 3F
4. Rotate anti-sway mechanism **(F)** to it's operating position. Figure 3C

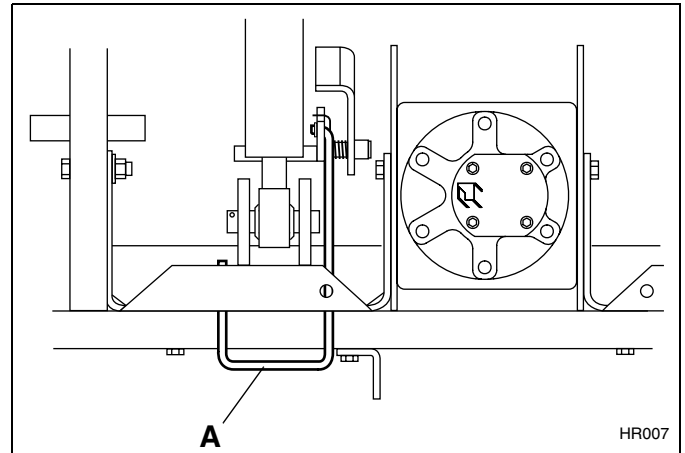


Figure 3B

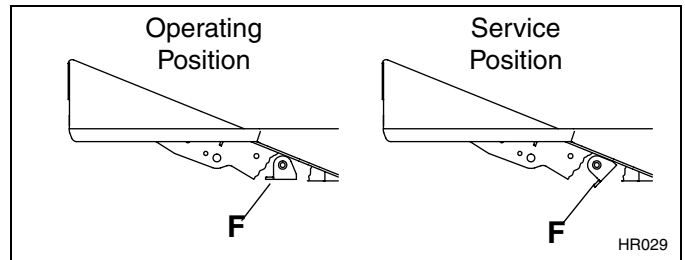


Figure 3C

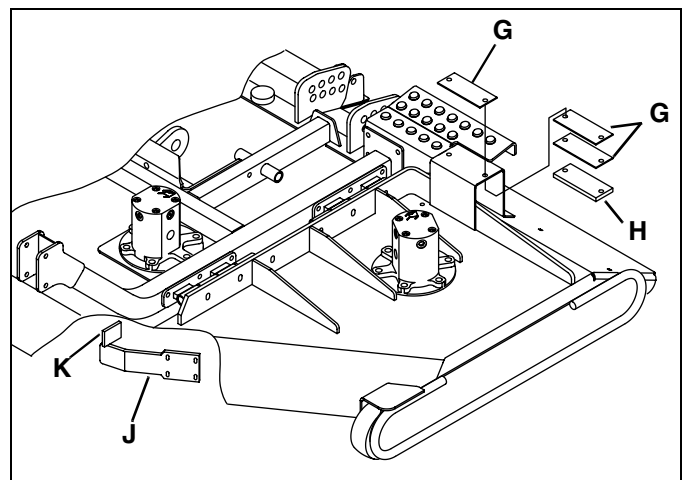


Figure 3D

# 3 ADJUSTMENTS

## 3.5 CUTTING HEIGHT

Cutting height for decks can be adjusted from 1 to 5-1/2 in. (25-125 mm) in 1/2 in. (13 mm) increments. Actual cutting height may vary somewhat from the heights given depending on turf conditions and other factors.

**Note:** When cutting undulating areas, lower cutting heights may cause scalping. Adjust height accordingly to prevent turf damage.

1. Park the tractor on a flat, level surface. Raise the decks until the caster wheels are raised off the ground enough so caster wheels can be removed from deck. Place blocks under decks so they are supported on all sides.

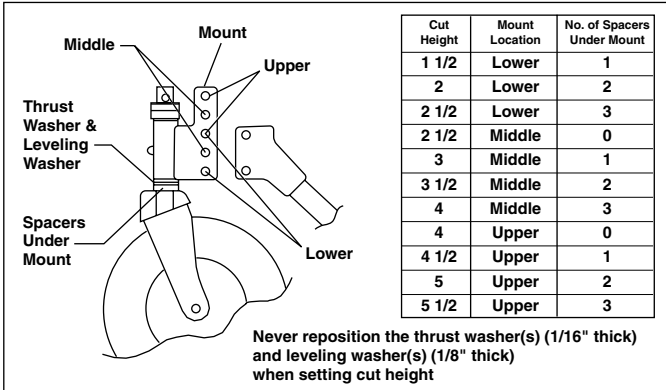


Figure 3E

**⚠ WARNING**

To prevent serious injury, lower deck until it is resting completely on the supports. This will prevent it from accidentally lowering while making adjustments. Disengage all drives, engage parking brake, stop engine and remove ignition key.

To remove inside, front caster from side decks raise the decks to their full upright position and lock in the transport position.

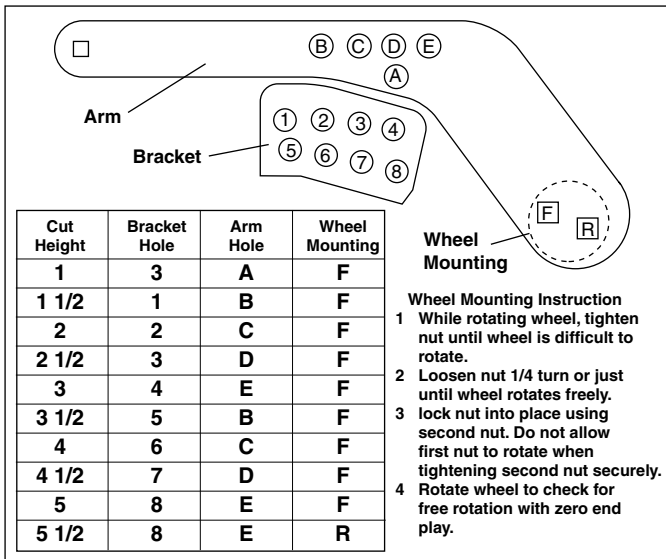
2. Figure 3E shows the height adjustment decal for the casters.

Column 1 - Height of cut  
 Column 2 - Mount Location  
 Column 3 - Arrangement of spacers

Adjust spacers in quantity listed. Store extra spacers on top of spindle. If necessary, reposition wheel mount in holes indicated for height of cut.

**IMPORTANT:** Do not reposition the thin thrust washers (1/16") and leveling washers (1/8") on the spindle. These washers should remain in the same position and quantity they were originally installed. They need only be repositioned if needed to level new casters or decks, Section 3.2

3. To adjust rear gauge wheels on front deck refer to Figure 3F. Raise front deck approximately 12" and support underneath with blocks. Lower deck so it is completely resting on blocks
4. Remove pin from rear gauge wheel yoke and reposition in bracket for desired height of cut. When setting cutting height at 5-1/2", gauge wheel must be repositioned in arm. Follow wheel mounting instructions on decal, Figure 3F.



Gauge Wheel Adjustment for Front Deck

Figure 3F

### Tire pressure

Check air pressure in caster tires, while tires are cool. Maintain air pressure between 20-25 psi (138-173 kPa) to improve accuracy of cutting height.

**Note:** It is important to keep inflation pressures on all caster and gauge tires equal, within the range specified, to ensure an accurate, level cut.

### 3.6 PARKING BRAKE

The brake switch is part of the operator back-up system and senses when the parking brake is engaged. If this switch fails the machine may not start and the operator back-up system will not operate correctly.

**To adjust switch:**

1. Place the parking brake in its full upright (engaged) position.
2. Adjust switch (C) by pivoting switch mounting bracket (B). Align sensing area on switch with brake handle (D).
3. Adjust gap between sensing area on switch and brake lever to 1/16 - 1/8" (1.5 - 3 mm). To adjust gap use shims (E) or #10 washers (F) as required between switch and switch mount.

4. When properly installed the switch will be closed when the parking brake is engaged and open when the brake is disengaged.

**Important:** Always check operator back-up system after replacing or adjusting switch. (See Safety and Operation Manual)

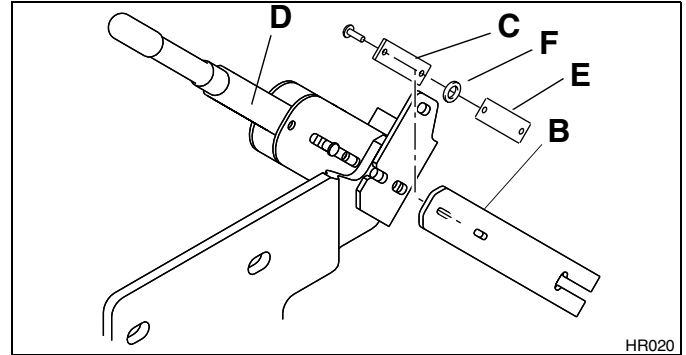


Figure 3G

### 3.7 NEUTRAL ADJUSTMENT

**Important:** The neutral adjustment on the drive pump is preset at the factory on all new tractors and replacement pumps. Further adjustment is required **only** if the pump has been disassembled for service or neutral lever bracket (F) has become loose.

**To adjust neutral on pump:**

1. Disconnect traction pedal linkage from pump. Remove switch mounting bracket from pump.
2. Place tractor securely on jack stands so **All** wheels are raised off ground.
3. Check that tow valve (H) is completely closed.
4. Loosen screws (G) holding pump return arm bracket just enough so it can be moved.
5. Engage parking brake and set PTO switch to neutral.

The neutral sensing switch must be closed in order to start the tractor. At this point the switch may not yet be assembled to pump. To close switch so engine can be started, place it face down on metal frame.

6. Start engine and observe wheels. Rotate bracket (F) in slotted holes until wheels do not turn. Turn off engine and tighten bracket in place.
7. Connect traction pedal linkage, Section 3.11, and install and adjust switches, Sections 3.8 and 3.9.
8. Start engine and check operation of traction pedal. Wheels must not turn when pedal returns to neutral.

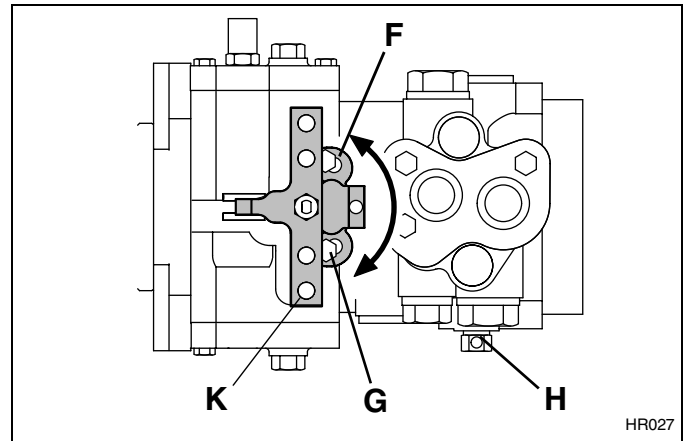


Figure 3H

## 3 ADJUSTMENTS

### 3.8 NEUTRAL SENSING SWITCH

The neutral sensing switch is part of the operator backup system. It is designed to prevent the tractor from starting unless the traction pedal is in neutral. If this switch fails or is out of adjustment the tractor will not start.

1. Make sure drive pump and traction pedal linkage are adjusted to neutral. Sections 3.7 and 3.11.
2. Position switch so pointer **(A)** on activator plate is centered over sensing area on switch.
3. Adjust switch so gap between sensing surface on switch and end of pointer is between 1/16" - 1/8" (1.5 - 3 mm). Secure switch in this position.
4. After adjustment check operation of operator backup system.

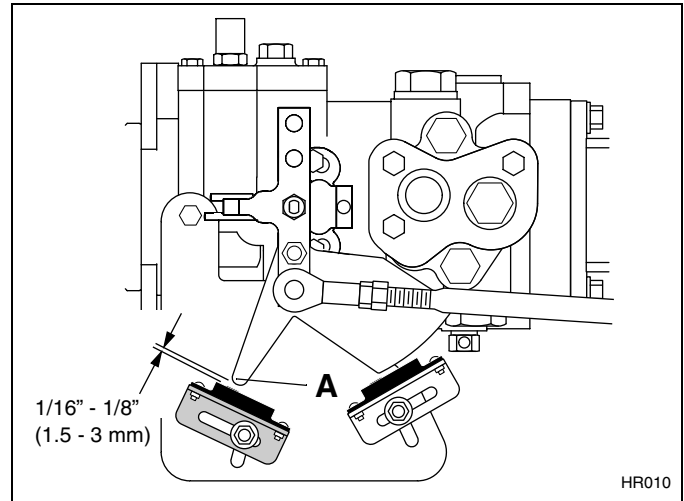


Figure 3I

### 3.9 FORWARD SENSING SWITCH

The forward sensing switch allows the tractor to operate in four wheel drive only with the traction pedal in its forward position. When operating in reverse the switch opens and returns the tractor to two wheel drive. If four wheel drive fails to operate, check adjustment and operation of sensing switch.

1. Make sure drive pump, traction pedal linkage and neutral sensing switch are adjusted to neutral, Sections 3.7, 3.11 and 3.8.
2. Adjust switch so gap between sensing surface on switch and edge of activator plate is between 1/16" - 1/8" (1.5 - 3 mm).
3. Disconnect switch from wiring harness and connect a continuity meter across switch leads **(B)**. With traction pedal in neutral, slide switch back until it opens, then forward until it closes. Secure switch in this position.
4. With continuity meter still attached check adjustment by pressing traction pedal.

**Switch closed** - traction pedal in neutral and during full forward range of pedal.

**Switch open** - Full reverse range of pedal.

5. Connect switch to wiring harness and check operation of four wheel drive.

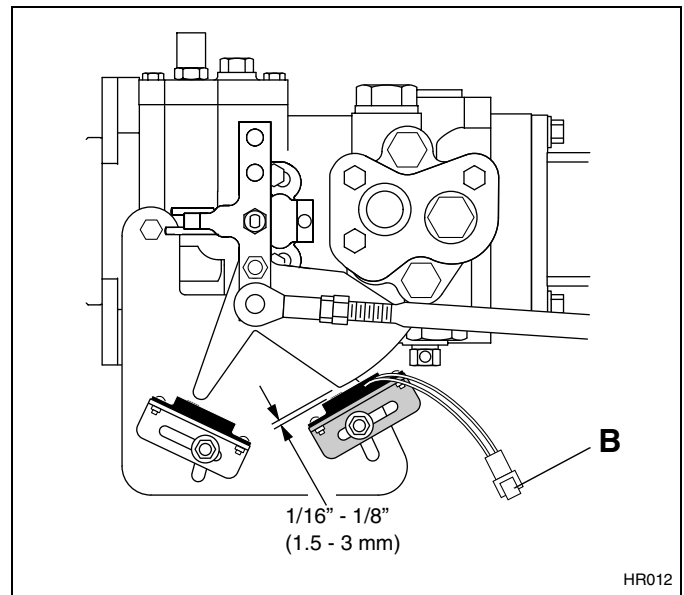


Figure 3J



### 3.10 LIFT LIMIT SWITCHES

The rotation of the cutting blades is controlled by limit switches positioned on the tractor frame near the lift arms for each deck. When a deck is raised the switch opens and automatically disengages the cutting blades. As the deck is lowered, the switch closes and the blades engage. If a switch fails, the cutting blades will not engage when lowered.

**To adjust limit switches:**

1. Park tractor on a level surface.
2. Start tractor and raise or lower decks until the highest point on the top corner of the deck reaches the height shown in Figure 3K.

3. Shut off engine and remove key. Support decks using blocks. This will prevent them from accidentally lowering while making adjustments.
4. Position switch so sensing area (C) on switch is centered over leading edge (A) of activator plate on lift arm.
5. Adjust gap between sensing area on switch and activator plate on lift arm to 1/16"-1/8" (1.5 - 3 mm). To adjust gap for front lift arm use shims (D) or #10 flat washers (B) between switch and switch mount.

Check operation of limit switches. Blades must stop rotating as decks are raised above heights shown.

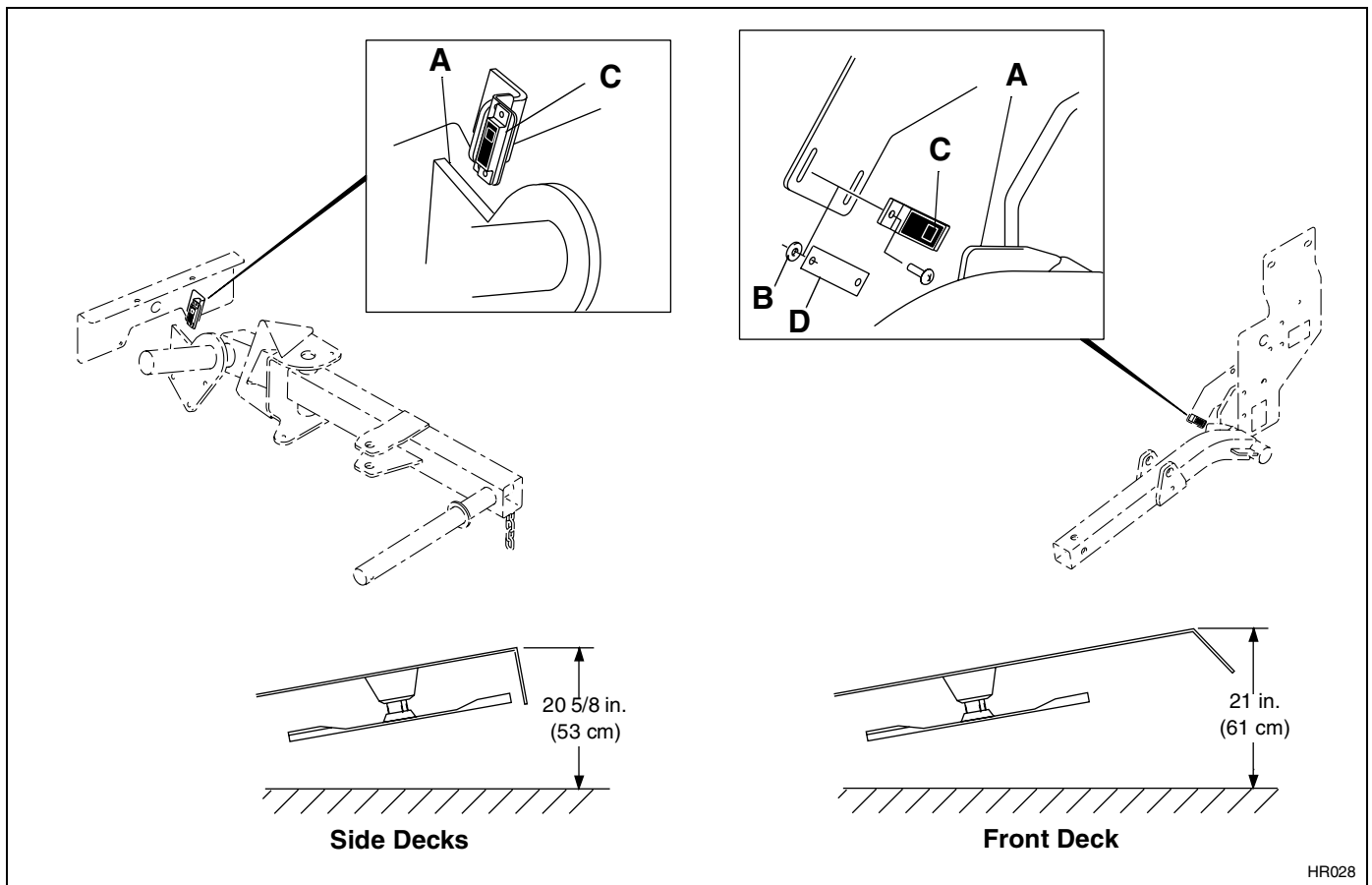


Figure 3K

## 3 ADJUSTMENTS

### 3.11 TRACTION PEDAL

The traction pedal must be adjusted so the pump is at full stroke when the pedal is fully depressed in the forward position.

1. Make sure return arm (**K-Figure 3H**) on pump is adjusted to neutral, Section 3.7.
2. Push traction pedal forward (**I**) until it touches floor panel and hold in this position.
3. Adjust turn buckle (**J**) until you feel the return arm hit the internal stop in pump. Backoff rod 2-3 turns from this position. This ensures that the traction pedal bottoms out before the return arm.

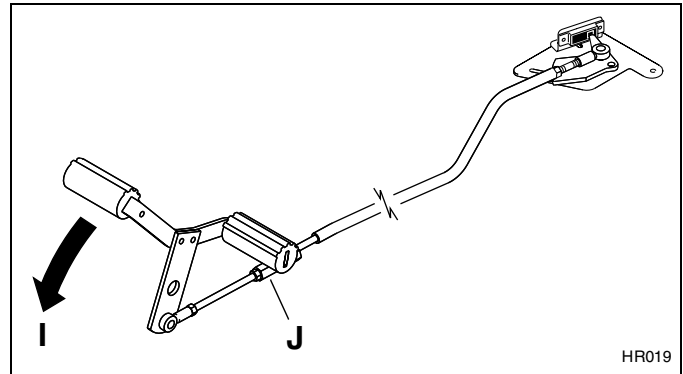


Figure 3L

### 3.12 STEERING TOE-IN

1. Turn wheels to straight ahead position.
2. Loosen jam nuts (**M**) on both ends of tie rod (**N**).
3. Turn tie rod (**N**) to provide proper toe-in. Toe-in must not exceed  $X + 1/4"$  (6.3 mm). Tighten jam nuts (**M**).

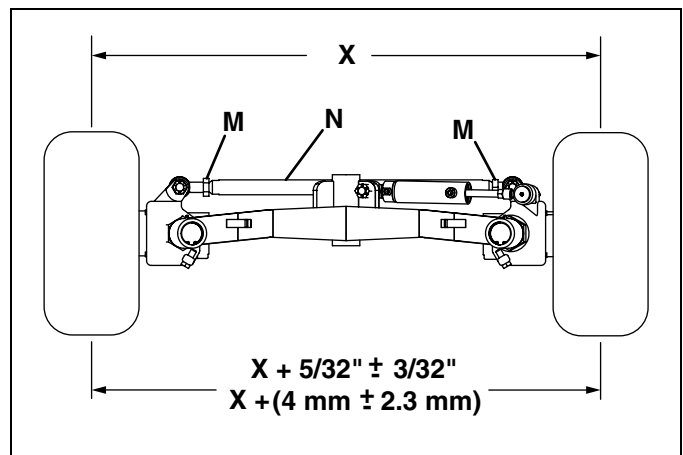


Figure 3M

### 3.13 STEERING STOP BOLTS

1. Steering toe-in must be set before adjusting stop bolts. If toe-in is changed, stop bolts must be re-adjusted.
2. Turn stop bolts (**P and Q**) out as far as possible without removing them.
3. Turn steering wheel to the right until right rear tire is at a  $45^\circ$  angle to steering axle. Thread stop bolt (**P**) in until bolt touches axle.
4. Turn steering wheel to the left until left rear tire is at a  $45^\circ$  angle to steering axle. Thread stop bolt (**Q**) in until bolt touches axle.

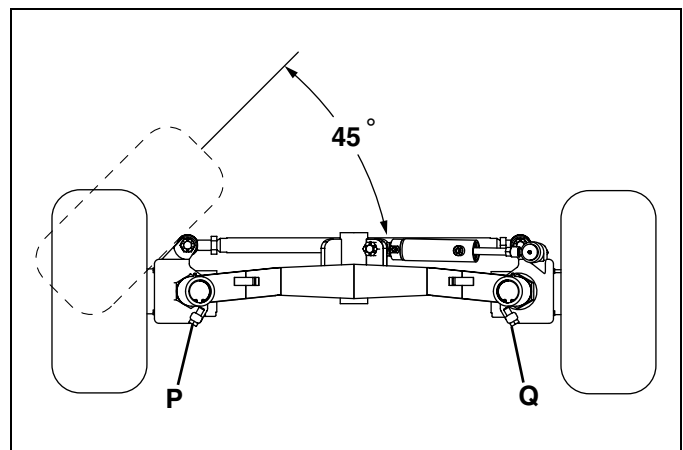


Figure 3N





3.14 TORQUE SPECIFICATION

**CAUTION**





All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Textron Turf Care And Specialty Products is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Textron Turf Care And Specialty Products uses Grade 5 Plated bolts as standard, unless otherwise noted. For tightening plated bolts, use the value given for lubricated.

**AMERICAN NATIONAL STANDARD FASTENERS**

SIZE	UNITS					SIZE	UNITS				
		GRADE 5		GRADE 8				GRADE 5		GRADE 8	
		Lubricated	Dry	Lubricated	Dry			Lubri-cated	Dry	Lubri-cated	Dry
#6-32	in-lb (Nm)	-	20 (2.3)	-	-	7/16-14	ft-lb (Nm)	37 (50.1)	50 (67.8)	53 (71.8)	70 (94.9)
#8-32	in-lb (Nm)	-	24 (2.7)	-	30 (3.4)	7/16-20	ft-lb (Nm)	42 (56.9)	55 (74.6)	59 (80.0)	78 (105)
#10-24	in-lb (Nm)	-	35 (4.0)	-	45 (5.1)	1/2-13	ft-lb (Nm)	57 (77.2)	75 (101)	80 (108)	107 (145)
#10-32	in-lb (Nm)	-	40 (4.5)	-	50 (5.7)	1/2-20	ft-lb (Nm)	64 (86.7)	85 (115)	90 (122)	120 (162)
#12-24	in-lb (Nm)	-	50 (5.7)	-	65 (7.3)	9/16-12	ft-lb (Nm)	82 (111)	109 (148)	115 (156)	154 (209)
1/4-20	in-lb (Nm)	75 (8.4)	100 (11.3)	107 (12.1)	143 (16.1)	9/16-18	ft-lb (Nm)	92 (124)	122 (165)	129 (174)	172 (233)
1/4-28	in-lb (Nm)	85 (9.6)	115 (13.0)	120 (13.5)	163 (18.4)	5/8-11	ft-lb (Nm)	113 (153)	151 (204)	159 (215)	211 (286)
5/16-18	in-lb (Nm)	157 (17.7)	210 (23.7)	220 (24.8)	305 (34.4)	5/8-18	ft-lb (Nm)	128 (173)	170 (230)	180 (244)	240 (325)
5/16-24	in-lb (Nm)	173 (19.5)	230 (26.0)	245 (27.6)	325 (36.7)	3/4-10	ft-lb (Nm)	200 (271)	266 (360)	282 (382)	376 (509)
3/8-16	ft-lb (Nm)	23 (31.1)	31 (42.0)	32 (43.3)	44 (59.6)	3/4-16	ft-lb (Nm)	223 (302)	298 404	315 (427)	420 (569)
3/8-24	ft-lb (Nm)	26 (35.2)	35 (47.4)	37 (50.1)	50 (67.8)	7/8-14	ft-lb (Nm)	355 (481)	473 (641)	500 (678)	668 (905)

**METRIC FASTENERS**

SIZE	UNITS									Non Critical Fasteners into Aluminum
		4.6		8.8		10.9		12.9		
		Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	
M4	Nm (in-lb)	-	-	-	-	-	-	3.83 (34)	5.11 (45)	2.0 (18)
M5	Nm (in-lb)	1.80 (16)	2.40 (21)	4.63 (41)	6.18 (54)	6.63 (59)	8.84 (78)	7.75 (68)	10.3 (910)	4.0 (35)
M6	Nm (in-lb)	3.05 (27)	4.07 (36)	7.87 (69)	10.5 (93)	11.3 (102)	15.0 (133)	13.2 (117)	17.6 (156)	6.8 (60)
M8	Nm (in-lb)	7.41 (65)	9.98 (88)	19.1 (69)	25.5 (226)	27.3 (241)	36.5 (323)	32.0 (283)	42.6 (377)	17.0 (150)
M10	Nm (ft-lb)	14.7 (11)	19.6 (14)	37.8 (29)	50.5 (37)	54.1 (40)	72.2 (53)	63.3 (46)	84.4 (62)	33.9 (25)
M12	Nm (ft-lb)	25.6 (19)	34.1 (25)	66.0 (48)	88.0 (65)	94.5 (70)	125 (92)	110 (81)	147 (108)	61.0 (45)
M14	Nm (ft-lb)	40.8 (30)	54.3 (40)	105 (77)	140 (103)	150 (110)	200 (147)	175 (129)	234 (172)	94.9 (70)

## 4 MAINTENANCE

### 4.1 GENERAL

#### **WARNING**

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries

Make sure the tractor is parked on a solid and level surface. Never work on a tractor that is supported only by the jack. Always use jack stands.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustments cannot be made, contact an Authorized Textron Turf Care And Specialty Products Dealer.
2. Inspect the equipment on a regular basis, establish a maintenance schedule and keep detailed records.
  - a. Keep the equipment clean.
  - b. Keep all moving parts properly adjusted and lubricated.
  - c. Replace worn or damaged parts before operating the machine.
  - d. Keep all fluids at their proper levels.
  - e. Keep shields in place and all hardware securely fastened.
  - f. Keep tires properly inflated.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.
4. Use the illustrations in the Parts List as reference for the disassembly and reassembly of components.
5. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to local, state or federal regulations.

### 4.2 INSPECTING BLADES

1. Every 50 hours of operation or whenever mower is removed from tractor, carefully examine the blades to make sure they are in good operating condition. Blades showing any bends (**G**), grooves (**H**) or cracks (**J**) must be replaced.

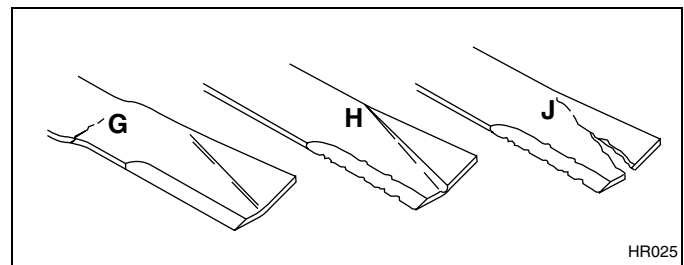
#### **CAUTION**

Use care when checking blades to avoid pinching hands and fingers between blade ends.

#### **WARNING**

Never attempt to straighten, weld or repair a damaged blade. Always replace a damaged blade.

2. Any of the above conditions can cause a piece of the blade to break away and be hurled from the mower; causing very serious injury to bystanders or property damage.
3. A bent blade could have a microscopic crack (**G**) that can grow and allow a piece of the blade to break. Bent blades will also create vibration and other stress on the machinery.
4. Dust or sand particles can wear a dangerous groove in the blade (**H**) between the air vanes and the flat portion of the blade that will rapidly grow and produce a crack (**J**), permitting a piece of the vane to break off.



**Figure 4A**

### 4.3 SHARPENING BLADES

1. Place a wooden block between the blade and mower housing to stop the blade from moving. To remove blade, turn screw holding blade counterclockwise.

**⚠ WARNING**

The mower blades can develop sharp edges. Use caution whenever servicing and handling.

2. When dressing or sharpening the blade, do not follow the original pattern of grind as shown in (A). Grind new cutting edges at an angle as shown in (B).

If the maximum total loss of the blade reaches 1/2 in., (13 mm), do not sharpen further, replace blade.

**⚠ WARNING**

Resharpener the blade beyond the allowable 1/2 in., (13 mm) may allow blade tip break off and be thrown from the mower. Such an incident can cause very serious injury to bystanders and/or property damage.

3. Make sure an equal amount of material is removed from both sides of blade to prevent having an unbalanced blade. An unbalanced blade will cause excessive vibration and may damage the mower.
4. Use a blade balancer to check the blade after sharpening.
5. Attach blade to mower. Install blades so cutting edges (C) face the direction of rotation as shown in Figure 4C. Beveled cutting edge of blade must face in toward deck housing.

Torque center mounting screw holding blade to 75 to 90 ft. lb. (100 to 120 Nm).

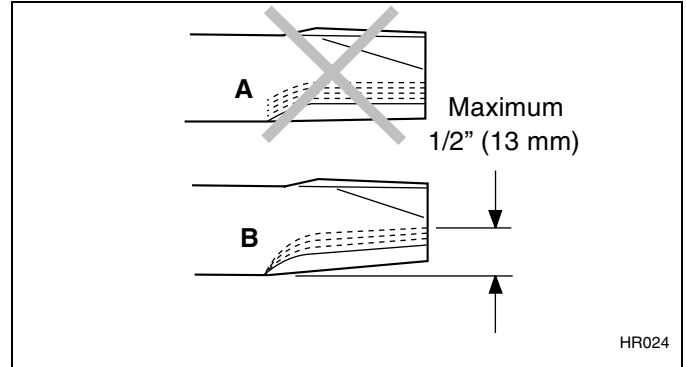


Figure 4B

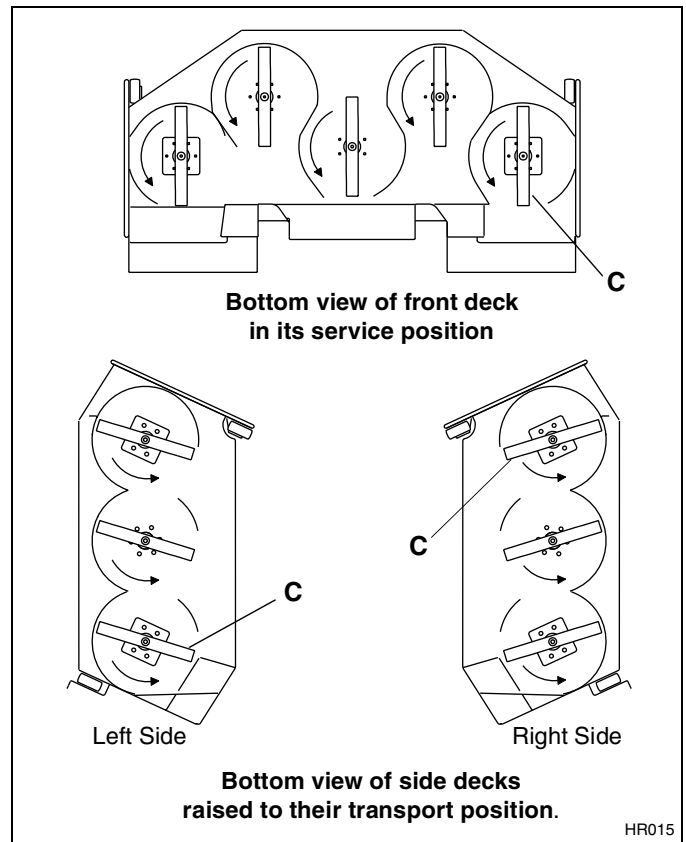


Figure 4C

## 4 MAINTENANCE

### 4.4 ENGINE

**IMPORTANT:** A separate *Engine Manual*, prepared by the engine manufacturer, is supplied with this tractor. Read the engine manual carefully until you are familiar with the operation and maintenance of the engine. Proper attention to the engine manufacturer's directions will assure maximum service life of the engine. To order replacement engine manuals contact the engine manufacturer.

The proper break-in of a new engine can make a considerable difference to the performance and life of the engine.

During the break-in period, Textron Turf Care And Specialty Products recommends the following:

1. During the first 50 hours of operation, a new engine should be allowed to reach an operating temperature of at least 140°F (60°C) prior to operation at full load.

2. Check the engine oil level twice daily during the first 50 hours of operation. Higher than normal oil consumption is not uncommon during the initial break-in period.
3. Change engine oil and oil filter element after first 50 hours of operation.
4. Check and adjust fan and alternator belts.
5. Refer to Section 4.23 and Engine Manual for specific maintenance intervals and procedures.

If the injection pump, injectors or the fuel system require service, contact an authorized Textron Turf Care And Specialty Products Dealer.

**Note:** The tractor is designed to operate and cut most efficiently at the preset governor setting. Do not change the engine governor settings or overspeed the engine.

### 4.5 ENGINE OIL

Check the engine oil at the start of each day, before starting the engine. If the oil level is low, remove oil filler cap and add oil as required up to MAX mark on dipstick.

Perform initial oil change after first 25 hours of operation and every 250 hours thereafter. See Engine Manual.

Use engine oil with API classification CD-II, CE, CF-4. See Engine Manual for complete specifications.

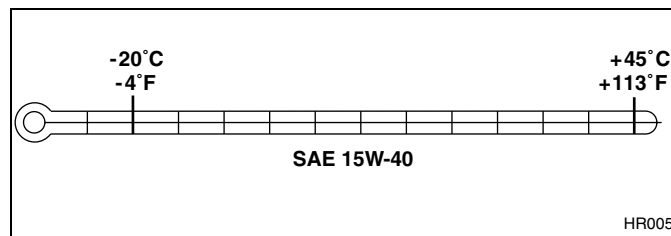


Figure 4D

### 4.6 MUFFLER AND EXHAUST



#### WARNING

Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.

**NEVER** operate an engine without proper ventilation.

To protect from carbon monoxide poisoning, inspect the complete exhaust system regularly and always replace a defective muffler. If you notice a change in the color or sound of the exhaust, stop the engine immediately. Identify the problem and have the system repaired.

Torque all exhaust manifold hardware evenly. Tighten or replace exhaust clamps.

### 4.7 AIR FILTER

Check the service indicator daily. Replace air cleaner element immediately when red band becomes visible **(A)**

**Do not remove the element for inspection or cleaning.** Unnecessary removal of the filter increases the risk of injecting dust and other impurities into the engine.

When service is required, first clean the outside of the filter housing; then remove the old element as gently as possible and discard.

1. Carefully clean the inside of the filter housing without allowing dust into the air intake.
2. Inspect the new element. Do not use a damaged element and never use an incorrect element.
3. Assemble the new element and make sure it seats properly. Reset the indicator by depressing button **(B)**.
4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator **(C)** must be facing down.

5. Check all hoses and air ducts. Tighten hose clamps.

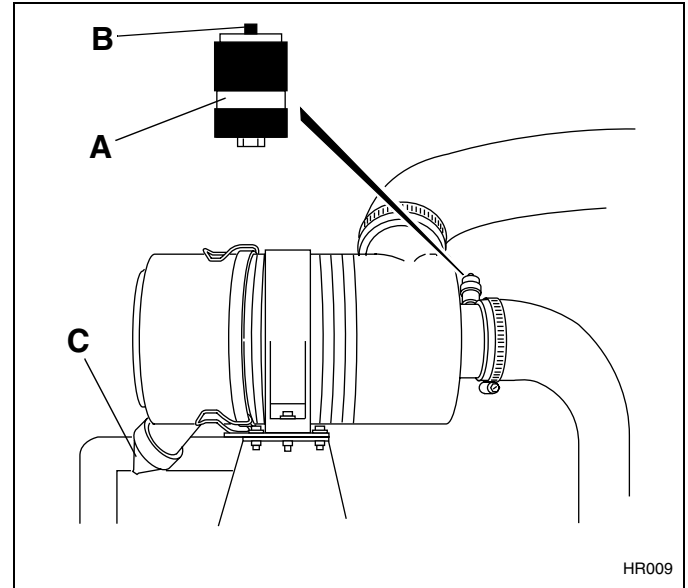



Figure 4E

### 4.8 FUEL

**Handle fuel with care - it is highly flammable.** Use an approved container, the spout must fit inside the fuel filler neck. Avoid using cans and funnels to transfer fuel.

 <b>WARNING</b>
<p>Never remove the fuel cap from the fuel tank, or add fuel, when the engine is running or while the engine is hot.</p> <p>Do not smoke when handling fuel. Never fill or drain the fuel tank indoors.</p> <p>Use care to avoid spilling fuel. If fuel is spilled, clean it up immediately.</p> <p>Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.</p> <p>Be sure to reinstall and tighten fuel cap securely.</p>

- Replace fuel lines and clamps at the first sign of damage.
- Store fuel according to local, state or federal ordinances and recommendations from your fuel supplier.
- Never overfill or allow the tank to become empty.

***Read Engine Owner's Manual for additional fueling information.***

- Fill the fuel tank to within 1 in. (25 mm) below the filler neck.
- Use clean, fresh, #2 Diesel fuel. Minimum Cetane Rating 45. Refer to Engine Manual for additional information.

## 4 MAINTENANCE

---

### 4.9 FUEL SYSTEM

---

Refer to Section 4.23 for specific maintenance intervals.

**See Engine Manual for detailed procedures.**

Before replacing any filter, thoroughly clean the filter housing and the area around the filter. Dirt must not be allowed to enter into fuel system.

Bleed the fuel system after the fuel filter and lines have been removed, or the fuel tank has become empty.

**To change fuel filter:**

1. Close fuel valve on tank; then remove and discard the existing filter.
2. Apply a light coat of oil to the gasket and hand tighten new filter.
3. Fill fuel tank. Open fuel valve on tank and bleed the filter. See Engine Manual. Clean any spilled fuel immediately.

### 4.10 BATTERY

---

Make absolutely certain the ignition switch is “Off” and the key has been removed before servicing the battery.

#### CAUTION

Always use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. You must read and obey all battery manufacturer’s instructions

Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep vent caps and terminal covers in place

Keep the cable ends, battery and battery posts clean.

Verify battery polarity before connecting or disconnecting the battery cables.

1. When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.
2. When removing the battery, always remove the ground, BLACK, negative (-) cable first and the RED, positive (+) cable last.
3. Make sure battery is properly installed and secured to the battery tray.

#### WARNING

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling.**

### 4.11 JUMP STARTING

---

Before attempting to “jump start” the tractor, check the condition of the discharged battery. Section 4.10

#### WARNING

Batteries generate explosive hydrogen gas. To reduce the chance of an explosion, avoid creating sparks near battery. Always connect the negative jumper cable to the frame of the tractor with the discharged battery, away from the battery.

**When connecting jumper cables:**

1. Stop the engine on vehicle with good battery.
2. Connect RED jumper cable to the positive (+) terminal on the good battery and to the positive (+) terminal on the “discharged” battery.
3. Connect the BLACK jumper cable from the negative (-) terminal on the good battery to the **frame** of tractor with discharged battery.

After cables have been connected, start the engine on the vehicle with the good battery then start the tractor.



### 4.12 CHARGING BATTERY

 **WARNING**

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion, keep any device that may create sparks or flames away from the battery.

To prevent injury, stand away from battery when the charger is turned on. A damaged battery could explode.

1. Refer to Section 4.10. Read the Battery and Charger’s manual for specific instructions.

2. Whenever possible, remove the battery from the tractor before charging. If battery is not sealed, check that the electrolyte covers the plates in all the cells.
3. Make sure the charger is “Off”, then connect the charger to the battery terminals as specified in the charger’s manual.
4. Always turn the charger “Off” before disconnecting charger from the battery terminals.

### 4.13 HYDRAULIC HOSES

 **WARNING**

To prevent serious injury from hot, high pressure oil, never use your hands to check for oil leaks, use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

1. Always lower implements to ground, disengage all drives, engage parking brake, stop engine and remove key before inspecting or disconnecting hydraulic lines or hoses.
2. Check visible hoses and tubes daily. Look for wet hoses or oil spots. Replace worn or damaged hoses and tubes before operating the machine.
3. The replacement tube or hoses must be routed in the same path as the existing hose, do not move clamps, brackets and ties to a new location.
4. Thoroughly inspect all tubes, hoses and connections every 300 hours.

**IMPORTANT: The hydraulic system can be permanently damaged if the oil becomes contaminated.** Before disconnecting any hydraulic component, clean the area around the fittings and the hose ends to keep impurities out of the system.

- a. Before disconnecting any hydraulic component, tag or mark the location of each hose then clean the area around the fittings.
- b. As you disconnect the component, be prepared to assemble plugs or caps to the hose ends and

open ports. This will keep impurities out of the hydraulic system and also prevent oil spills.

- c. Make sure “O” rings are clean and hose fittings are properly seated before tightening.
- d. Keep the hose from twisting. Twisted hoses can cause couplers to loosen as the hose flexes during operation resulting in oil leaks.
- e. Kinked or twisted hoses can restrict the oil flow causing the system to malfunction and the oil to overheat and also lead to hose failure.

## 4 MAINTENANCE

---

### 4.14 HYDRAULIC OIL

---

Refer to Section for specific maintenance intervals.

Drain and replace the hydraulic oil if you notice the presence of water or foam in the oil, a rancid odor (indicating excessive heat), or after a major component failure,

Always replace both hydraulic filters when oil filter light stays on or when changing oil.

#### To change hydraulic oil:

1. Clean the area around the oil cap to prevent impurities from entering and contaminating the system.
2. Remove drain plug from bottom of tank.
3. After oil has drained install drain plug and fill with Textron Turf Care And Specialty Products Hydraulic oil.
4. Purge air from system.
  - a. Operate all tractor functions for about 5 minutes to purge air out of the system and stabilize the oil level. During this time, the oil level alarm may sound.
  - b. Once the level has stabilized and the air is purged, fill the tank to the full mark on dipstick. Start engine and check that oil alarm remains off.

### 4.15 HYDRAULIC FILTERS

---

The hydraulic system is protected by two 10 micron filters; a charge filter **(B)** and return line filter **(A)**. Flow through the filters is monitored during operation. When pressure drop across the filters is too high the hydraulic oil filter warning light will come on. To ensure continued protection to the hydraulic system, replace filters as soon as possible if light continues to remain on even after hydraulic fluid has warmed up.

**Note:** *The warning light will normally come on immediately after starting tractor and remain on until oil has warmed to operating temperature. Wait until oil has warmed up and light goes out before operating tractor.*

#### To replace hydraulic filters:

Replace filters once a year when changing hydraulic fluid, or when filter warning light on instrument panel remains on.

The return line filter is mounted to the left side of the oil cooler. The charge filter is mounted to the lower part of the tractor frame behind the left side lift arm.

1. Remove the old filters.

**Note:** *Some hydraulic fluid will drain when removing the lower charge filter. Place a drip pan under filter before removing.*

2. Install new filters. Hand tighten only.
3. Operate engine at idle speed with hydraulic system in neutral for five minutes. The oil level alarm may sound during this time.
4. Check hydraulic oil level in reservoir and fill to full mark on dipstick.

### 4.16 RADIATOR & OIL COOLER

**WARNING**

To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait until it is cool. Even then, use extreme care when removing the cap.

**CAUTION**

Do not pour cold water into a hot radiator. Do not operate engine without a proper coolant mixture. Install cap and tighten securely.

Check coolant level daily. Radiator should be full and recovery bottle should be up to the **cold** mark.

If you have to add coolant more than once a month, or add more than one quart at a time, have a Textron Turf Care And Specialty Products Dealer check the cooling system.

Drain and refill annually. Remove the radiator cap, open the engine block drain and the radiator drain. Empty and clean the recovery bottle.

Mix clean water with ethylene glycol based anti-freeze for the coldest ambient temperature. Read and follow the instructions on the anti-freeze container and engine manual.

Keep screen, oil cooler and radiator air passages clean. Use compressed air (30 psi maximum) to clean the fins.

#### Front Screen

Inspect front screen **(B)** daily and clean as required to remove grass clippings, leaves and other debris that may restrict air flow through oil cooler and radiator.

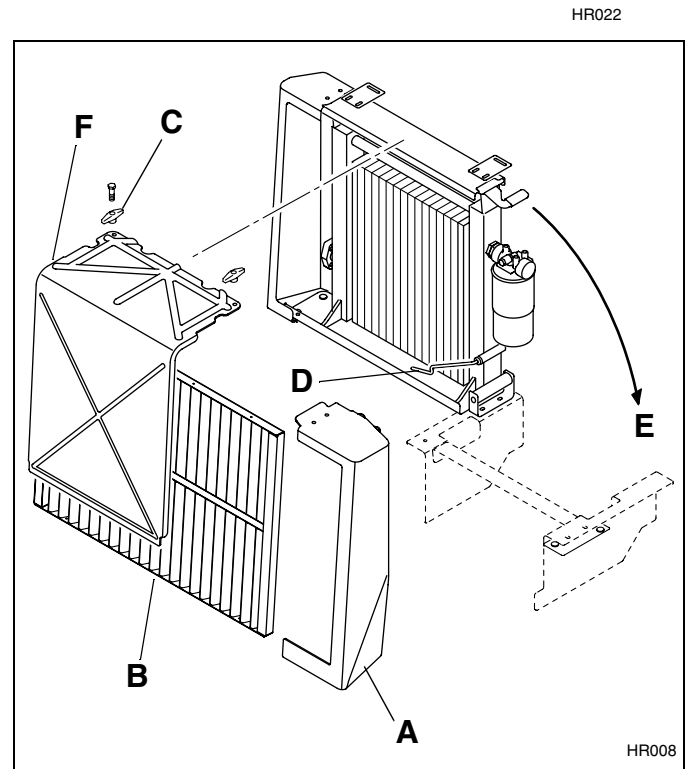
To remove screen, remove end cap **(A)** from left side of oil cooler. Slide screen out from side and blow out from back side using compressed air.

#### Oil Cooler and Radiator

Inspect oil cooler and radiator daily and clean as required to maintain good air flow.

1. Remove screen **(B)** from front of oil cooler.
2. Unfasten knobs **(C)** located on top of oil cooler and remove plastic shield from front of oil cooler.

3. Release prop rod **(D)** at bottom of cooler and position hydraulic line to the front of it so hose can move freely. Swing cooler up and away from radiator as shown **(E)**. Insert prop rod into hole in frame to hold oil cooler in its service position.
4. Use a blow gun to clean the radiator and oil cooler fins.
5. After cleaning, swing cooler back in place in front of radiator. Secure prop rod **(D)** down so it holds hydraulic line running behind it in place.
6. Replace front screen and shields, and install knobs on top of oil cooler to secure assembly in place.



HR022

HR008

Figure 4F

## 4 MAINTENANCE

### 4.17 CARE AND CLEANING

Wash the tractor and implements after each use. Keep the equipment clean.

**Note:** Do not wash any portion of the equipment while it is hot. Do not use high pressure spray or steam. Use cold water and automotive cleaners.

1. Use compressed air to clean engine and radiator fins. A special blow gun is available through Textron Turf Care And Specialty Products Dealer.
2. Use only fresh water for cleaning your equipment.

**Note:** Use of salt water or affluent water has been known to encourage rust and corrosion of metal parts resulting in premature deterioration or failure. Damage of this nature is not covered by the factory warranty.

3. Do not spray water directly at the instrument panel, ignition switch, controller or any other electrical components, or at bearing housings and seals.

### 4.18 ELECTRICAL SYSTEM

#### **CAUTION**

Always turn the ignition switch off and remove the negative battery cable (Black) before inspecting or working on the electrical system.

General precautions that can be taken to reduce electrical problems are listed below.

1. Make certain all terminals and connections are clean and properly secured.
2. Check the operator backup system, fuses and circuit breakers regularly.

If the operator backup system does not function properly and the problem cannot be corrected, contact an authorized Textron Turf Care And Specialty Products Dealer.

3. Keep the wire harness and all individual wires away from moving parts to prevent damage.
4. Make sure the seat switch harness is connected to the main wire harness.
5. Check the battery and battery charging circuit.
6. Do not wash or pressure spray around electrical connections and components.

Circuits are protected by a circuit breaker (located above batteries), plus fuses and relays mounted under the instrument panel (See Figure 4G and ).

identifies the location and basic functions of the electrical relays located under the control panel. For more detailed information refer to the electrical schematic in this manual.

4. Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.

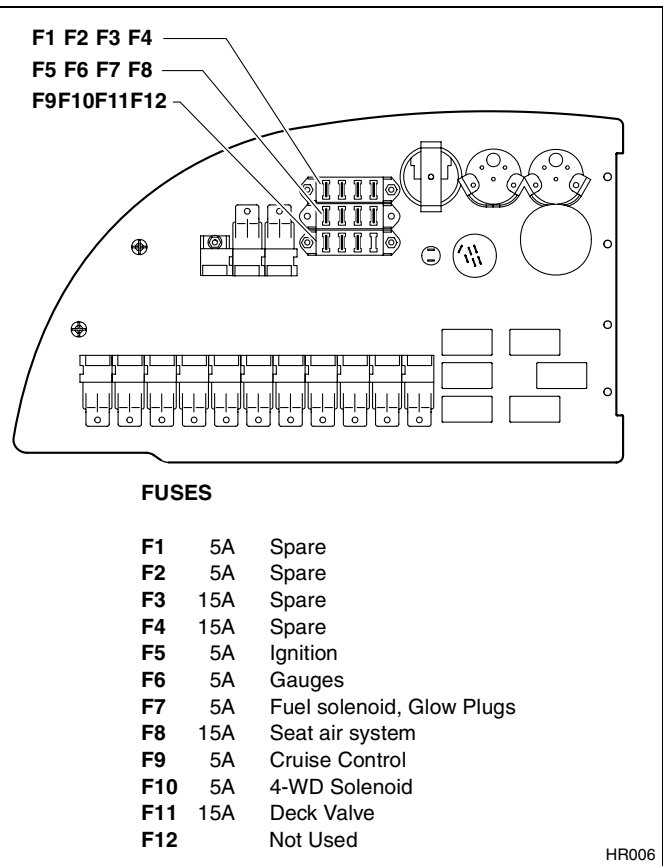
Repair damaged metal surfaces and use Textron Turf Care And Specialty Products touch-up paint. Wax the equipment for maximum paint protection.

#### **CAUTION**

Clean grass and debris from cutting units, drives, muffler and engine to prevent fires.

#### **WARNING**

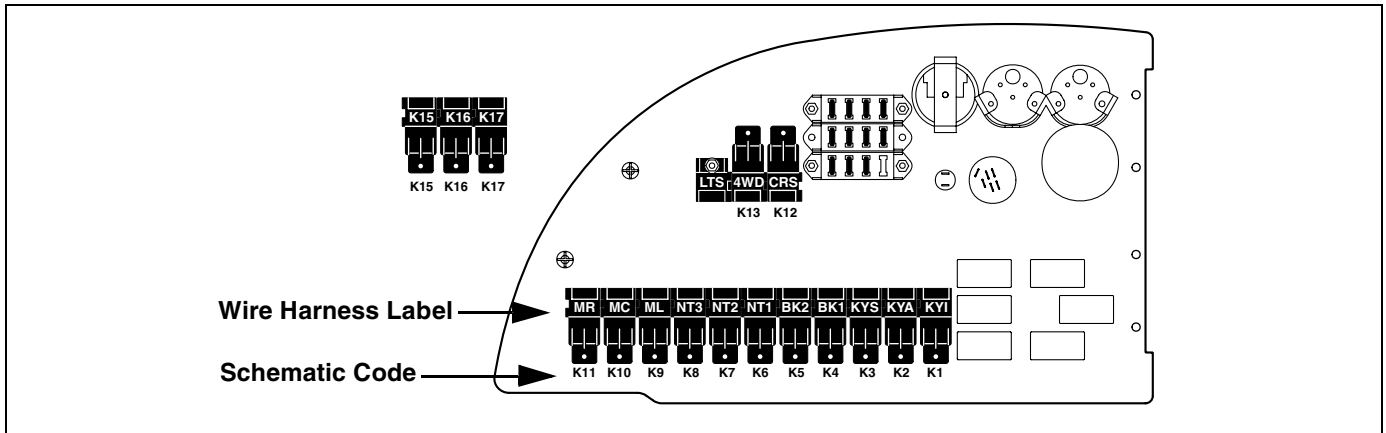
**NEVER** use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries.



HR006

Figure 4G

Always check operator back-up system after servicing the electrical system!



Relay	Description	Function
<b>KYA / K2</b>	Run Relay	Holds fuel stop solenoid valve open when ignition switch is in the RUN position and operator is seated. Activates glow plug timer if engine isn't running.
<b>KYI / K1</b>	Interlock	Opens fuel stop solenoid valve when ignition switch is in the START position, power take-off switch is OFF, parking brake and neutral switches are closed.
<b>KYS / K3</b>	Start	Cranks starter motor when ignition switch is in the START position, power take-off switch is OFF, parking brake and neutral switches are closed.
<b>BK1 / K4</b>	Brake -Start	Part of starting circuit. Relay closes when parking brake is engaged.
<b>BK2 / K5</b>	Brake-Run	Disconnects power to cruise control relay (CRS) with parking brake engaged. Disconnects power to the fuel valve when the operator leaves seat with parking brake disengaged.
<b>NT1 / K6</b>	Neutral-Start	Part of starting circuit. Relay closes when traction pedal is in neutral.
<b>NT2 / K7</b>	Neutral-Run	Disconnects power to the fuel stop solenoid valve when operator leaves seat with neutral switch still open (traction pedal pressed).
<b>NT3 / K8</b>	Neutral-Cruise	Disconnects power to cruise control when neutral switch is closed (traction pedal in neutral).
<b>ML / K9</b>	Mow -Left Deck	Energizes solenoid to left side deck valve when deck is lowered and power take-off switch is ON.
<b>MC / K10</b>	Mow-Center Deck	Energizes solenoid to front deck valve when deck is lowered and power take-off switch is ON.
<b>MR / K11</b>	Mow-Right Deck	Energizes solenoid to right side deck valve when deck is lowered and power take-off switch is ON.
<b>CRS / K12</b>	Cruise Control	Activates cruise control when cruise control switch is closed, traction pedal is pressed and parking brake is disengaged.
<b>4WD / K13</b>	Four Wheel Drive	Energizes solenoid to four wheel drive valve when four wheel drive switch on instrument panel and forward sensing switch on traction pump are closed.
<b>LTS</b>	Lights	Included with light harness kit 5003564. Controls operation of lights.
<b>K15</b>	Run Circuit Cutout	Disables run circuit when keyswitch is turned to START position.
<b>K16</b>	Auxilliary	Provides power to ignition circuit with keyswitch in RUN position. Disables ignition circuit in START position
<b>K17</b>	Ignition	Provides power to gauges, mow circuit, 4WD circuit and seat switch circuit

## 4 MAINTENANCE

### 4.19 TIRES

#### CAUTION

Unless you have the proper training tools and experience, DO Not attempt to mount a tire on a rim. Improper mounting can produce an explosion which may result in serious injury.

1. Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.

2. Check pressure yearly. Use an accurate, low pressure tire gauge.

3. Keep tires inflated to proper pressure

Tractor: 20-22 psi (138 -152kPa).

Decks: 20-25 psi (138 -173 kPa)

### 4.20 WHEEL MOUNTING PROCEDURE

#### Tractor Wheels

#### WARNING

Make sure the tractor is parked on a solid and level surface. Never work on a tractor that is supported only by the jack. Always use jack stands.

If only the front or rear of the tractor is raised, place chocks in front of and behind the wheels that are not raised.

1. Remove dirt, grease and oil from stud thread. Do not lubricate threads.
2. Position wheel on hub and inspect to insure full contact between mounting surface of wheel and hub or brake drum.
3. Finger tighten all hardware then torque hardware in crisis-cross order; always tighten nuts in the top position.

**NOTE:** Check and torque lug bolts daily for the first 100 hours of operation.

4. After receiving new unit or if tires were removed, check and torque lug bolts daily until torque is maintained, 65-75 ft.lbs. (88-102 Nm)

#### Caster Wheels

To extend bearing life check and adjust caster and gauge wheels every year. Lubricate bearings every 100 hours using NLGI Grade 2 grease.

1. Raise deck so wheels are off ground and can be rotated freely by hand.
2. Check wheels for end play (**I**). Wheels should rotate freely with zero end play.
3. To eliminate end play, tighten inner nut (**G**) until wheel just begins to bind then loosen it 1/4 turn.

Lock inner nut in position using outer nut (**H**). Do not allow inner nut to rotate while tightening outer nut.

4. Repeat step 2 and check for end play.

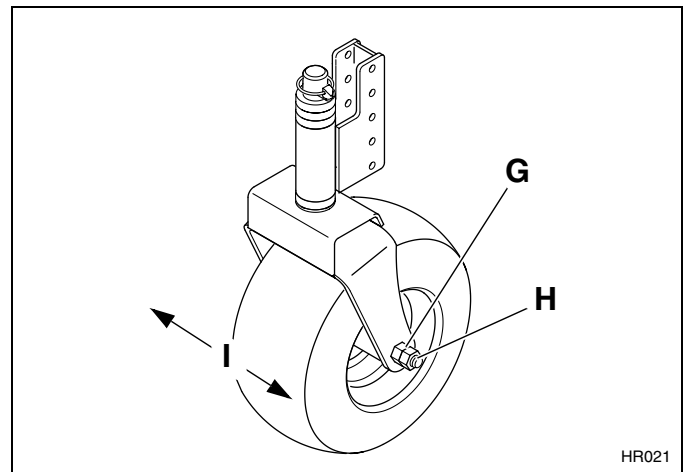


Figure 4H

## 4.21 ROLLOVER PROTECTION STRUCTURE (ROPS)

A Rollover Protection System (ROPS), designed for this tractor, is available as an optional accessory. If your tractor is equipped with this device, inspect it periodically and follow operating procedures described in Safety and Operation Manual



### CAUTION

Do not loosen or remove bolts, do not weld, drill, modify, bend or straighten a damaged structure.

1. The seat, the seat belt, mounting hardware and any accessories within the ROPS, should be inspected regularly and all damaged parts replaced immediately.
2. Once the ROPS has been subjected to any form of impact it should be replaced.
3. Check and retorque all hardware. All replacement components used for the ROPS must be as specified in the Textron Turf Care And Specialty Products Parts List.

## 4.22 STORAGE

### General

1. Wash the tractor thoroughly and lubricate. Repair and paint damaged or exposed metal.
2. Inspect the tractor, tighten all hardware, replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the tractor so the load is off the tires. If tractor is not on jack stands, check tires at regular intervals and reinflate as necessary.
5. Keep the machine and all its accessories clean, dry and protected from the elements during storage. Never store equipment near an open flame or spark which could ignite fuel or fuel vapors.

### Battery

1. Remove, clean and store battery in upright position in a cool, dry place.
2. Check and recharge battery every 60 to 90 days while in storage.
3. Store batteries in a cool, dry place. To reduce the self discharge rate, room temperature should not be above 80°F (27°C) or fall below 20°F (-7°C) to prevent electrolyte from freezing.

### Engine

1. While the engine is warm, remove drain plug, drain the oil from the crankcase and change oil filter. Install drain plug and refill with fresh oil. Torque drain plug to 22 ft. lb. (30 Nm).
2. Clean exterior of engine. Paint exposed metal or apply a light coat of rust preventative oil.

3. Add a fuel conditioner or biocide to prevent gelling or bacterial growth in fuel. See your local fuel supplier.

### Cutting Units

1. Wash the cutting units thoroughly, then repair and paint any damaged or exposed metal.
2. Lubricate all fittings and friction points.
3. Apply a light coat of rust preventative oil to the sharpened edges of the blades.

### After Storage

1. Check and reinstall battery
2. Check or service fuel filter and air cleaner.
3. Check the radiator coolant level.
4. Check oil level in the engine crankcase and hydraulic system.
5. Fill the fuel tank with fresh fuel. Bleed the fuel system.
6. Make certain that the tires are properly inflated.
7. Remove all oil from the deck blades. Readjust cutting height.
8. Start and operate the engine at 1/2 throttle. Allow enough time for the engine to become properly warmed and lubricated.



### WARNING

Never operate the engine without proper ventilation; exhaust fumes can be fatal when inhaled.

## 4 MAINTENANCE

### 4.23 MAINTENANCE CHART



#### WARNING

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries.

For smooth operation of pivot points and other friction points, apply several drops of SAE 30 oil every 50 hours or as required.

Remove wheels and repack bearings once a year.

#### Recommended Service and Lubrication Intervals

	Daily Before Starting	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 250 Hours	Every Year	See Section	Lubricant Type
Air Cleaner Indicator	I						4.7	
Air Cleaner Element	R-AR					R	4.7	
Battery				I-C		I-C	4.10	
Caster Wheel Bearings		A*		L		I-A	4.20	I
Engine Fan Belt		I*		I-A			**	
Engine Oil	I-A	R*			R		4.5	III
Engine Oil Filter		R*			R		4.5	
Fuel Filter						R	4.9	
Drain Water from Fuel Filter				C			**	
Grease Fittings - F1			L				4.24	II
Grease Fittings - F2				L			4.24	II
Hydraulic Fluid	I-A					R	4.14	IV
Hydraulic Fluid Filters	R-AR					R	4.15	
Oil Cooler	I-C***						4.16	
Radiator Screen	I-C						4.16	
Radiator Coolant	I-A					R	4.16	
Tires	I****					I-A	4.19	

**A - Add or Adjust    C - Clean    I - Inspect    L - Lubricate    R - Replace    AR - As Required**

\* Indicates initial service for new machines.

\*\* See Engine Manual

\*\*\*Clean as Required

\*\*\*\* Check lug bolt torque daily for first 100 hours of operation.

I Pack bearings with NLGI Grade 2 (Service Class GB)

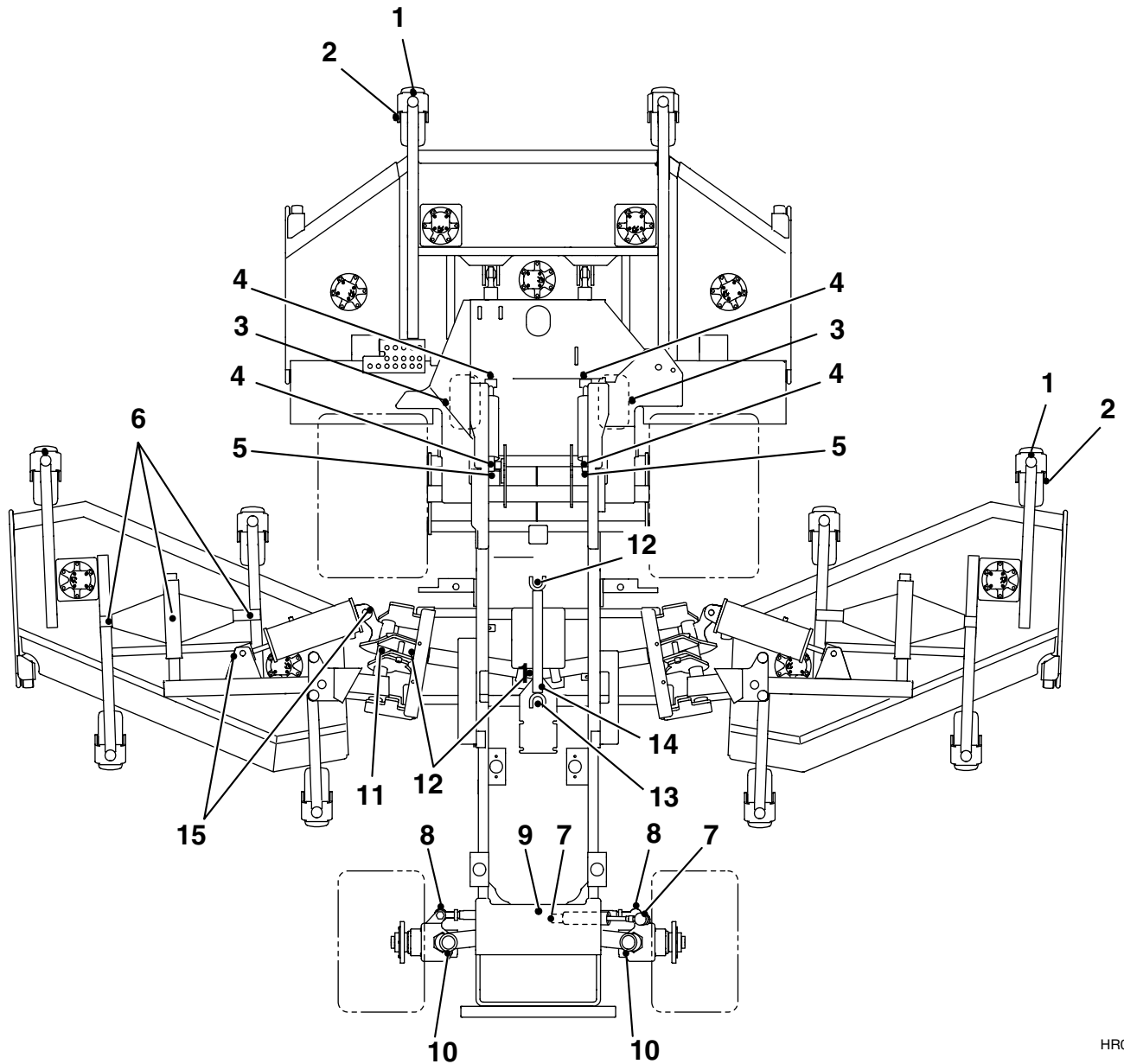
II Manual grease gun with NLGI Grade 2 (Service Class LB).

III Engine Oil - See Section 4.5

IV Textron Turf Care And Specialty Products Hydraulic Oil - VG ISO 68



4.24 LUBRICATION CHART



HR014

**Grease Fitting Locations**

F1 - 50 Hours (Every Week)		Qty	F2 - 150 Hours		Qty
1	Caster Spindles	(10)	13	Drive Shaft U-Joint	(2)
2	Caster Wheel Axles	(10)	14	Drive Shaft Slip Joint	(1)
3	Gauge Wheel Axles	(2)	15	Return Canister Pivot	(6)
4	Lift Cylinder - Front Deck	(4)			
5	Lift Arm - Front Deck	(2)			
6	Side Deck Pivots	(6)			
7	Steering Cylinder	(2)			
8	Tie Rod	(2)			
9	Axle Pivot	(1)			
10	Wheel Pivot	(2)			
11	Lift Arm - Side Deck	(2)			
12	Lift Cylinder - Side Deck	(4)			

## 5 TROUBLESHOOTING

### 5.1 GENERAL

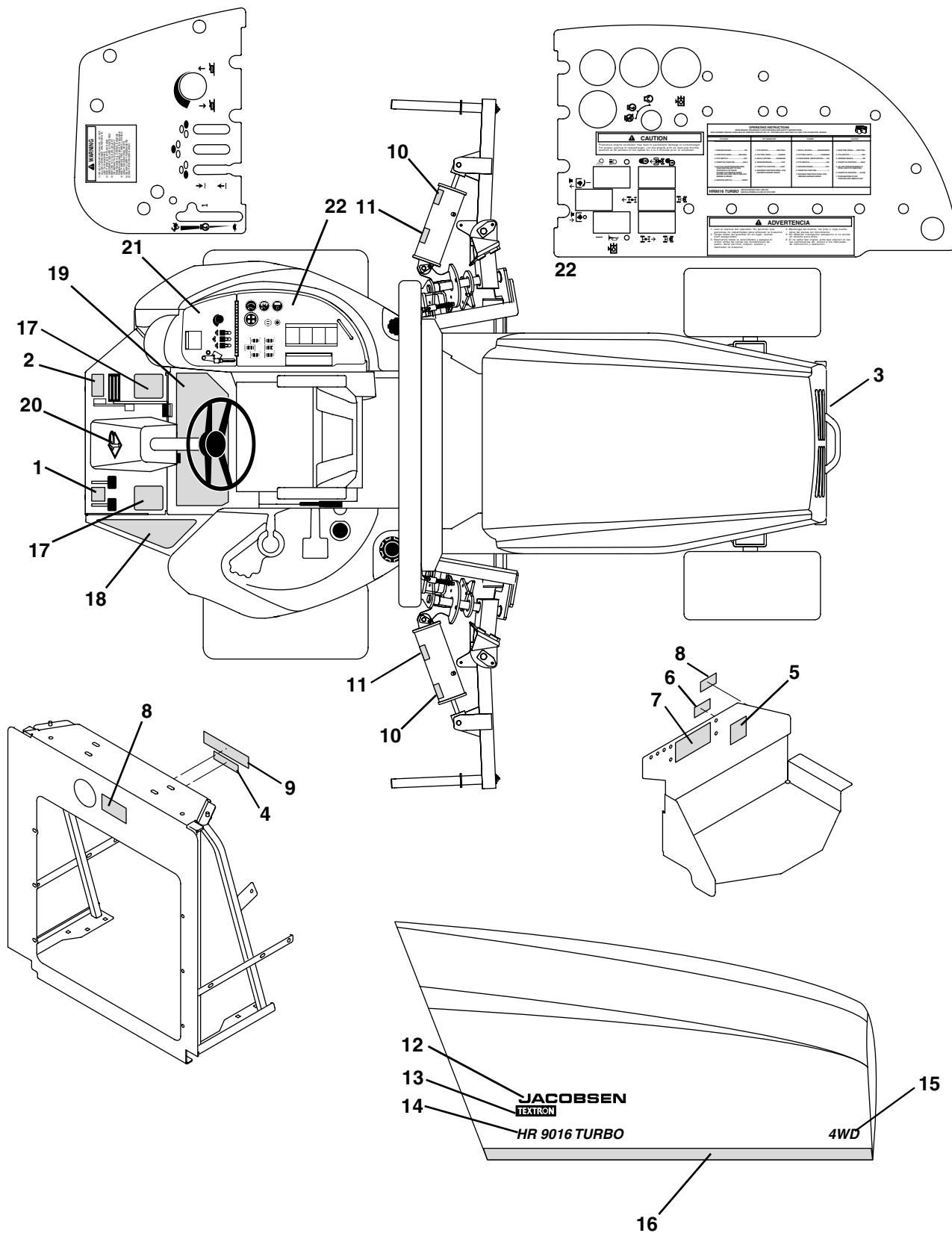
The troubleshooting chart below lists basic problems that may occur during start-up and operation. For more detailed information regarding the hydraulic and electrical systems contact your area Textron Turf Care And Specialty Products Dealer.

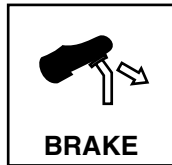
Symptoms	Possible Causes	Action
<b>Engine will not start.</b>	<ol style="list-style-type: none"> <li>1. Parking brake disengaged or power take-off switch on.</li> <li>2. Glow plug has not timed out.</li> <li>3. Battery low on charge or defective.</li> <li>4. Fuel tank empty or dirty.</li> <li>5. Fuse blown.</li> <li>6. Relay(s) defective</li> <li>7. Traction pedal not in neutral.</li> <li>8. Neutral switch on drive pump not working.</li> <li>9. Forward sensing switch on drive pump not working.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check operator back-up system and start-up procedure.</li> <li>2. Reset ignition switch and allow glow plug to time out before cranking engine.</li> <li>3. Inspect condition of battery and battery connections.</li> <li>4. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.</li> <li>5. Replace fuse.</li> <li>6. Test and replace relay.</li> <li>7. Check position of pedal. Adjust Linkage.</li> <li>8. Test, adjust or replace switch.</li> <li>9. Test, adjust or replace switch.</li> </ol>
<b>Engine hard to start or runs poorly.</b>	<ol style="list-style-type: none"> <li>1. Fuel level low, fuel or fuel filter dirty.</li> <li>2. Air cleaner dirty.</li> <li>3. Injectors, fuel pump</li> <li>4. Engine problem.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.</li> <li>2. Inspect and replace air filter.</li> <li>3. Consult engine manual.</li> <li>4. Consult engine manual</li> </ol>
<b>Engine stops.</b>	<ol style="list-style-type: none"> <li>1. Fuel tank empty.</li> <li>2. Interlocks not set before leaving operator's seat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill with fresh fuel and bleed fuel lines.</li> <li>2. Engage parking brake and set power take-off switch to OFF.</li> </ol>
<b>Engine overheating</b>	<ol style="list-style-type: none"> <li>1. Coolant level low.</li> <li>2. Air intake restricted.</li> <li>3. Water pump belt broken or loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect and add coolant.</li> <li>2. Clean air intake at radiator.</li> <li>3. Tighten or replace belt. See engine manual.</li> </ol>
<b>Battery not holding charge. Battery light on.</b>	<ol style="list-style-type: none"> <li>1. Loose or corroded battery terminals.</li> <li>2. Low electrolyte.</li> <li>3. Alternator belt loose or broken</li> <li>4. Charging system defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect and clean terminals</li> <li>2. Refill to correct level.</li> <li>3. Tighten or replace belt. See engine manual.</li> <li>4. See engine manual</li> </ol>
<b>Cutting units not cutting evenly</b>	<ol style="list-style-type: none"> <li>1. Cutting heights not set evenly.</li> <li>2. Engine speed too low.</li> <li>3. Mow speed not adjusted for turf conditions.</li> <li>4. Air pressure in caster tires not adjusted correctly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check that decks are level. Check and adjust cutting height.</li> <li>2. Check engine speed with throttle stop in its mow position.</li> <li>3. Adjust mow speed for best cut.</li> <li>4. Check tires and adjust to correct pressure.</li> </ol>

## 6.1 TABLE OF CONTENTS

<b>Body</b>		43.1 ..... Engine Compartment Clamps .....	104
1.1 ..... Decals-Tractor .....	32	44.1 ..... Wire Harness Routing .....	105
2.1 ..... Hood .....	34	<b>Components</b>	
3.1 ..... Cowlings and Skirts .....	36	45.1 ..... Steering Valve .....	106
4.1 ..... Seat Pan and Heat Shield .....	38	46.1 ..... Air Suspension .....	108
<b>Controls</b>		47.1 ..... Seat Assembly.....	110
5.1 ..... Instrument Panel.....	40	48.1 ..... Steering Cylinder.....	111
5.2 ..... Instrument Panel.....	42	49.1 ..... Rear Wheel Motor .....	112
6.1 ..... Throttle Cable .....	44	50.1 ..... Deck Return Canister .....	113
7.1 ..... Lift Valve and Controls.....	46	51.1 ..... Lift Valve.....	114
8.1 ..... Accelerator Pedal .....	48	52.1 ..... Front Lift Cylinder .....	116
9.1 ..... Steering Assist.....	50	53.1 ..... Wing Lift Cylinders.....	117
10.1 ..... Parking Brake .....	52	54.1 ..... Deck Valve .....	118
<b>Frame</b>		55.1 ..... 4WD Valve.....	119
11.1 ..... Frame .....	54	<b>Decks</b>	
12.1 ..... Frame With ROPS .....	56	56.1 ..... Decals - Decks .....	120
13.1 ..... Steering Axle .....	58	57.1 ..... Front Deck.....	122
14.1 ..... Steering Axle Installation .....	60	58.1 ..... Front Deck Center Section .....	124
15.1 ..... Battery Tray .....	61	59.1 ..... Front Deck Winglets .....	126
16.1 ..... Tilt Steering.....	62	60.1 ..... Front Deck Hydraulics .....	128
<b>Engine and Radiator</b>		61.1 ..... Wing Decks .....	130
17.1 ..... Radiator .....	64	62.1 ..... Wing Deck Hydraulics .....	132
18.1 ..... Oil Cooler.....	66	63.1 ..... Caster Assemblies.....	134
19.1 ..... Air Cleaner and Muffler.....	68	64.1 ..... Wheel and Tire Assemblies.....	135
20.1 ..... Engine Mounting.....	70	65.1 ..... Gage Wheels and Latch .....	136
21.1 ..... Engine and Pump Assembly.....	72	<b>Schematics</b>	
<b>Tanks</b>		66.1 ..... Hydraulic Schematic.....	138
22.1 ..... Tank Mounting .....	74	67.1 ..... Electrical Schematic .....	140
23.1 ..... Hydraulic Tank.....	76	67.2 ..... Electrical Schematic .....	143
24.1 ..... Fuel Tank.....	77	68.1 ..... O-Ring Chart .....	148
<b>Traction Pump</b>			
25.1 ..... Pump and 4WD Valve Mounting.....	78		
26.1 ..... Pump Assembly.....	79		
<b>Lift Arms and Deck Valves</b>			
27.1 ..... Front Lift Arms and Cylinders .....	80		
28.1 ..... Front Deck Latch .....	82		
29.1 ..... Side Lift Arms .....	84		
30.1 ..... Side Lift Cylinders and Return Canisters....	86		
31.1 ..... Front Deck Valves .....	88		
32.1 ..... Wing Deck Valves.....	89		
<b>Hydraulics and Electrical</b>			
33.1 ..... Side Deck Valve Supply .....	90		
34.1 ..... Front Deck Valve Supply .....	91		
35.1 ..... Pump Supply .....	92		
36.1 ..... Return Manifold .....	93		
37.1 ..... Traction Hydraulics.....	94		
38.1 ..... Return Hydraulics .....	96		
39.1 ..... 4WD Hose Clamps .....	98		
40.1 ..... Charge Pressure.....	99		
41.1 ..... Lift Valve Hydraulics .....	100		
42.1 ..... Power Steering Hoses.....	102		

## 1.1 Decals-Tractor

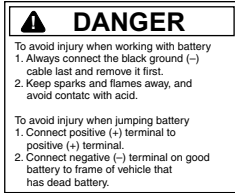




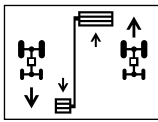
1



4



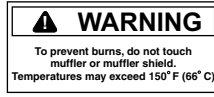
5



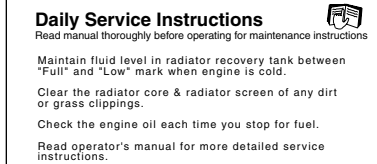
2



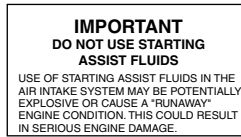
3



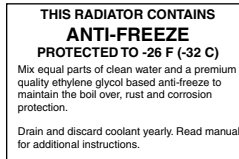
6



7



8



9



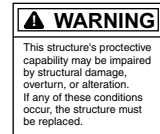
10



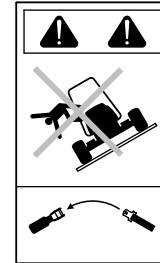
11



20



24

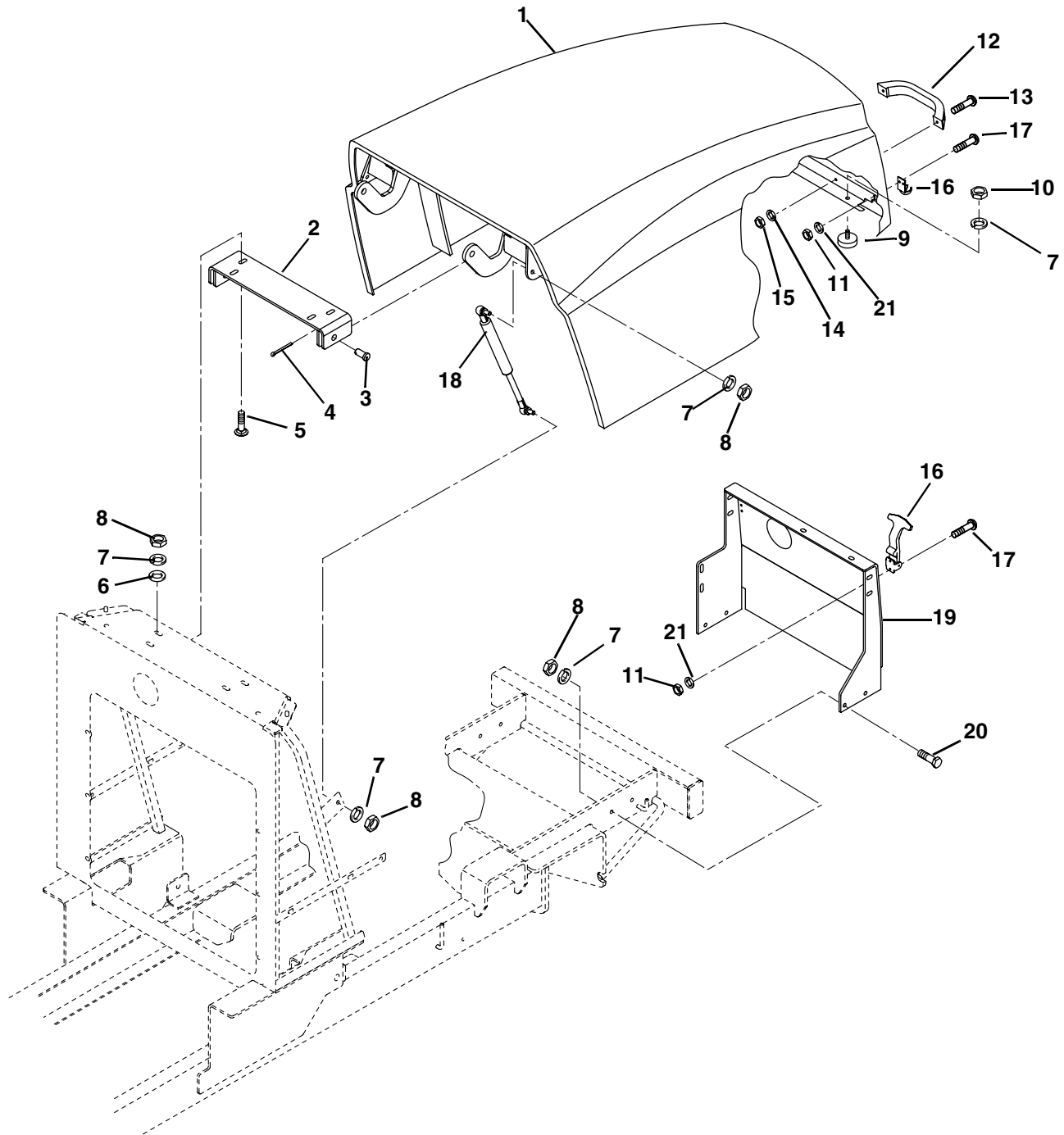


23

Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	360053	1	Decal, Brake		
2	3008521	1	Decal, Traction		
3	2812396	1	Decal, Towing Caution		
4	365956	1	Decal, Radiator Cap Warning		
5	3001435	1	Decal, Battery Danger		
6	339237	1	Decal, Heat Warning		
7	363994	1	Decal, Daily Service		
8	3000435	2	Decal, Start Assist Fluids		
9	363995	1	Decal, Antifreeze		
10	363704	2	Decal, Latch Pin Warning		
11	3009266	2	Decal, Stored Energy Warning		
12	3007505	2	Decal, Jacobsen		
13	3007514	2	Decal, Textron		
14	3009217	2	Decal, HR 9016 Turbo		
15	3008327	2	Decal, 4WD		
16	3008754	2	Decal, Stripe		
17	3004287	2	Pad, Center Panel		
18	3009268	1	Pad, Step		
19	3009267	1	Pad, Floorboard		
20	3007129	1	Emblem, Diamond J		
21	3009073	1	Decal, Control Panel		
>	22	3009055	1	Decal, Instrument Panel	Serial No 70524 1601 ~ 1725 Serial No 70525 1601 ~ 1777
>	22	4103841	1	Decal, Instrument Panel	Serial No 70524 1726 ~ 1756 Serial No 70524 1778 ~ 1882
>	22	4116908	1	Decal, Instrument Panel	Serial No 70524 1757 and up Serial No 70524 1883 and up
	23	5002952	1	Decal, ROPS Seat Belt	Used On 70525 Only
	24	557844	1	Decal, ROPS Structure	Used On 70525 Only

> Change from previous revision

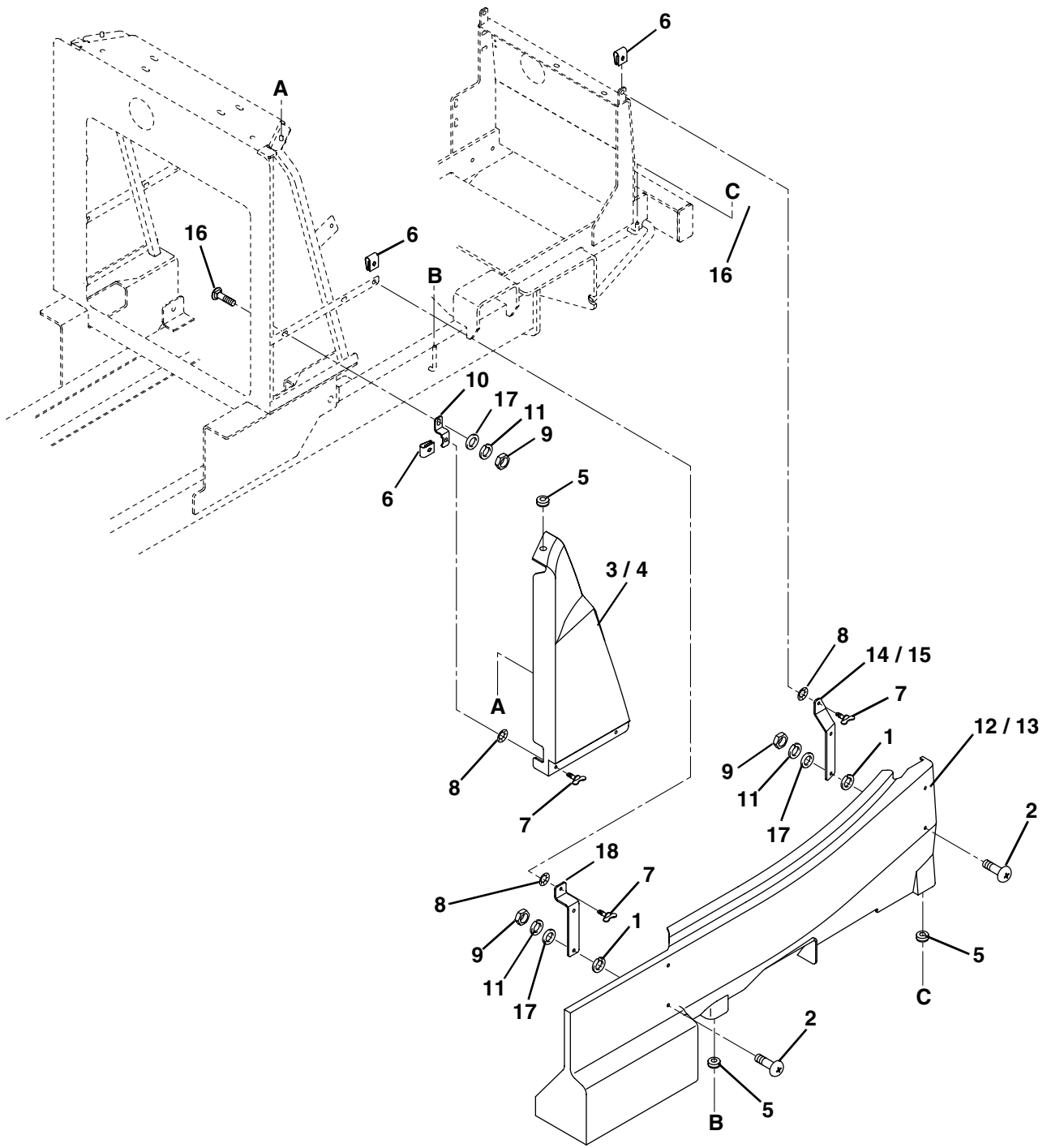
## 2.1 Hood



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	5003592	1	Hood	
2	1003679	1	Pivot, Hood	
3	3006644	2	Pin, Special Clevis	
4	460028	2	Cotter pin, 1/8 x 1"	
5	440120	4	Carriage Bolt, 3/8-16 x 1-1/4"	
6	452008	4	Flat Washer, 3/8	
7	446142	14	Lockwasher, 3/8 Heavy	
8	443110	12	Nut, 3/8-16 Hex	
9	354989	2	Stop, Rubber	
10	443112	2	Nut, 3/8-24 Hex	
11	444310	8	Nut, #10-24 Hex	
12	340795	1	Handle, Hood	
13	402230	2	Screw, 1/4-20 x 1" Slotted	
14	446128	2	Lockwasher, 1/4	
15	443102	2	Nut, 1/4-20 Hex	
16	1004686	2	Latch, Flexible Draw	
17	403914	8	Screw, #10-24 x 3/4" Truss Head	
18	3009793	2	Spring, Gas	
19	2811476	1	Support, Rear Hood	
20	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
21	446116	8	Lockwasher, #10	

> Change from previous revision

**3.1 Cowlings and Skirts**

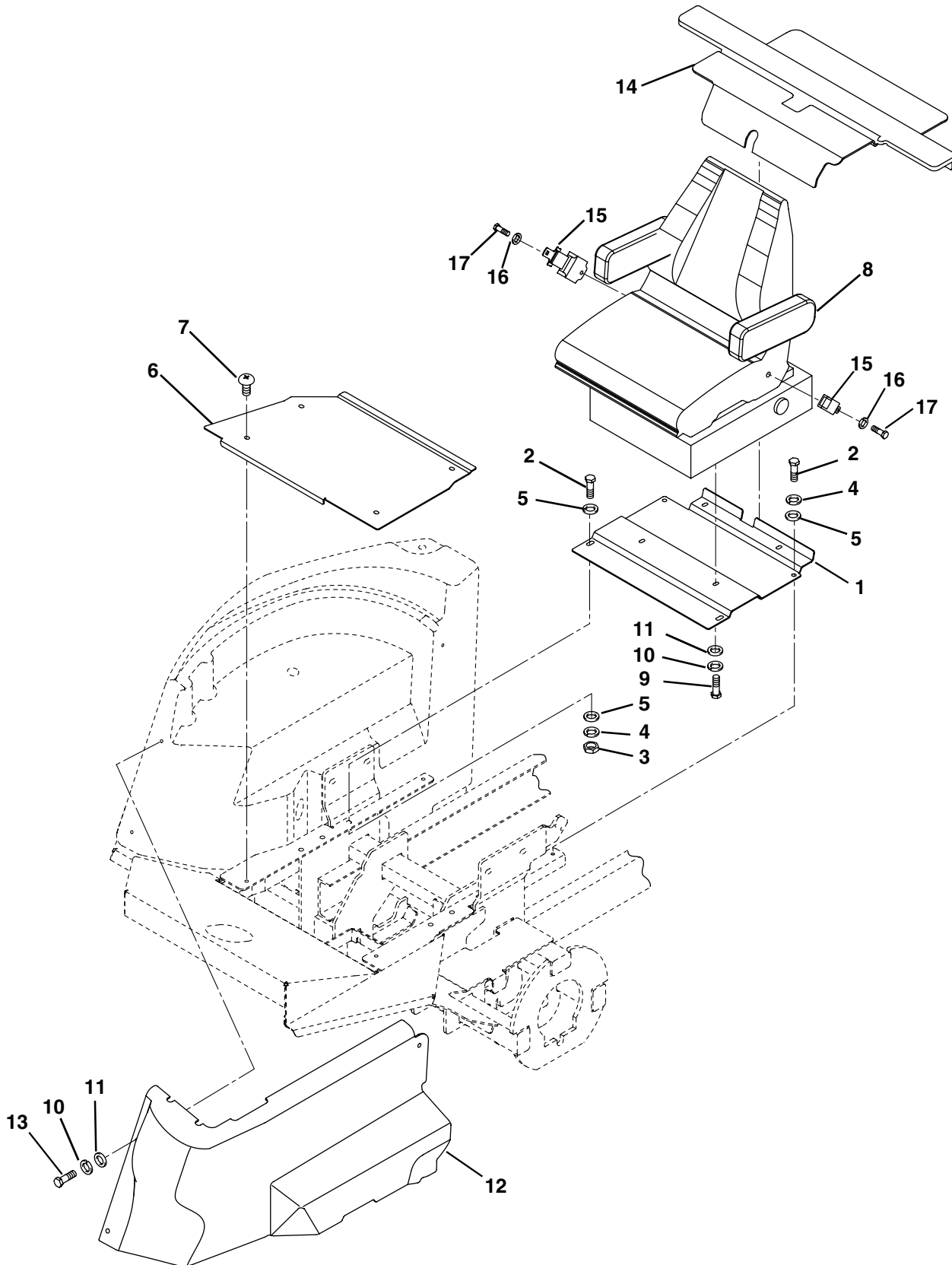




Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	447414	8	Lockwasher, 3/8 External Tooth	
2	404118	8	Screw, 3/8-16 x 7/8" Truss Head	
3	3006663	1	Left Side Cowling	
4	3006664	1	Right Side Cowling	
5	352604	6	Grommet	
6	3005604	8	Receptacle, #85 1/4 Turn	
7	3007704	8	Stud, #85 1/4 Turn	
8	3005603	8	Retainer	
9	443110	12	Nut, 3/8-16 Hex	
10	3006915	4	Bracket, Cowling Mounting	
11	446142	8	Lockwasher, 3/8 Heavy	
12	3006723	1	Left Side Skirt	
13	3006724	1	Right Side Skirt	
14	3007099	1	Bracket, Left Side Skirt Mounting	
15	3007100	1	Bracket, Right Side Skirt Mounting	
16	440120	4	Carriage Bolt, 3/8-16 x 1-1/4"	
17	452008	12	Flat Washer, 3/8	
18	3008015	2	Bracket, Front Skirt	

> Change from previous revision

## 4.1 Seat Pan and Heat Shield

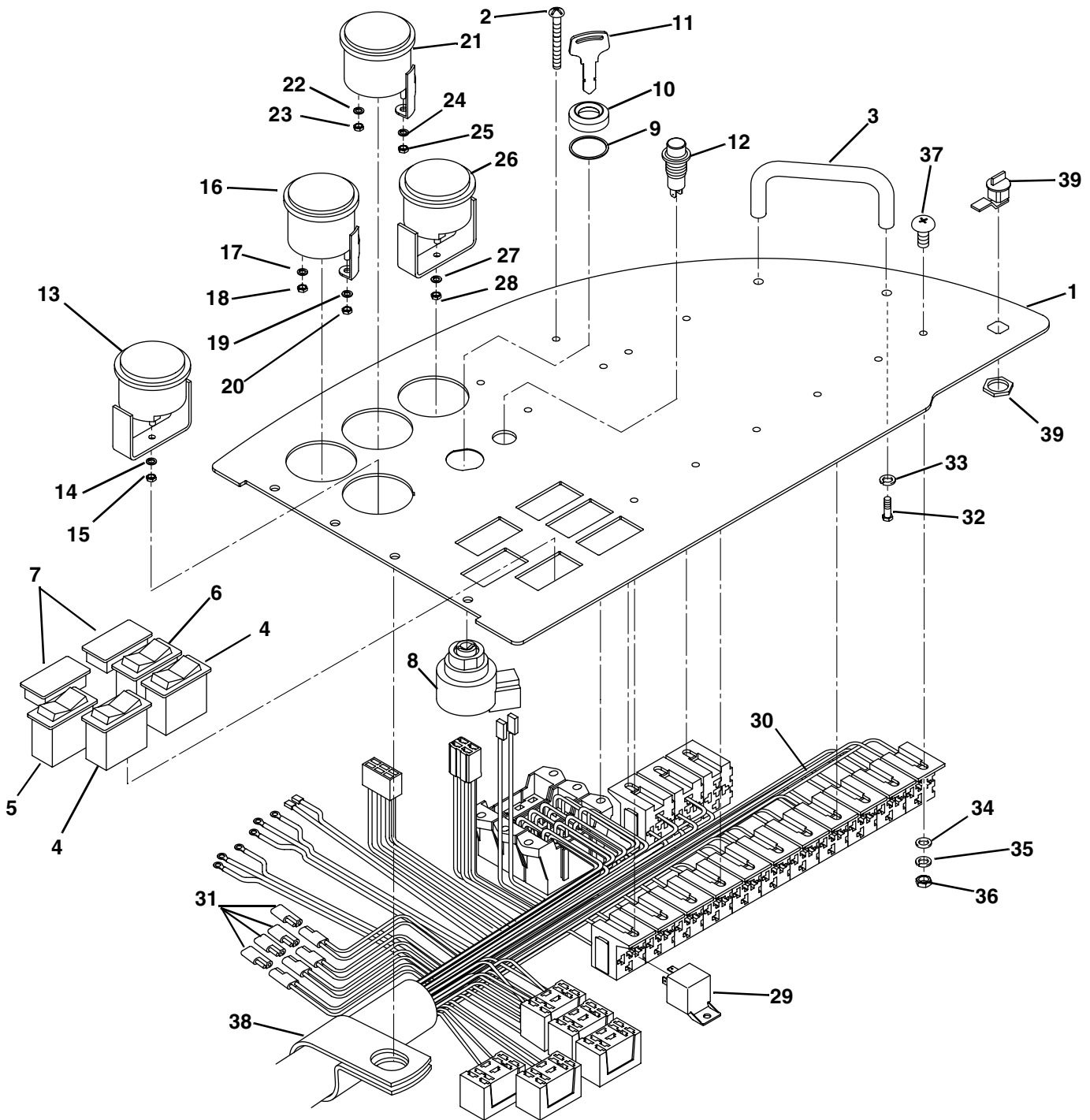


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3007032	1	Seat Pan	
2	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
3	443110	2	Nut, 3/8-16 Hex	
4	446142	4	Lockwasher, 3/8 Heavy	
5	452008	6	Flat Washer, 3/8	
6	5003457	1	Plate, Floorboard	
7	404118	4	Screw, 3/8-16 x 7/8" Truss Head	
8	-	1	Seat with Air Suspension	
	5003625	1	• Air Ride Suspension	See 46.1
	5003626	1	• Seat Assembly	See 47.1
9	361005	4	Screw, M8-1.25 x 25mm Hex Head	
10	446136	7	Lockwasher, 5/16 Heavy	
11	452006	7	Flat Washer, 5/16	
12	3006880	1	Heat Shield	
13	400182	3	Screw, 5/16-18 x 5/8" Hex Head	
14	3010013	1	Shield, Floor	Used On 70524
14	3010789	1	Shield, ROPS Floor	Used On 70525
15	5003617	1	Seat Belt Assembly	Used On 70525 Only
16	400370	2	Screw, 7/16-20 x 1" Hex Head	Used On 70525 Only
17	446148	2	Lockwasher, 7/16 Heavy	Used On 70525 Only

> Change from previous revision

## 5.1 Instrument Panel

Serial No. 70524 1601 ~ 1756  
Serial No. 70525 1601 ~ 1882



### HR 9016 Units with Indak Keyswitch Part No. 1001958

Serial Number 70524 1601 ~ 1725

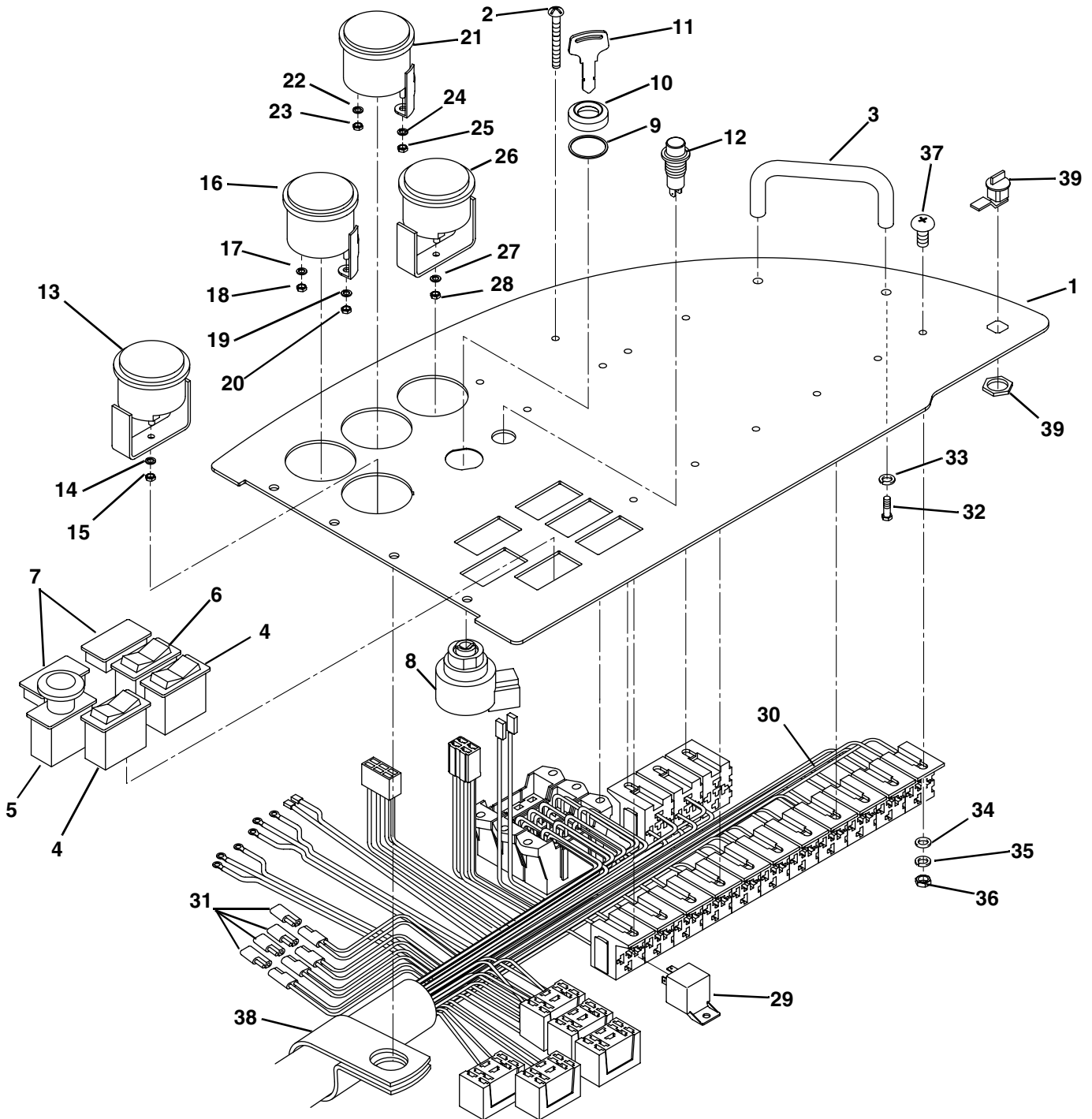
Serial Number 70525 1601 ~ 1777

Your machine was built before the Kubota Key Switch (Shown Above) was introduced. To update your tractor, order Keyswitch Update Kit Part No. 2822522.

**Note:** The update kit will update the keyswitch and add three relays to the electrical system.

Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	5003768	1	Dash Panel with Decal	Serial Number 70524 1601 ~ 1725 Serial Number 70525 1601 ~ 1777	
1	4103860	1	Dash Panel with Decal	Serial Number 70524 1726 ~ 1756 Serial Number 70525 1778 ~ 1882	
2	403920	4	Screw, #10-24 x 2-1/2" Truss Head		
3	366283	1	Handle		
4	3006446	2	Switch, Test / 4WD-Reverse		
5	3006436	1	4WD Switch		
6	3006440	1	Switch, PTO Locking		
7	3006509	2	Hole Plug		
>	8	2810269	1	Switch, Ignition	
>	9	N/S	1	• Lockwasher	
>	10	N/S	1	• Nut	
>	11	2811020	1	• Key	
	12	366751	1	Indicator Light, Yellow	
	13	1002679	1	Gauge, Warning Light	
		5003091	3	• Light Bulb and Socket	
	14	447006	1	• Lockwasher, #10 External Tooth	
	15	444310	1	• Nut, #10-24 Hex	
	16	3005121	1	Gauge, Water Temperature	
	17	447002	3	• Lockwasher, #6 External Tooth	
	18	444304	3	• Nut, #6-32 Hex	
	19	447206	2	• Lockwasher, #8 Internal Tooth	
	20	444306	2	• Nut, #8-32 Hex	
	21	365943	1	Gauge, Fuel Level	
	22	447002	3	• Lockwasher, #6 External Tooth	
	23	444304	3	• Nut, #6-32 Hex	
	24	447206	2	• Lockwasher, #8 Internal Tooth	
	25	444306	2	• Nut, #8-32 Hex	
	26	162723	1	Gauge, Hour Meter	
	27	447006	1	• Lockwasher, #10 External Tooth	
	28	444310	1	• Nut, #10-24 Hex	
	29	3001307	13	Relay, SPDT With Resistor	
	30	REF	1	Wire harness, Console	See 44.1
		5003278	7	• Fuse, 5 Amp (Tan)	
		5003281	4	• Fuse, 15 Amp (Light Blue)	
	31	555846	3	• Diode	
	32	400106	2	Screw, 1/4-20 x 5/8" Hex Head	
	33	446128	2	Lockwasher, 1/4	
	34	452002	12	Flat Washer, #10	
	35	446118	12	Lockwasher, #10 Heavy	
	36	444310	12	Nut, #10-24Hex	
	37	403910	8	Screw, #10-24 x 1/2" Truss Head	
	38	364016	1	Clamp, Wire Harness	
	39	1004992	1	Latch, Panel	

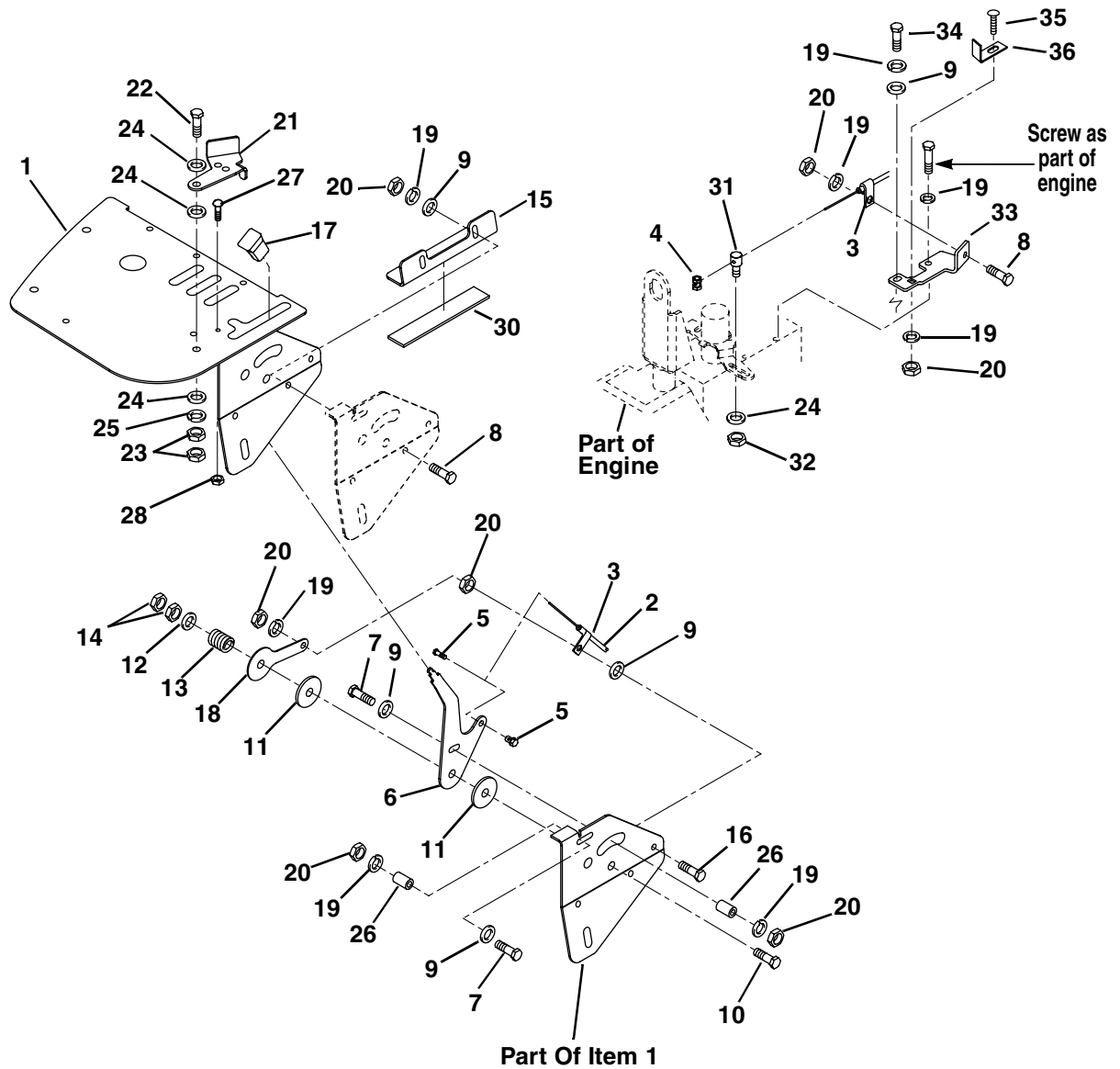
> Change from previous revision



Item	Part No.	Qty.	Description	Serial Numbers/Notes	
>	1	4116910	1	Panel, Dash	
	2	403920	4	Screw, #10-24 x 2-1/2" Truss Head	
	3	366283	1	Handle	
	4	3006446	2	Switch, Test / 4WD-Reverse	
>	5	2721505	1	Switch, PTO	
>	6	3006436	1	4WD Switch	
	7	3006509	2	Hole Plug	
>	8	2810269	1	Switch, Ignition	
>	9	N/S	1	• Lockwasher	
>	10	N/S	1	• Nut	
>	11	2811020	1	• Key	
	12	366751	1	Indicator Light, Yellow	
	13	1002679	1	Gauge, Warning Light	
		5003091	3	• Light Bulb and Socket	
	14	447006	1	• Lockwasher, #10 External Tooth	
	15	444310	1	• Nut, #10-24 Hex	
	16	3005121	1	Gauge, Water Temperature	
	17	447002	3	• Lockwasher, #6 External Tooth	
	18	444304	3	• Nut, #6-32 Hex	
	19	447206	2	• Lockwasher, #8 Internal Tooth	
	20	444306	2	• Nut, #8-32 Hex	
	21	365943	1	Gauge, Fuel Level	
	22	447002	3	• Lockwasher, #6 External Tooth	
	23	444304	3	• Nut, #6-32 Hex	
	24	447206	2	• Lockwasher, #8 Internal Tooth	
	25	444306	2	• Nut, #8-32 Hex	
	26	162723	1	Gauge, Hour Meter	
	27	447006	1	• Lockwasher, #10 External Tooth	
	28	444310	1	• Nut, #10-24 Hex	
	29	3001307	13	Relay, SPDT With Resistor	
	30	REF	1	Wire harness, Console	See 44.1
		5003278	7	• Fuse, 5 Amp (Tan)	
		5003281	4	• Fuse, 15 Amp (Light Blue)	
	31	555846	3	• Diode	
	32	400106	2	Screw, 1/4-20 x 5/8" Hex Head	
	33	446128	2	Lockwasher, 1/4	
	34	452002	12	Flat Washer, #10	
	35	446118	12	Lockwasher, #10 Heavy	
	36	444310	12	Nut, #10-24Hex	
	37	403910	8	Screw, #10-24 x 1/2" Truss Head	
	38	364016	1	Clamp, Wire Harness	
	39	1004992	1	Latch, Panel	

> Change from previous revision

## 6.1 Throttle Cable

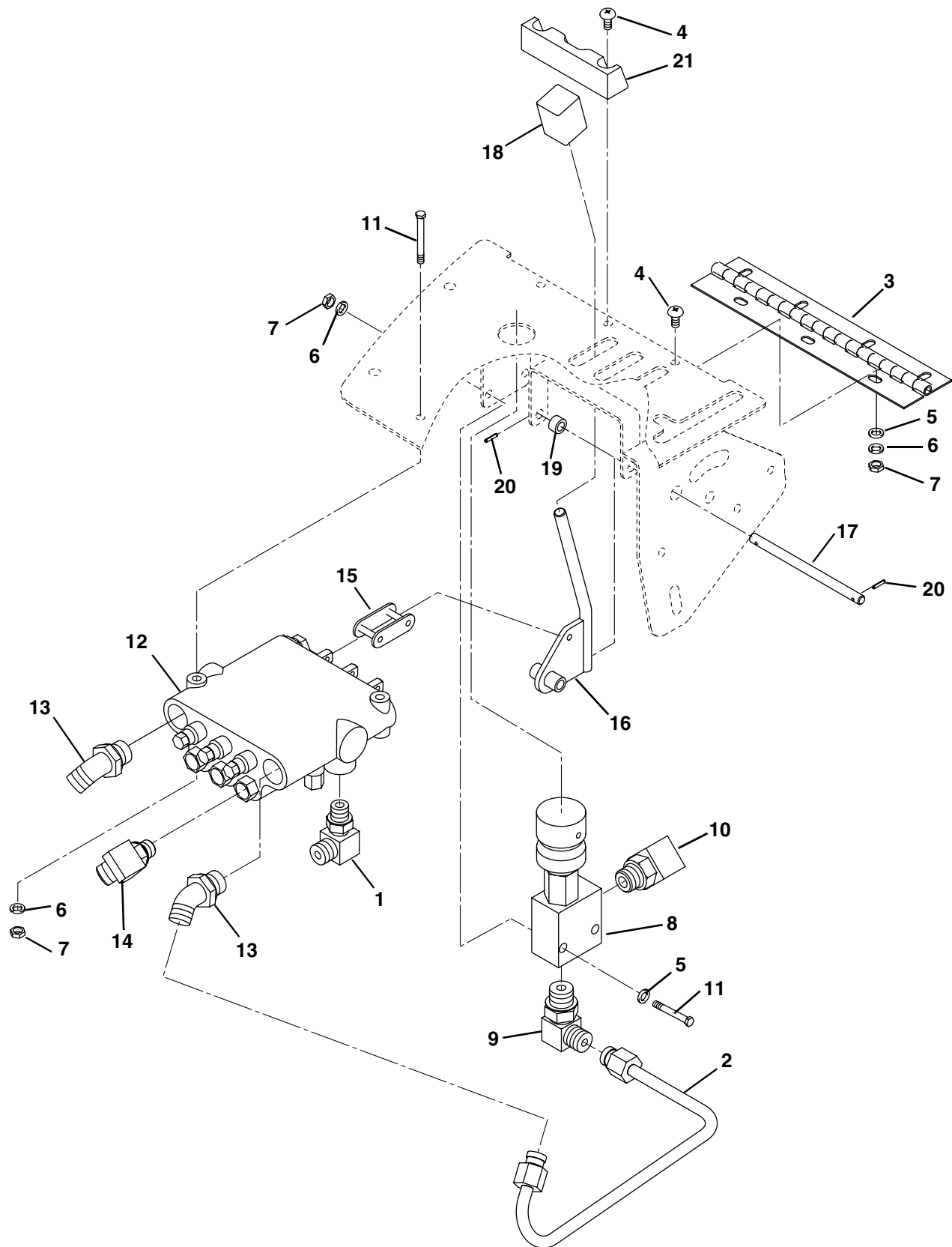




Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003425	1	Control Panel	
2	1004252	1	Throttle Cable	
3	558021	2	• Clip, Conduit	
4	303962	1	• Wire Stop	
5	558020	1	• Swivel	
6	3006730	1	Lever, Throttle	
7	400116	2	Screw, 1/4-20 x 1-1/2" Hex Head	
8	400110	3	Screw, 1/4-20 x 3/8" Hex Head	
9	453023	6	Flat Washer, 1/4	
10	400274	1	Screw, 3/8-16 x 2-1/2" Hex Head	
11	360885	2	Washer, Friction	
12	452008	1	Flat Washer, 3/8	
13	351956	1	Spring, Compression	
14	443110	2	Nut, 3/8-16 Hex	
15	3006729	1	Tab, Throttle Support	
16	400108	1	Screw, 1/4-20 x 3/4" Hex Head	
17	366768	1	Knob	
18	3008901	1	Plate, Back Up	
19	446130	9	Lockwasher, 1/4 Heavy	
20	443102	8	Nut, 1/4-20 Hex	
21	3008738	1	Stop, Throttle Control	
22	400188	1	Screw, 5/16-18 x 1" Hex Head	
23	443106	2	Nut, 5/16-18 Hex	
24	453009	4	Flat Washer, 5/16	
25	446134	1	Lockwasher, 5/16	
26	367176	2	Spacer	
27	440040	1	Carriage Bolt, 1/4-20 x 5/8"	
28	444708	1	Locknut, 1/4-20 Center	
29				
30	558012	AR	Pad, Cork / Rubber	
31	3007719	1	Pivot, Throttle Cable	
32	444718	1	Locknut, 5/16-18 Center	
33	3007305	1	Bracket, Throttle Cable	
34	4102420	1	Screw, M6-1 x 16mm, Socket Head	
35	440042	1	Bolt, 1/4-20 x 3/4", Carriage	
36	4103000	1	Bracket, Stop	

> Change from previous revision

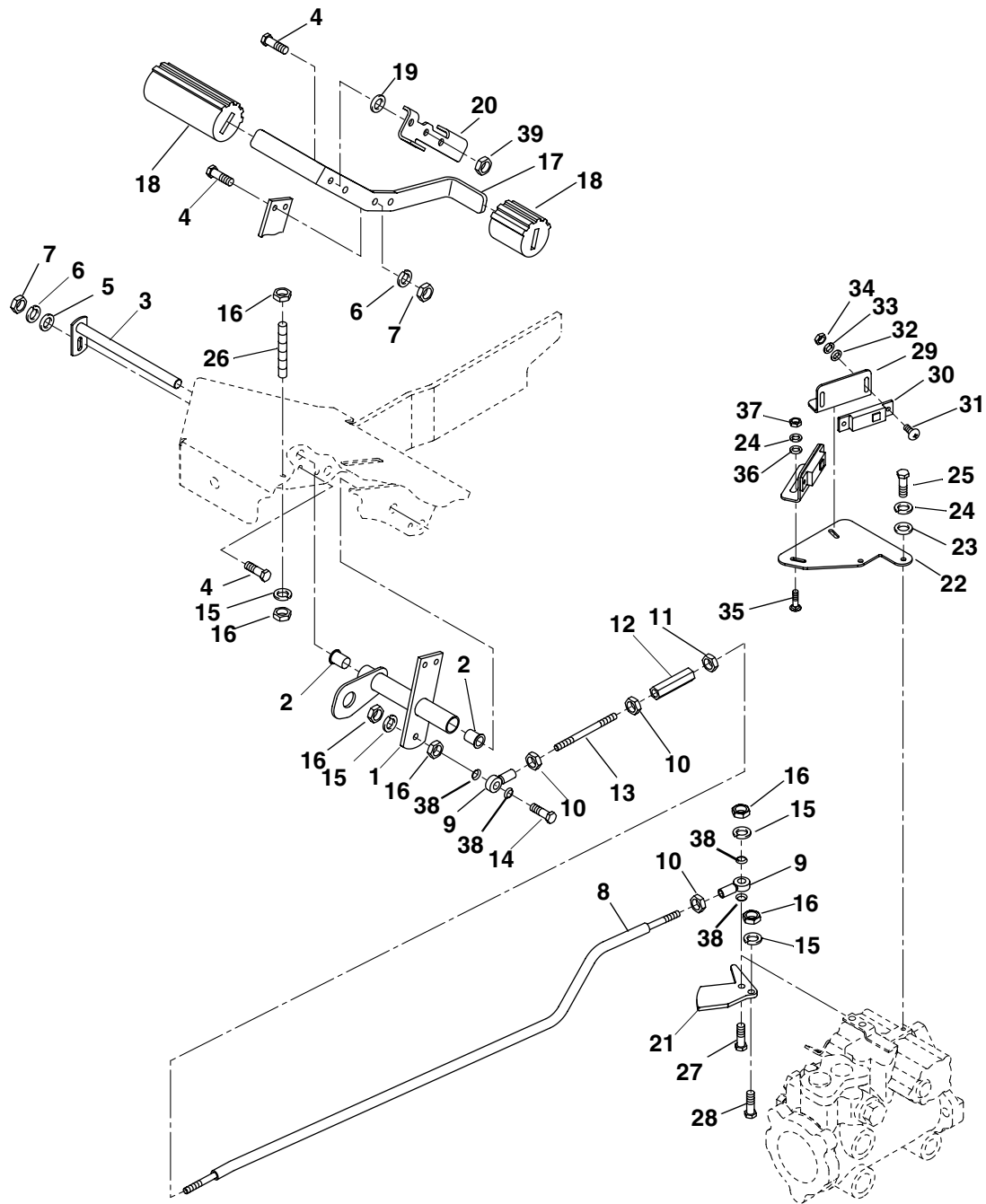
## 7.1 Lift Valve and Controls



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340061	1	Adapter, 90°	See 51.1
2	1003611	1	Tube, Lift Valve to Backpressure	
3	3006737	1	Hinge, Control Panel	
4	404022	3	Screw, 1/4-20 x 1" Truss Head	
5	453023	5	Flat Washer, 1/4	
6	446128	7	Lockwasher, 1/4	
7	443102	7	Nut, 1/4-20 Hex	
8	1004584	1	Backpressure Valve	
	5003539	1	• Seal Kit	
	5003538	1	• Adjusting Knob	
9	340062	1	Adapter, 90°	
10	340029	1	Adapter, 45°	
11	400120	4	Screw, 1/4-20 x 2" Hex Head	
12	1001802	1	Lift Valve	
13	340027	2	Adapter, 45°	
14	340026	3	Adapter, 45°	
15	366133	3	Chain, Master Link With Clip	
16	1003100	3	Lever, Lift	
17	361833	1	Pin	
18	3005157	3	Knob	
19	367631	2	Spacer	
20	461356	2	Roll Pin, 3/32 x 1/2"	
21	3010082	1	Stop, Dash Panel	

> Change from previous revision

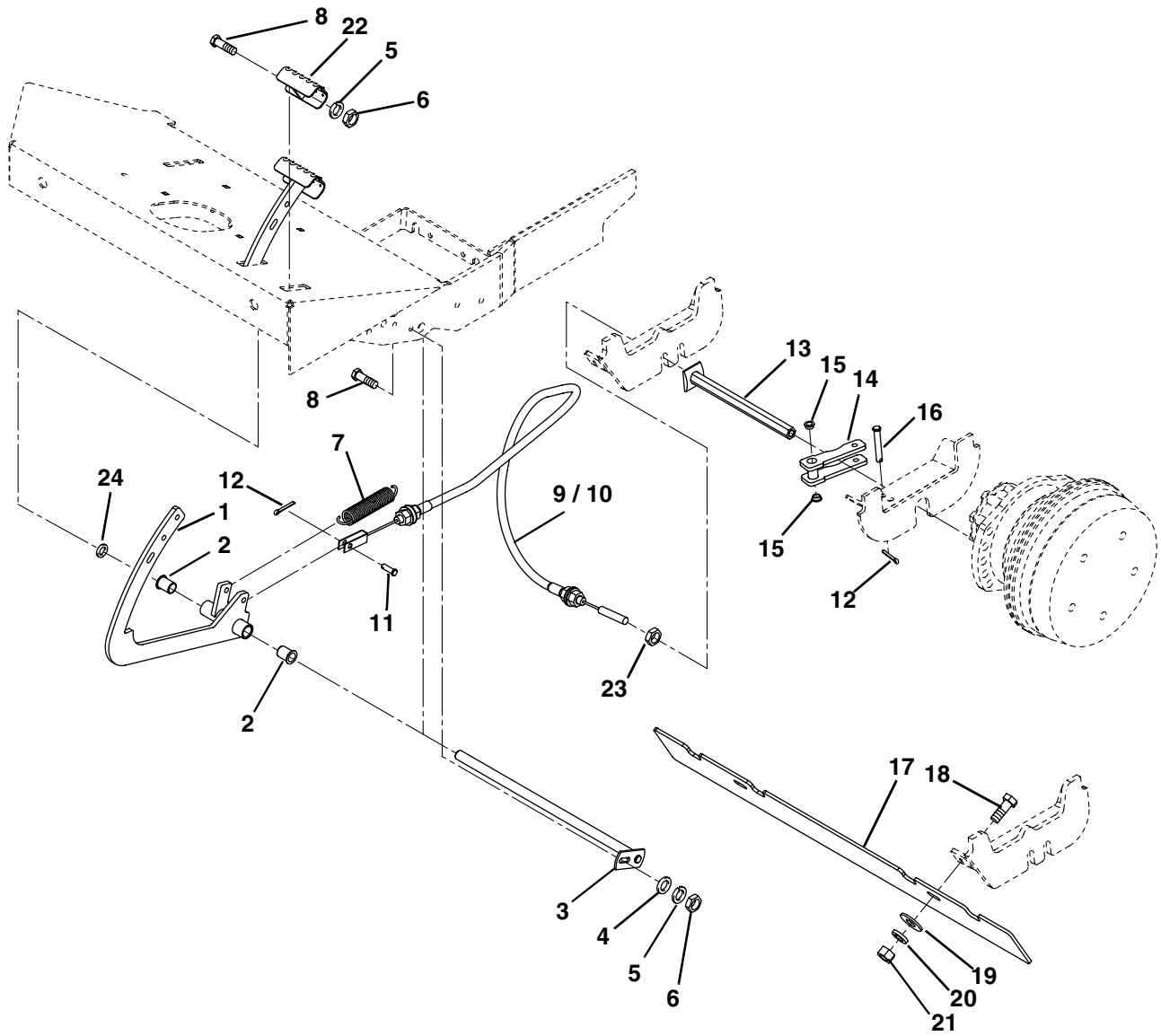
## 8.1 Accelerator Pedal



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003244	1	Arm, Hydro Pedal	
	471214	1	• Grease Fitting (Not Shown)	
2	3010305	2	• Bushing	
3	1003071	1	Shaft	
4	400190	4	Screw, 5/16-18 x 1-1/4" Hex Head	
5	453009	1	Flat Washer, 5/16	
6	446134	3	Lockwasher, 5/16	
7	443106	3	Nut, 5/16-18 Hex	
8	1003145	1	Link, Hydro Control	
9	366974	2	Rod End	
10	443112	3	Nut, 3/8-24 Hex	
11	445785	1	Nut, 3/8-24 Hex Left Hand	
12	3006889	1	Turnbuckle	
13	3006886	1	Threaded Rod	
14	400268	1	Screw, 3/8-16 x 1-3/4" Hex Head	
15	446140	4	Lockwasher, 3/8	
16	443110	6	Nut, 3/8-16 Hex	
17	3006888	1	Pedal, Hydro	
18	3003475	2	Grip, Pedal	
19	3002695	1	Washer	
20	3007230	1	Stop, Mow Speed	
21	3007228	1	Plate, Activator	
22	3007220	1	Plate, Switch	
23	452004	2	Flat Washer, 1/4	
24	446128	4	Lockwasher, 1/4	
25	400106	2	Screw, 1/4-20 x 5/8" Hex Head	
26	333542	1	Tie Stud	
27	400266	1	Screw, 3/8-16 x 1-1/2" Hex Head	
28	400262	1	Screw, 3/8-16 x 1" Hex Head	
29	3009026	2	Angle, Switch	
30	3007392	2	Switch, Proximity	
31	403912	4	Screw, #10-24 x 5/8" Truss Head	
32	452002	4	Flat Washer, #10	
33	446118	4	Lockwasher, #10 Heavy	
34	444310	4	Nut, #10-24 Hex	
35	441606	2	Carriage Bolt, 1/4-20 x 3/4"	
36	453023	2	Flat Washer, 1/4	
37	443102	2	Nut, 1/4-20 Hex	
38	3004385	4	Seal, Rod End	
39	444718	1	Locknut, 5/16-18 Center	

> Change from previous revision

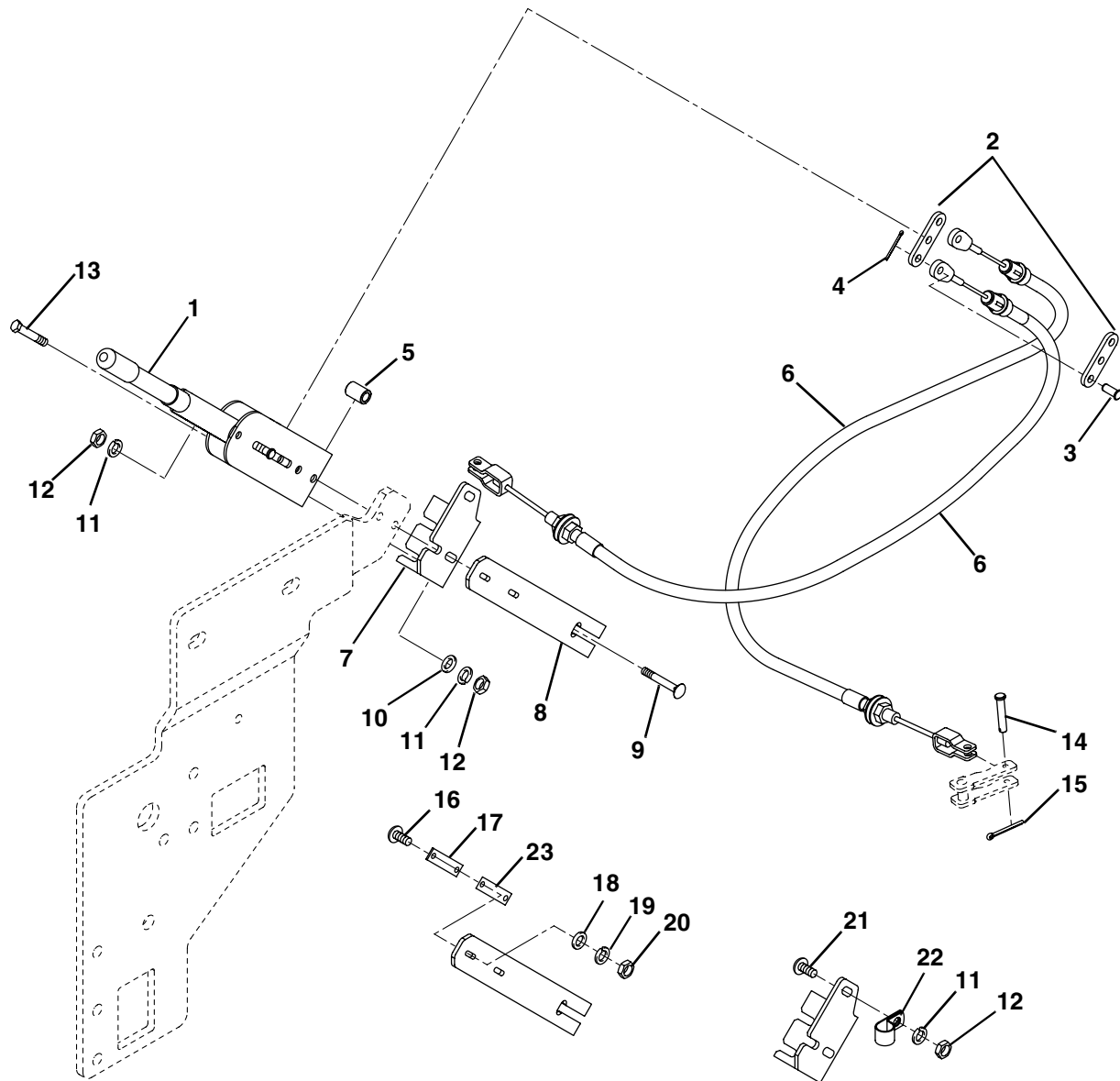
## 9.1 Steering Assist



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003794	2	Steering Assist Pedal	
	471214	1	• Grease Fitting (Not Shown)	
2	3010305	4	• Bushing	
3	1003245	1	Shaft	
4	452006	1	Flat Washer, 5/16	
5	446134	3	Lockwasher, 5/16	
6	443106	3	Nut, 5/16-18Hex	
7	3006107	2	Spring, Pedal Return	
8	400188	3	Screw, 5/16-18 x 1" Hex Head	
9	3008342	1	Cable, Right Turn Assist	
10	3008343	1	Cable, Left Turn Assist	
11	461453	2	Clevis Pin, 5/16 x 1"	
12	460028	4	Cotter Pin, 1/8 x 1"	
13	1003825	2	Connector, Brake	
14	1003824	2	Pivot, Brake Lever	
15	364154	4	• Bushing	
16	3008344	2	Pin, Clevis	
17	3008907	1	Shield, Cable	
18	400262	2	Screw, 3/8-16 x 1" Hex Head	
19	452008	2	Flat Washer, 3/8	
20	446142	2	Lockwasher, 3/8 Heavy	
21	443110	2	Nut, 3/8-16 Hex	
22	1006812	2	Pad, Pedal	
23	3009607	2	Nut, M12-1.75 Hex Jam	
24	455048	2	Flat Washer, 3/4	

> Change from previous revision

## 10.1 Parking Brake

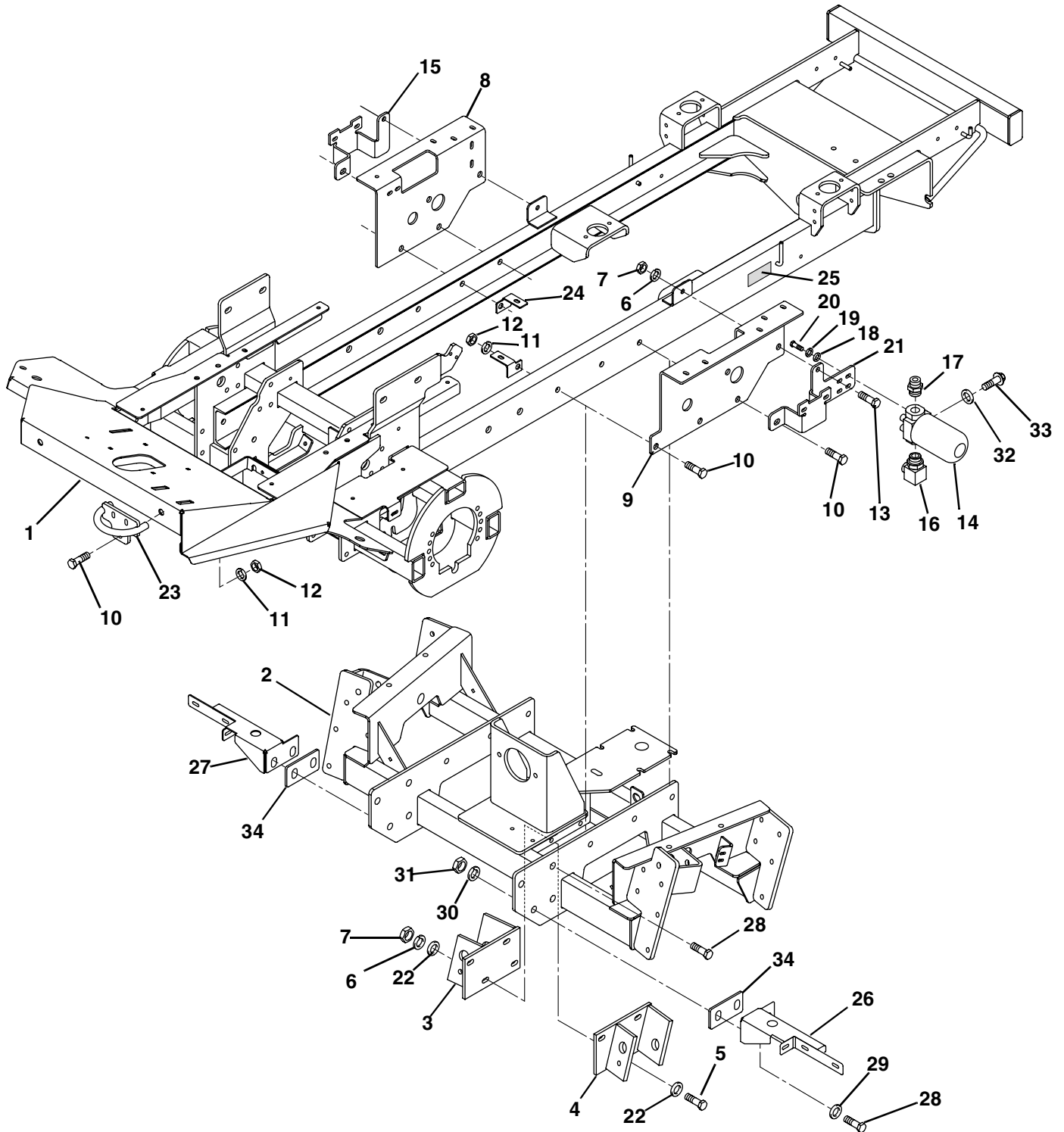




<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003838	1	Parking Brake Lever	
2	N/S	2	• Stabilizer Bar	
3	545234	2	• Clevis Pin	
4	460004	2	• Cotter Pin	
5	545237	2	• Spacer	
6	3006108	2	Cable, Parking Brake	
7	3008548	1	Mount, Brake Lever	
8	3008874	1	Plate, Switch Mount	
9	441672	2	Carriage Bolt, 5/16-18 x 2-1/2"	
10	453009	2	Flat Washer, 5/16	
11	446134	4	Lockwasher, 5/16	
12	443106	5	Nut, 5/16-18 Hex	
13	400188	2	Screw, 5/16-18 x 1" Hex Head	
14	461456	2	Clevis Pin, 5/16 x 1-5/8" Hex Head	
15	460016	2	Cotter Pin, 3/32 x 1"	
16	403746	2	Screw, #10-24 x 3/4" Truss Head	
17	3007392	1	Switch, Proximity	
18	452002	2	Flat Washer, #10	
19	446118	2	Lockwasher, #10 Heavy	
20	444310	2	Nut, #10-24 Hex	
21	441602	1	Carriage Bolt, 5/16-18 x 3/4"	
22	354081	1	Clamp, Wire Harness	
23	3009193	5	Shim, Switch	

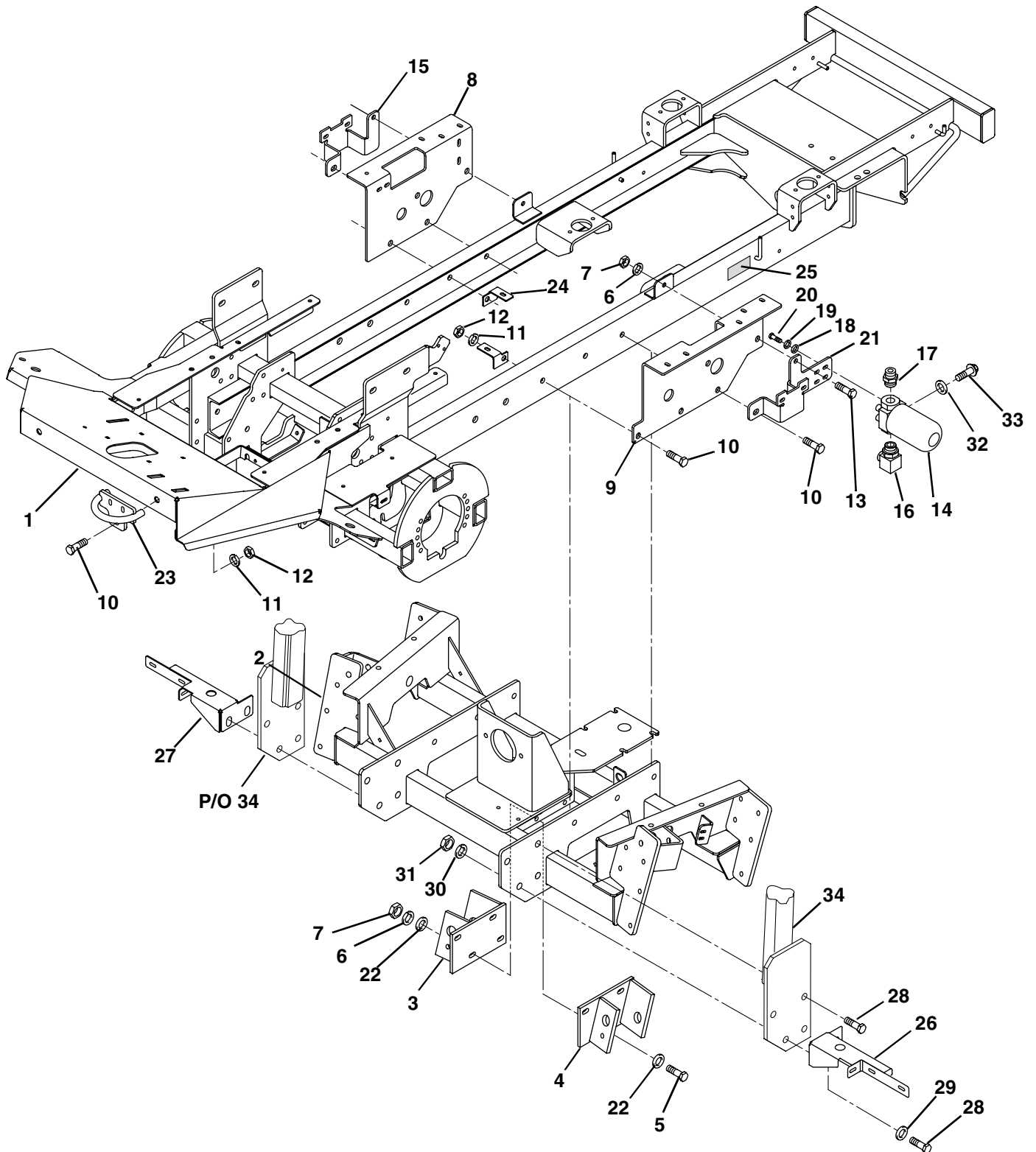
> Change from previous revision

## 11.1 Frame



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003272	1	Frame	
2	1002889	1	Cross Frame	
3	1002895	1	Cylinder Mount, Right	
4	1002896	1	Cylinder Mount, Left	
5	400416	4	Screw, 1/2-13 x 2-1/2" Hex Head	
6	446154	6	Lockwasher, 1/2 Heavy	
7	443118	6	Nut, 1/2-13 Hex	
8	3006814	1	Bracket, Right Radiator	
9	3006815	1	Bracket, Left Radiator	
10	400616	8	Screw, 5/8-11 x 2" Hex Head	
11	446166	8	Lockwasher, 5/8 Heavy	
12	443126	8	Nut, 5/8-11 Hex Head	
13	400406	2	Screw, 1/2-13 x 1-1/4" Hex Head	
14	1004938	1	Charge Filter Assembly	
	556417	1	• Head	
	5003691	1	• Oil Filter Cartridge	
	556419	1	• Charge Pressure Switch	
15	3007919	1	Bracket, Valve Mounting	
16	340075	1	Adapter, 90°	
17	339996	1	Adapter, Straight	
18	452008	4	Flat Washer, 3/8	
19	446140	4	Lockwasher, 3/8	
20	400260	4	Screw, 3/8-16 x 7/8" Hex Head	
21	3007920	1	Bracket, Deck Valve Mounting	
22	453017	8	Flat Washer, 1/2	
23	1004691	2	Tie Down	
24	3009197	2	Bracket, Hose	
25	REF	1	Plate, Serial Number	
26	1004308	1	Mount, Fuel Tank Rear	
27	1004309	1	Mount, Hydraulic Tank Rear	
28	400778	8	Screw, 3/4-10 x 2-1/2" Hex Head	
29	452018	4	Flat Washer, 3/4	
30	446178	8	Lockwasher, 3/4 Heavy	
31	443130	8	Nut, 3/4-10 Heavy	
32	453004	1	Flat Washer, #8	
33	409701	1	Screw, #8-18 x 3/8" Thread Form	
34	3010035	2	Plate	

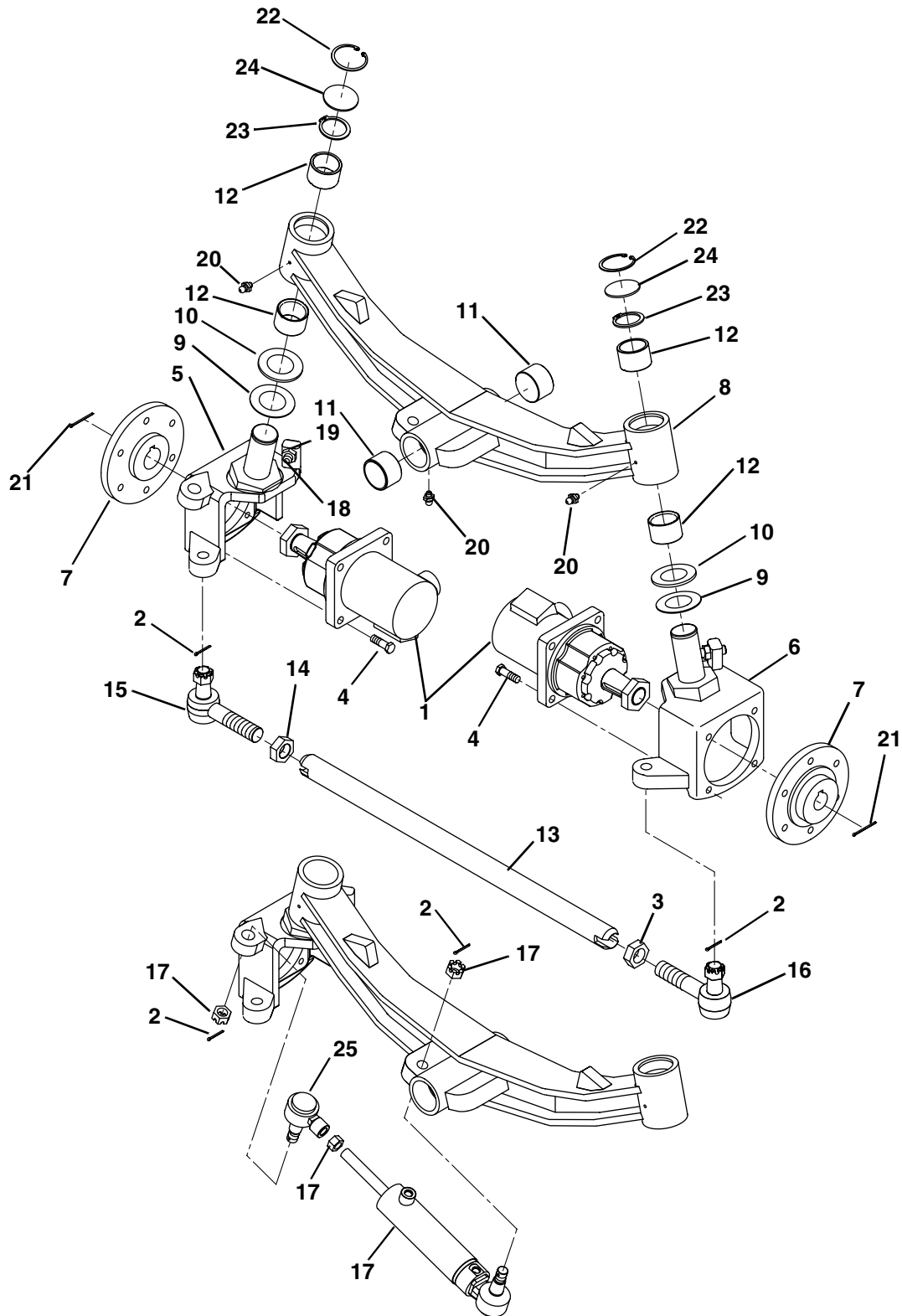
> Change from previous revision



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003272	1	Frame	
2	1002889	1	Cross Frame	
3	1002895	1	Cylinder Mount, Right	
4	1002896	1	Cylinder Mount, Left	
5	400416	4	Screw, 1/2-13 x 2-1/2" Hex Head	
6	446154	6	Lockwasher, 1/2 Heavy	
7	443118	6	Nut, 1/2-13 Hex	
8	3006814	1	Bracket, Right Radiator	
9	3006815	1	Bracket, Left Radiator	
10	400616	8	Screw, 5/8-11 x 2" Hex Head	
11	446166	8	Lockwasher, 5/8 Heavy	
12	443126	8	Nut, 5/8-11 Hex Head	
13	400406	2	Screw, 1/2-13 x 1-1/4" Hex Head	
14	1004938	1	Charge Filter Assembly	
	556417	1	• Head	
	5003691	1	• Oil Filter Cartridge	
	556419	1	• Charge Pressure Switch	
15	3007919	1	Bracket, Valve Mounting	
16	340075	1	Adapter, 90°	
17	339996	1	Adapter, Straight	
18	452008	4	Flat Washer, 3/8	
19	446140	4	Lockwasher, 3/8	
20	400260	4	Screw, 3/8-16 x 7/8" Hex Head	
21	3007920	1	Bracket, Deck Valve Mounting	
22	453017	8	Flat Washer, 1/2	
23	1004691	2	Tie Down	
24	3009197	2	Bracket, Hose	
25	REF	1	Plate, Serial Number	
26	1004308	1	Mount, Fuel Tank Rear	
27	1004309	1	Mount, Hydraulic Tank Rear	
28	400778	8	Screw, 3/4-10 x 2-1/2" Hex Head	
29	452018	4	Flat Washer, 3/4	
30	446178	8	Lockwasher, 3/4 Heavy	
31	443130	8	Nut, 3/4-10 Heavy	
32	453004	1	Flat Washer, #8	
33	409701	1	Screw, #8-18 x 3/8" Thread Form	
34	1002893	1	ROPS	Includes Decals and Seat Belt

> Change from previous revision

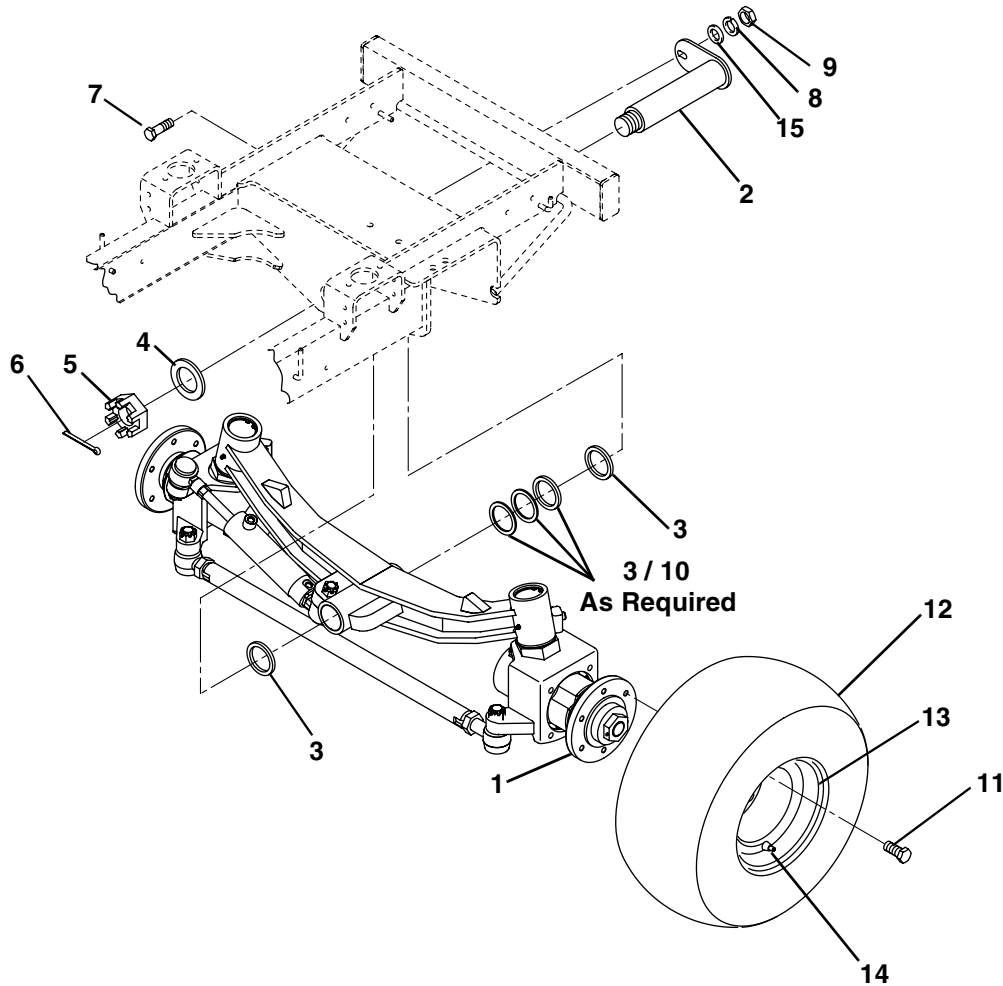
## 13.1 Steering Axle



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	5003540	2	Wheel Motor	See 49.1
2	460030	4	Cotter Pin, 1/8 x 1-1/4"	
3	443842	1	Nut, 1-1/8 -12 Hex Jam	
4	401208	8	Screw, 1/2-13 x 1-3/4" Grade 8	
5	5003530	1	Frame, RH Wheel Motor	
6	5003529	1	Frame, LH Wheel Motor	
7	5003521	2	Hub, Wheel	
8	5003526	1	Axle, Center Section	
9	5003518	2	Washer, Thrust	
10	5003515	2	Washer, Thrust	
11	5003528	2	Bushing, Bronze	
12	5003527	4	Bushing, Bronze	
13	5003522	1	Tie Rod	
14	5003519	1	Nut, 1-1/8 -12 Left Hand Thread	
15	5003523	1	Tie Rod End, Left Hand Thread	
16	5003524	1	Tie Rod End, Right Hand Thread	
17	5003541	1	Cylinder, Steering	
	5003542	1	• Seal Kit	
18	5003562	2	Screw, 5/8-11 Socket Head Set	
19	443826	2	Nut, 5/8-11 Hex Jam	
20	471214	3	Grease Fitting	
21	460035	2	Cotter Pin, 1/8 x 2"	
22	458126	2	Snap Ring	
23	5003520	2	Snap Ring, External	
24	5003531	2	Plug, Expansion	
25	5003543	1	Socket Assembly	

> Change from previous revision

## 14.1 Steering Axle Installation



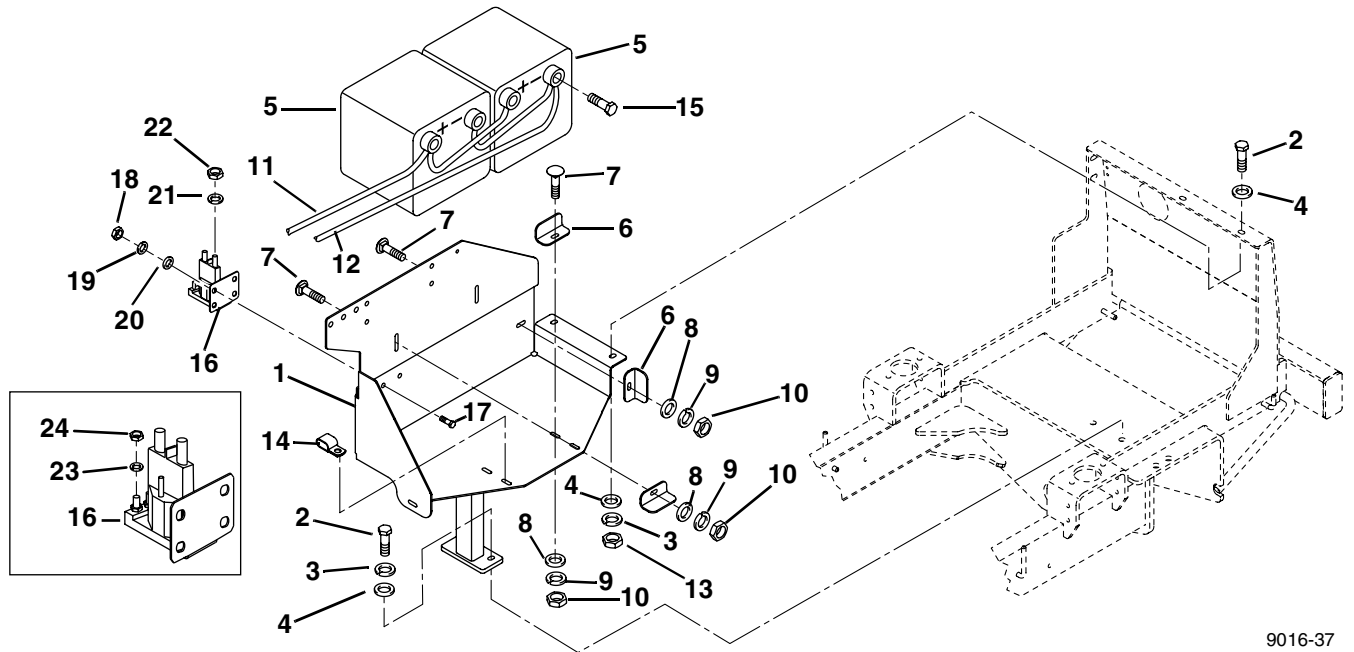
9016-36

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	—	1	Steering Axle	See 13.1
2	1003001	1	Pivot Shaft	
3	3006475	AR	Washer, 3/32" Thick Thrust	
4	363766	1	Washer	
5	445642	1	Nut, 1-1/2 -12 Slotted Hex	
6	460072	1	Cotter Pin, 1/4 x 2-1/2"	
7	400408	1	Screw, 1/2-13 x 1-1/2" Hex Head	
8	446152	1	Lockwasher, 1/2	
9	443118	1	Nut, 1/2-13 Hex	
10	3003101	AR	Washer, 1/32" Thick Thrust	
11	3007683	12	Wheel Bolt, 1/2-20	
12	5003419	2	Tire, 24 x 12-12 Turf Trac	
13	5003420	2	Wheel	
14	360111	2	Valve, Inflation	
15	453017	1	Flat Washer, 1/2	

> Change from previous revision



15.1 Battery Tray

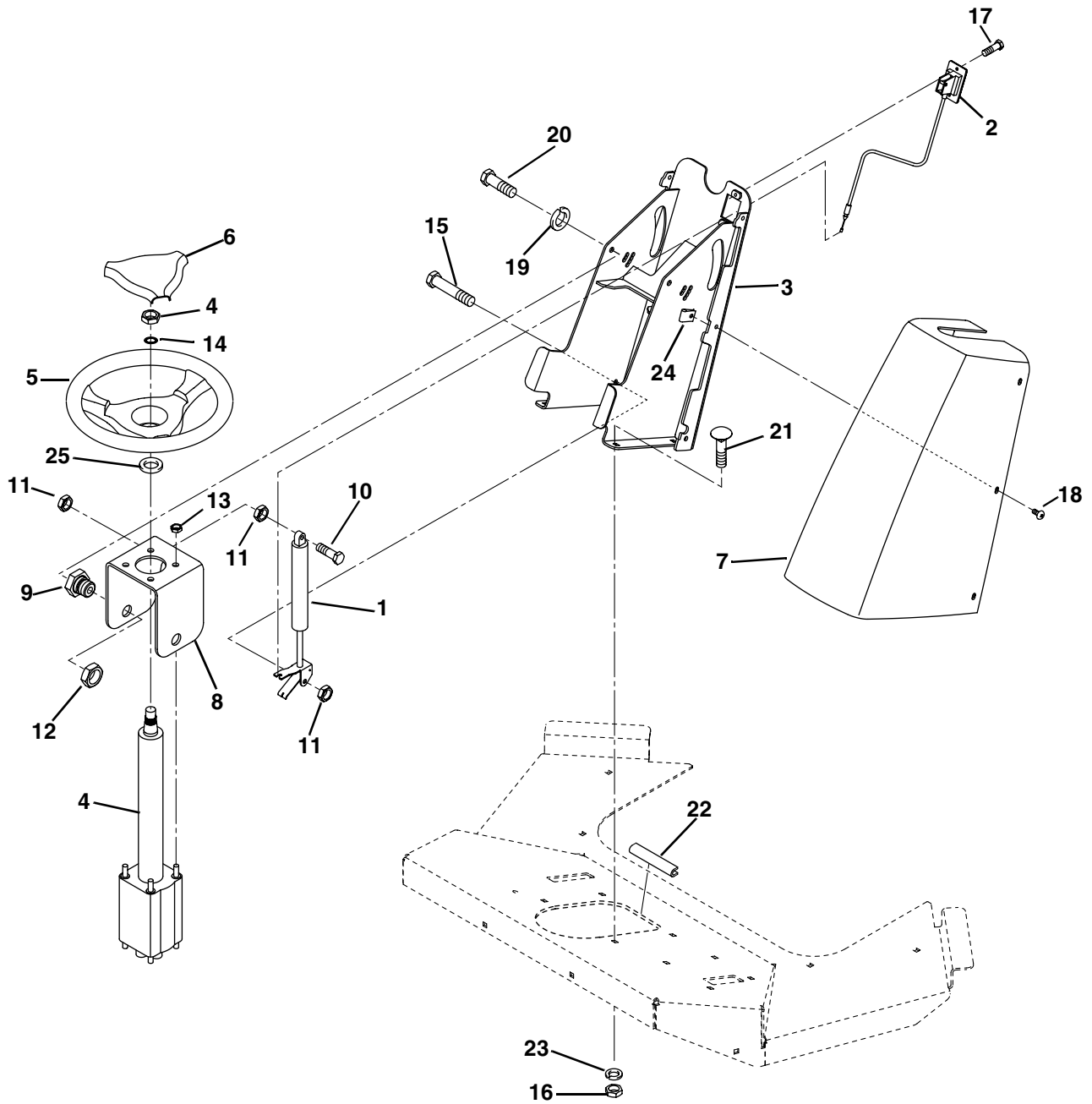


9016-37

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003622	1	Battery Tray	Includes Decals
2	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
3	446142	4	Lockwasher, 3/8 Heavy	
4	452008	6	Flat Washer, 3/8	
5	N/S	2	Battery, 12 Volt Group 75-84N	
6	3008461	5	Angle, Battery Clamp	
7	440078	7	Carriage Bolt, 5/16-18 x 3/4"	
8	452006	7	Flat Washer, 5/16	
9	446134	7	Lockwasher, 5/16	
10	443106	7	Nut, 5/16-18 Hex	
11	3010291	1	Cable, Positive Battery	
12	3010292	1	Cable, Negative Battery	
13	443110	2	Nut, 3/8-16 Hex	
14	3008820	2	Clamp, Double Hose	
15	3010346	4	Bolt, Battery Terminal	
16	131905	1	Solenoid	
17	400108	2	Screw, 1/4-20 x 3/4" Hex Head	
18	443102	2	Nut, 1/4-20 Hex	
19	446130	2	Lockwasher, 1/4 Heavy	
20	452004	2	Flat Washer, 1/4	
21	443808	2	Nut, 5/16-24 Hex Jam	
22	447214	2	Lockwasher, 5/16 Internal	
23	446118	2	Lockwasher, #10 Heavy	
24	444312	2	Nut, #10-32	

> Change from previous revision

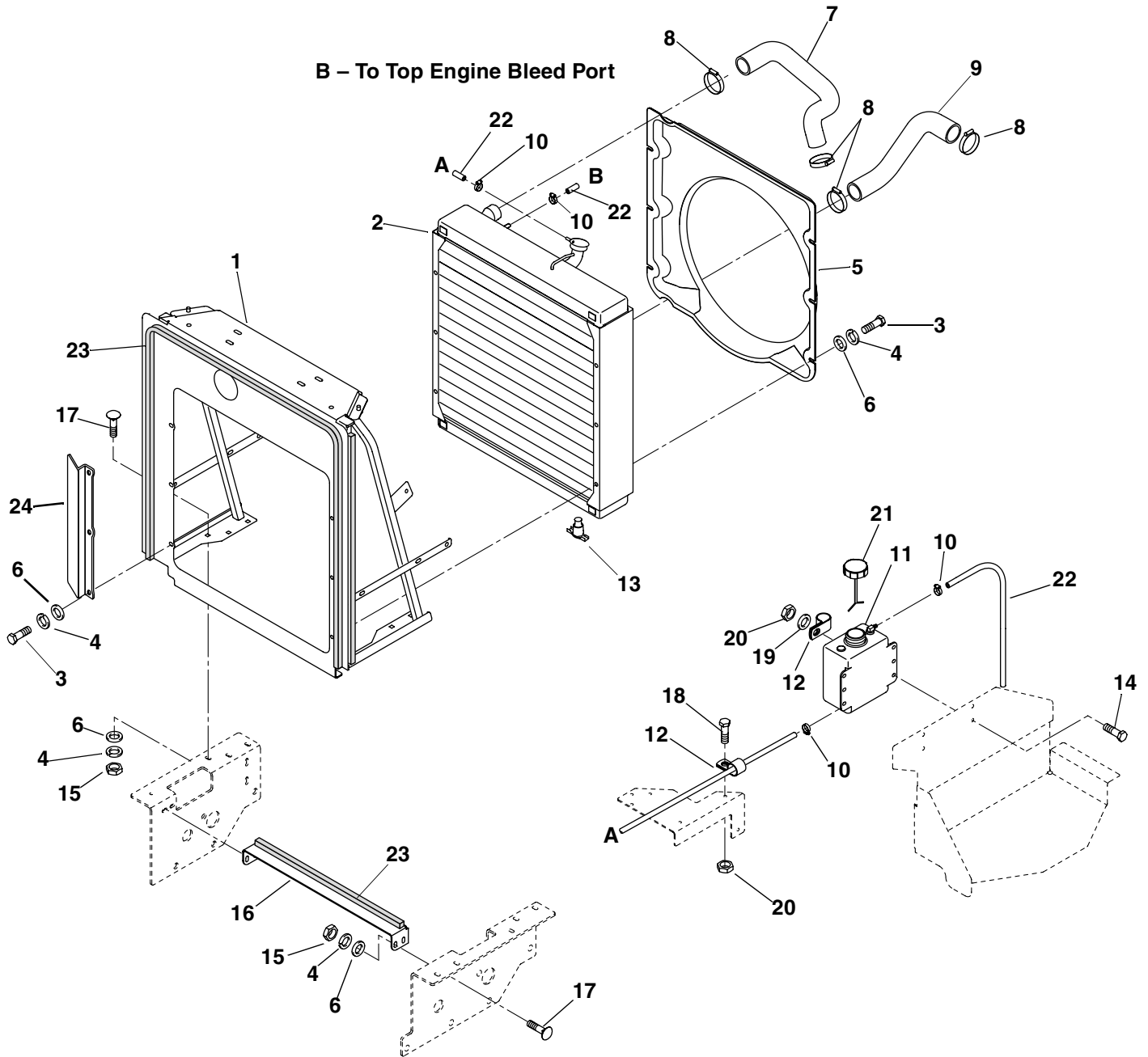
## 16.1 Tilt Steering



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5002918	1	Actuator, Gas Spring	
2	5002919	1	Cable, Actuator	
3	2811346	1	Tower, Steering	
4	1002800	1	Pump, Steering	See 45.1
	339979	5	• Adapter, Straight	
5	2811364	1	Steering Wheel	
6	2811365	1	• Cap, Steering Wheel	
7	3010651	1	Cover, Steering Tower	
8	3005981	1	Bracket, Steering Pump	
9	3005934	2	Bolt, Shoulder	
10	400192	1	Screw, 5/16-18 x 1-1/2" Hex Head	
11	444718	3	Locknut, 5/16-18 Center	
12	444849	2	Locknut, 3/4-10 Center Jam	
13	444754	4	Locknut, 5/16-24 Center	
14	447224	1	Lockwasher, 5/8 Internal	
15	400216	1	Screw, 5/16-18 x 2-3/4" Hex Head	
16	443106	4	Nut, 5/16-18 Hex	
17	416911	2	Screw, #10-24 x 1/2" Thread Cutting	
18	404016	6	Screw, 1/4-20 x 5/8: Truss Head	
19	446142	2	Lockwasher, 3/8 Heavy	
20	400258	2	Screw, 3/8-16 x 3/4" Hex Head	
21	441602	4	Carriage Bolt, 5/16-18 x 3/4"	
22	551651	1	Moulding (Cut to 10")	
23	446136	4	Lockwasher, 5/16 Heavy	
24	445245	6	Tinnerman Nut	
25	2811547	1	Washer	

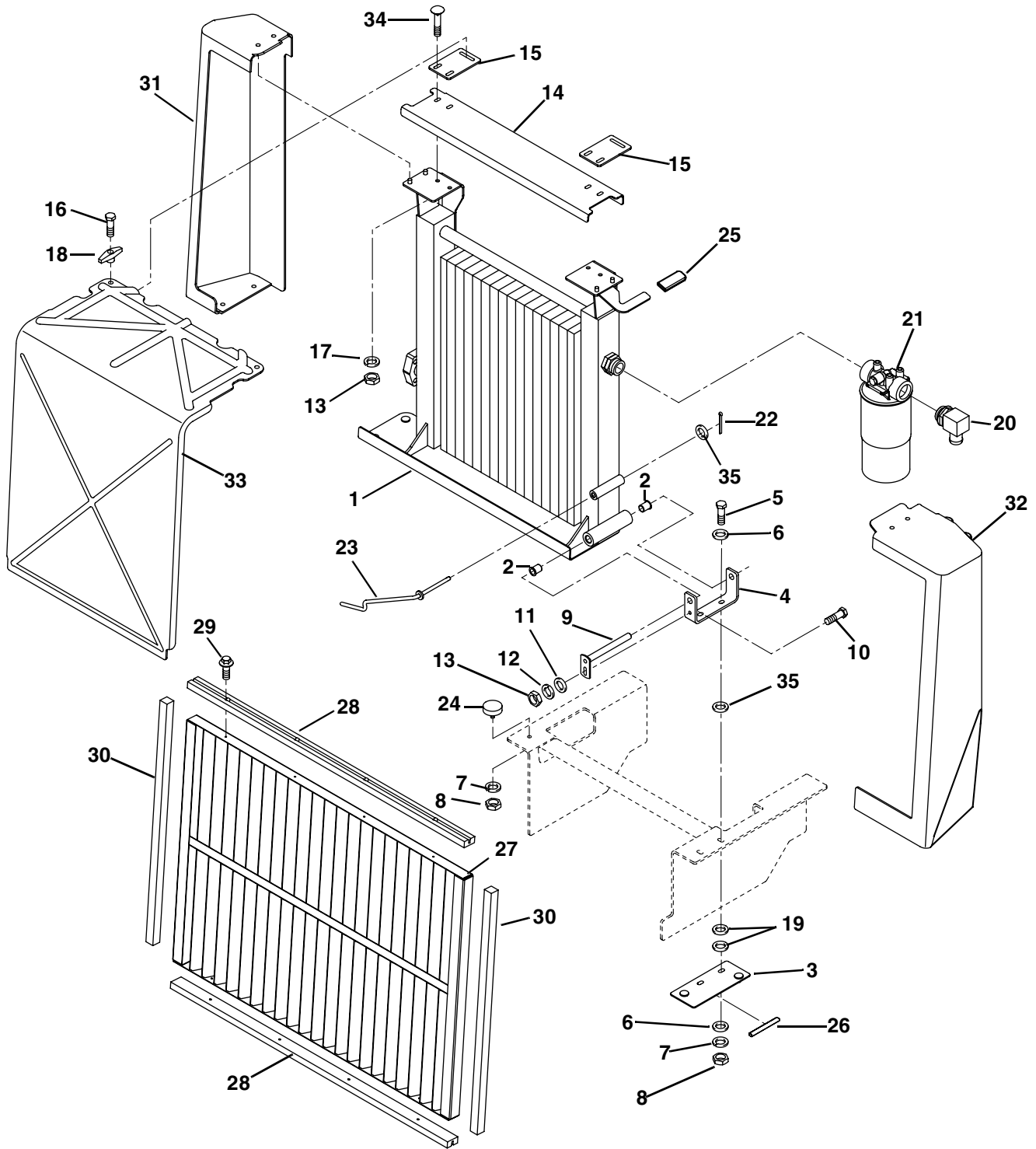
> Change from previous revision

## 17.1 Radiator



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	5003355	1	Radiator Firewall	
2	1002953	1	Radiator	
	555867	1	• Radiator Cap	
3	400258	12	Screw, 3/8-16 x 3/4" Hex Head	
4	446142	22	Lockwasher, 3/8 Heavy	
5	3006427	1	Radiator Fan Shroud	
6	452008	18	Flat Washer, 3/8	
7	3008626	1	Hose, Upper Radiator	
8	326799	4	Clamp, Hose	
9	3008625	1	Hose, Lower Radiator	
10	366526	5	Clamp, Hose	
11	3007731	1	Reserve Tank	
12	360970	2	Clamp, Hose	
13	162479	1	Drain Cock	
14	400184	4	Screw, 5/16-18 x 3/4" Hex Head	
15	443110	10	Nut, 3/8-16 Hex	
16	3008885	1	Brace, Cooler	
17	440120	10	Carriage Bolt, 3/8-16 x 1-1/4"	
18	400186	1	Screw, 5/16-18 x 7/8" Hex Head	
19	453009	4	Flat Washer, 5/16	
20	444718	5	Locknut, 5/16-18 Center	
21	3009537	1	Cap, Reserve Tank	
22	554748	AR	Hose, 5/16 I.D.	
23	5003216	AR	Seal (10 Foot Roll)	
24	2810492	1	Plate, Indent	

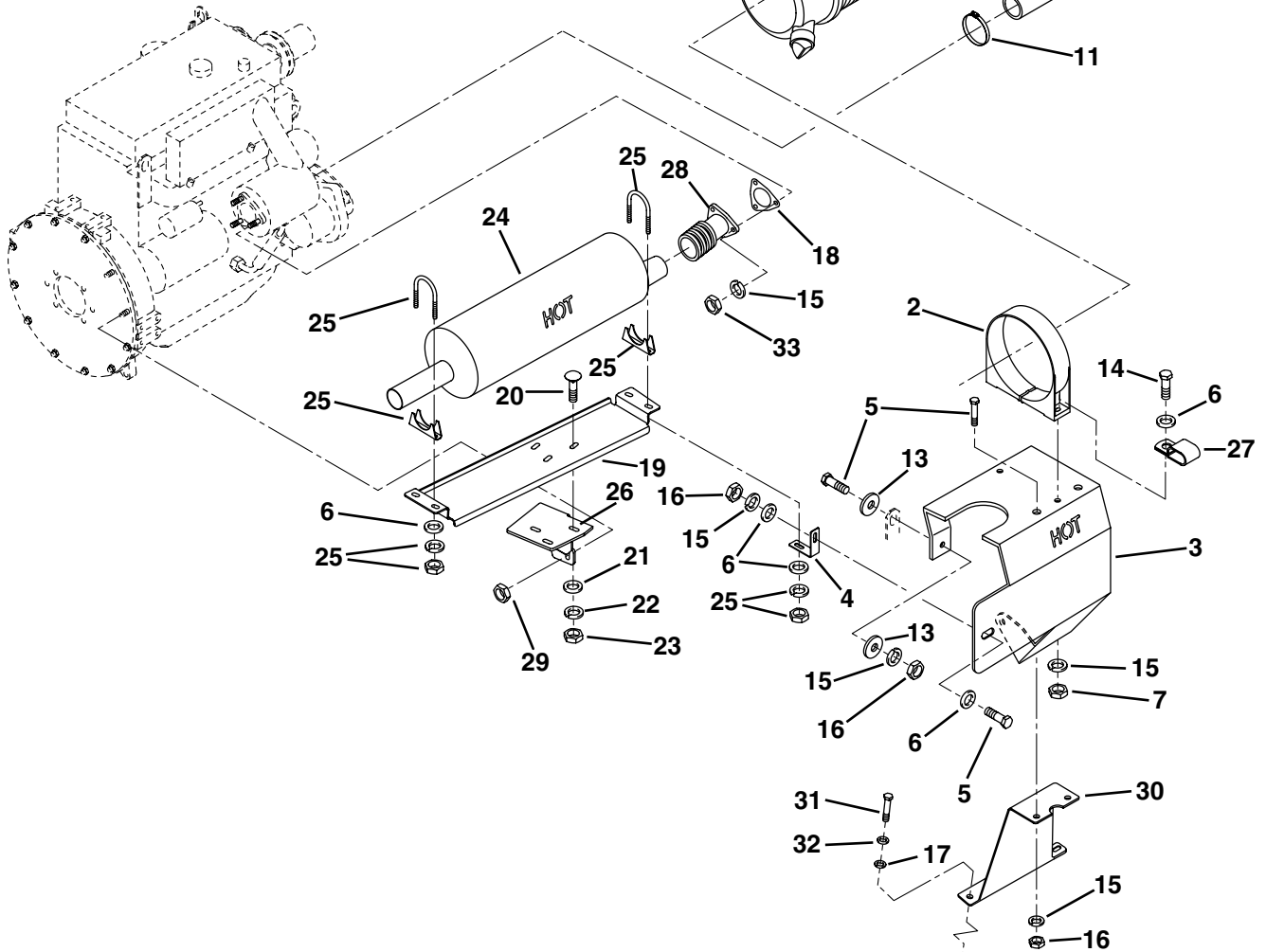
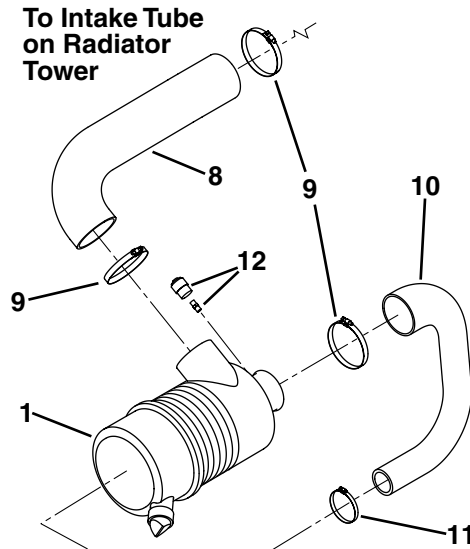
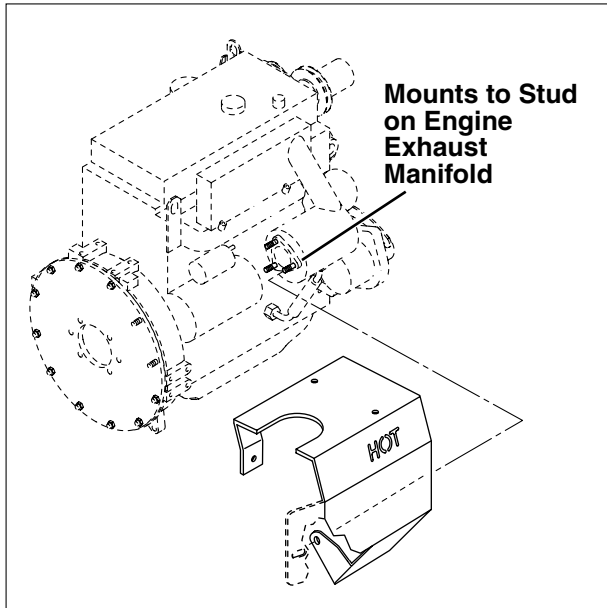
> Change from previous revision



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1002952	1	Oil Cooler	
2	3004113	2	Bushing	
3	2810633	1	Plate, Cap Mounting	
4	3007011	1	Bracket, Cooler Pivot	
5	400270	2	Screw, 3/8-16 x 2" Hex Head	
6	452008	4	Flat Washer, 3/8	
7	446142	3	Lockwasher, 3/8 Heavy	
8	443110	3	Nut, 3/8-16 Hex	
9	1004028	1	Pin, Cooler Pivot	
10	400186	1	Screw, 5/16-18 x 7/8" Hex Head	
11	452006	1	Flat Washer, 5/16	
12	446134	1	Lockwasher, 5/16	
13	443106	5	Nut, 5/16-18 Hex	
14	3008562	1	Angle, Cooler Top	
15	3008563	2	Plate, Cooler Lock	
16	400190	2	Screw, 5/16-18 x 1-1/4" Hex Head	
17	446136	4	Lockwasher, 5/16 Heavy	
18	362008	2	Knob	
19	358794	4	Washer	
20	3007674	1	Fitting, 90°	
21	1003011	1	Return Filter	
	5002693	1	• Return Filter Cartridge	
	556419	1	• Switch	
22	460016	1	Cotter Pin, 3/32 x 1"	
23	1004172	1	Stand, Cooler Pivot	
24	361723	1	Stop, Rubber	
25	351491	1	Grip	
26	551651	AR	Molding	
27	1003942	1	Screen	
28	3008561	2	Guide, Screen	
29	409804	8	Screw, #10-24 x 1/2" Thread Cut	
30	3009095	2	Seal, Neoprene	
31	3008554	1	Cap, Right Side	
32	2810634	1	Cap, Left Side	
33	3010014	1	Shield, Screen	
34	440082	4	Carriage Bolt, 5/16-18 x 1"	
35	453011	3	Flat Washer, 3/8	

> Change from previous revision

## 19.1 Air Cleaner and Muffler

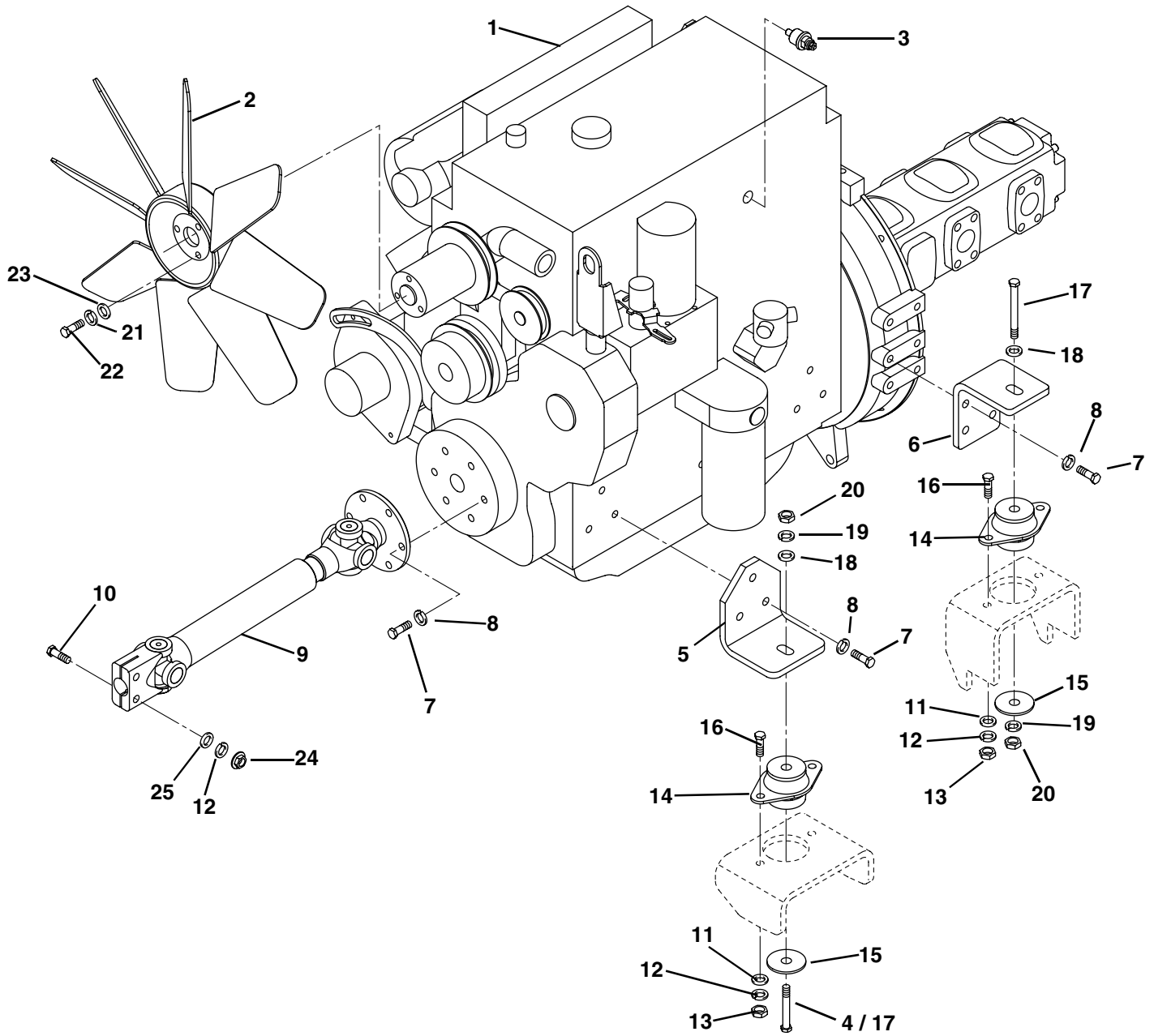




Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004417	1	Air Cleaner	
	5003370	1	• Filter Element	
	5003372	1	• Cover	
	5003373	1	• Valve	
2	3009505	1	Clamp, Air Cleaner Mounting	
3	3010182	1	Heat Shield, Muffler	
4	3010340	1	Tab, Heat Shield	
5	400186	4	Screw, 5/16-18 x 7/8" Hex Head	
6	452006	10	Flat Washer, 5/16	
7	443106	2	Nut, 5/16-18 Hex	
8	3009270	1	Hose, Air Cleaner Intake	
9	3009463	3	Clamp, Hose	
10	3009271	1	Hose, Air Cleaner to Engine	
11	359615	1	Clamp, Hose	
12	1001752	1	Indicator, Mini Kit	
13	362615	1	Washer, Special	
14	400190	2	Screw, 5/16-18 x 1-1/4" Hex Head	
15	446136	10	Lockwasher, 5/16 Heavy	
16	444718	2	Locknut, 5/16-18 Center	
17	452002	2	Flat Washer, 1/4	
18	5003767	1	Gasket, Exhaust	
19	3006656	1	Bracket, Muffler	
20	441624	3	Carriage Bolt, 3/8-16 x 1"	
21	452008	3	Flat Washer, 3/8	
22	446142	3	Lockwasher, 3/8 Heavy	
23	443110	3	Nut, 3/8-16 Hex	
24	4114707	1	Muffler	
25	162236	2	Clamp, Exhaust	
26	4113811	1	Bracket, Muffler Support	
27	3009272	1	Clamp, Double Tube	
28	4114637	1	Adapter, Flex Pipe	
29	362524	2	Nut, M10	
30	2811344	1	Plate, Air Filter Support	
31	4102420	2	Screw, M6 x1	
32	446128	2	Lockwasher, 1/4	
33	4114366	3	Lock Nut, Top	
★	Non Serviced Component of Engine			

> Change from previous revision

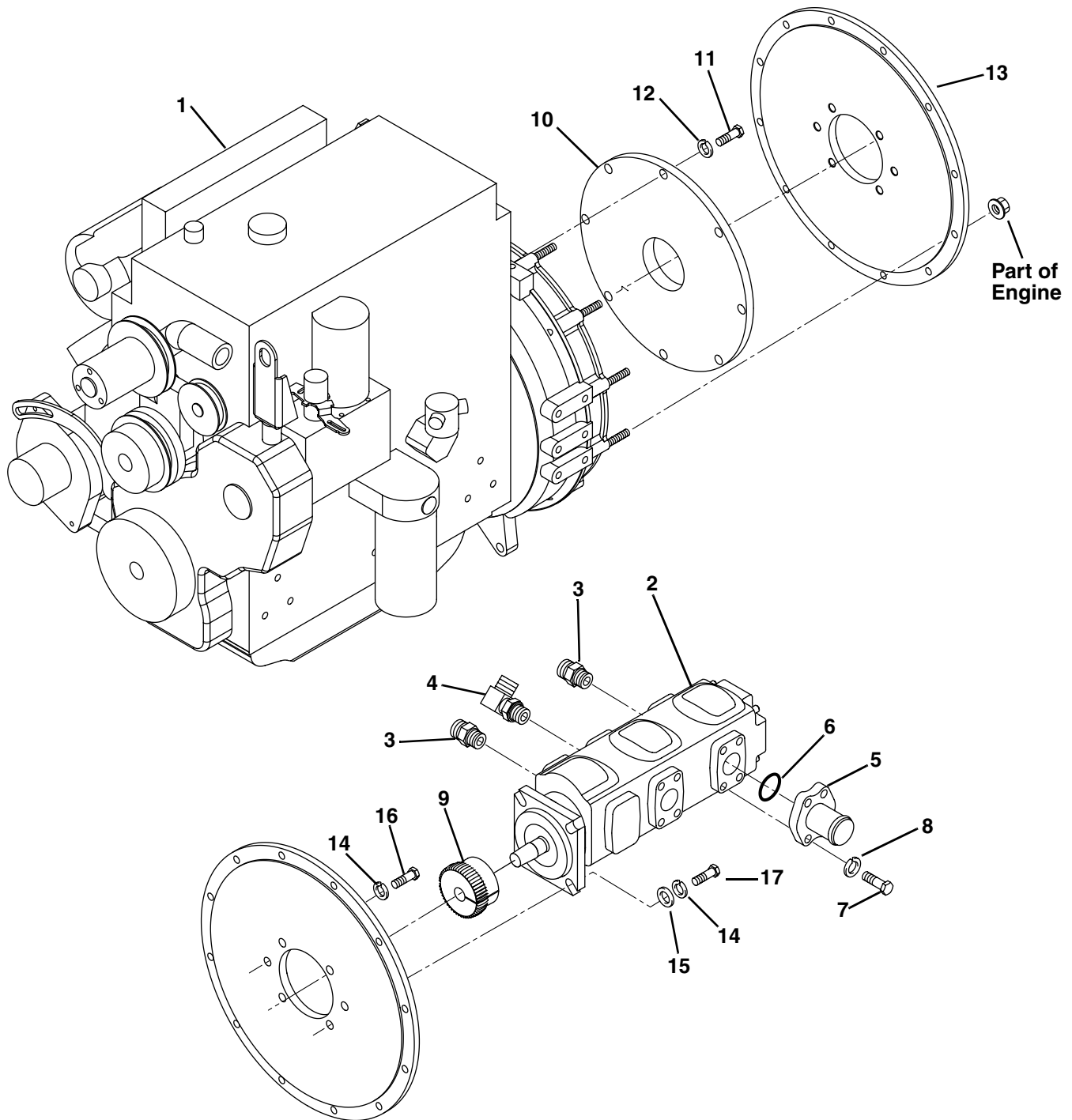
## 20.1 Engine Mounting



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	-	1	Engine and Pump Assembly	See 21.1
2	3007671	1	Fan	Mounting Hardware Part of Engine
3	3008821	1	Temperature Sender	
4	400420	1	Screw, 1/2-13 x 3-1/2" Hex Head	Front Right Engine Mount Only
5	3006526	1	Bracket, Front Iso-Mount	
6	3006525	2	Bracket, Rear Iso-Mount	
7	361619	17	Screw, M10-1.5 x 25mm Hex Head	
8	363385	17	Lockwasher, M10	
9	4108680	1	Drive Shaft	
10	400270	2	Screw, 3/8-16 x 2-1/4" Hex Head	
11	452008	8	Flat Washer, 3/8	
12	446142	10	Lockwasher, 3/8 Heavy	
13	443110	8	Nut, 3/8-16 Hex	
14	4114711	4	Isolator	
15	323943	4	Washer, 2"O.D. x 17/32" I.D.	
16	400264	8	Screw, 3/8-16 x 1-1/4" Hex Head	
17	400422	3	Screw, 1/2-13 x 4" Hex Head	
18	452012	4	Flat Washer, 1/2	
19	446152	4	Lockwasher, 1/2	
20	443118	4	Nut, 1/2-13 Hex	
21	446136	3	Lockwasher, 5/16 Heavy	
22	362540	3	Screw, M8-1.25 x 16mm Hex Head	
23	453009	3	Flat Washer, 5/16	
24	444762	2	Locknut, 3/8-16 Center	
25	452006	4	Flat Washer	

> Change from previous revision

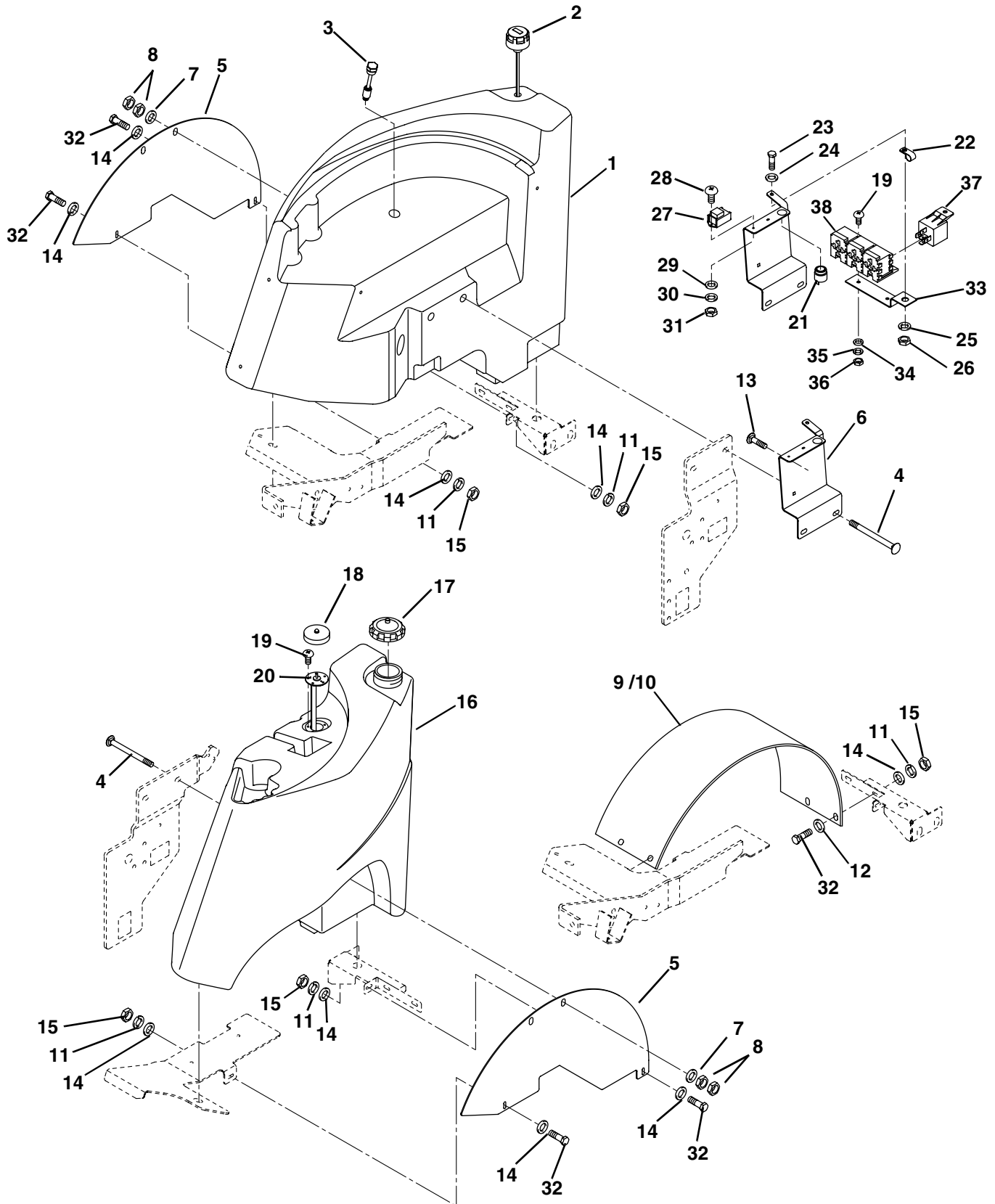
## 21.1 Engine and Pump Assembly



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	REF	1	Engine, DDC D704LT	
	5003207	1	• Engine Oil Filter	
	5003208	1	• Oil Cooler Hose	
	5003209	1	• Thermostat Housing	
	5003210	1	• Fuel Line (Fuel Pump to Filter)	
	5003211	1	• Fan Belt	
	5003212	1	• Fuel Filter	
	5003213	1	• Oil Cooler Hose	
	5003214	1	• Fuel Line, (Filter to Injection)	
	5003689	1	• Alternator Belt	
2	1003247	1	Pump, Triple	
	5003163	1	• Seal Kit, Front Section	
	5003164	2	• Seal Kit, Section	One kit required for each section
3	339989	2	Adapter, Straight	
4	340070	1	Adapter, 90°	
5	3006829	2	Fitting, Four Bolt Flange	
6	3006835	2	O-Ring, 1-3/4" O.D. x 1-1/2" I.D.	
7	400336	8	Screw, 7/16-14 x 1-1/4" Hex Head	
8	446148	8	Lockwasher, 7/16 Heavy	
9	3006238	1	Hub, 48 Tooth	
10	3006240	1	Flange, 10"	
11	361619	8	Screw, M10-1.5 x 25mm Hex Head	
12	363385	8	Lockwasher, M10	
13	3006241	1	Plate, Pump SAE #4	
14	446154	6	Lockwasher, 1/2 Heavy	
15	453017	4	Flat Washer, 1/2	
16	400404	2	Screw, 1/2-13 x 1" Hex Head	
17	400406	4	Screw, 1/2-13 x 1-1/4" Hex Head	

> Change from previous revision

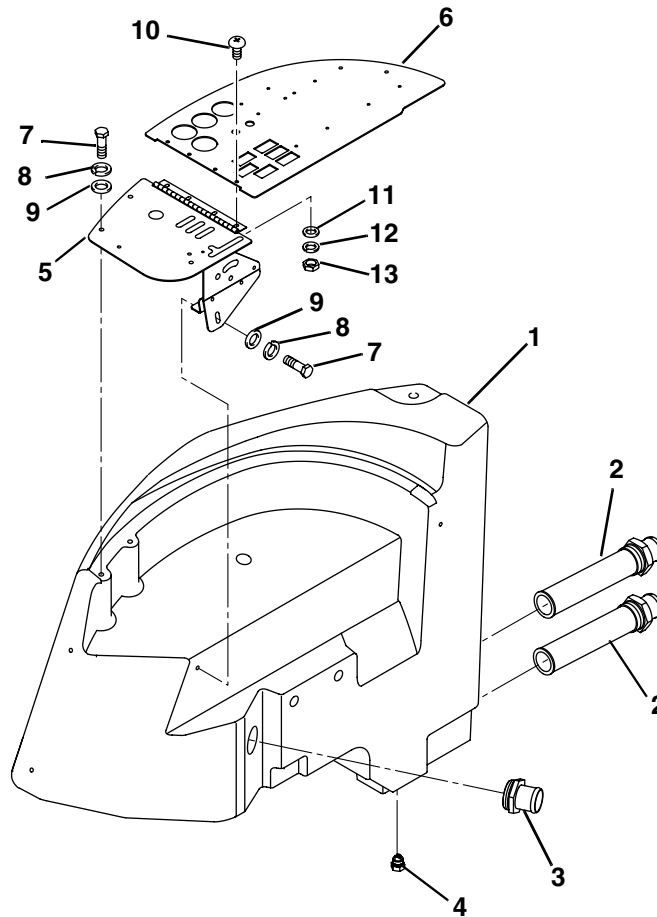
## 22.1 Tank Mounting



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	-	1	Tank, Hydraulic Oil	See 23.1
2	3008808	1	Cap, Breather Filler	
3	3009203	1	Sensor, Oil Level	
4	441689	4	Carriage Bolt, 1/2-13 x 8-1/2"	
5	3009236	2	Wall, Fender	
6	3008219	1	Bracket, Hose Retainer	
7	452012	4	Flat Washer, 1/2	
8	443118	8	Nut, 1/2-13 Hex	
9	3009980	1	Fender, Right Side	
10	3009979	1	Fender, Left Side	
11	446136	12	Lockwasher, 5/16 Heavy	
12	362615	8	Washer, Special	
13	440088	2	Carriage Bolt, 5/16-18 x 1-3/4"	
14	452006	16	Flat Washer, 5/16	
15	443106	12	Nut, 5/16-18 Hex	
16	-	1	Tank, Fuel	See 24.1
> 17	2721806	1	Cap, Fuel	
18	340481	1	Cover, Sender	
19	403910	7	Screw, #10-32 x 1/2" Truss Head	
20	3006639	1	Sender, Fuel Level	
21	366670	1	Horn	
22	364016	1	Clamp, Wire Harness	
23	400260	1	Screw, 3/8-16 x 7/8" Hex Head	
24	453011	1	Flat Washer, 3/8	
25	446140	1	Lockwasher, 3/8	
26	443110	1	Nut, 3/8-16 Hex	
27	3009544	1	Relay, Time Delay	
28	403860	2	Screw, #8-32 x 5/8" Truss Head	
29	453004	2	Flat Washer, #8	
30	446112	2	Lockwasher, #8 Heavy	
31	444306	2	Nut, #8-32 Hex	
32	400188	12	Screw, 5/16-18 x 1" Hex Head	
33	2822524	1	Bracket, Relay	
34	452002	2	Flat Washer, #10	
35	446118	2	Lockwasher, #10	Serial Number 70524 1726 and Up Serial Number 70525 1778 ang Up
36	444310	2	Nut, #10-24 Hex	
37	3001307	3	Relay, SPDT with Resistor	
38	REF	1	Harness, Kubota Key Switch	See 44.1

> Change from previous revision

## 23.1 Hydraulic Tank



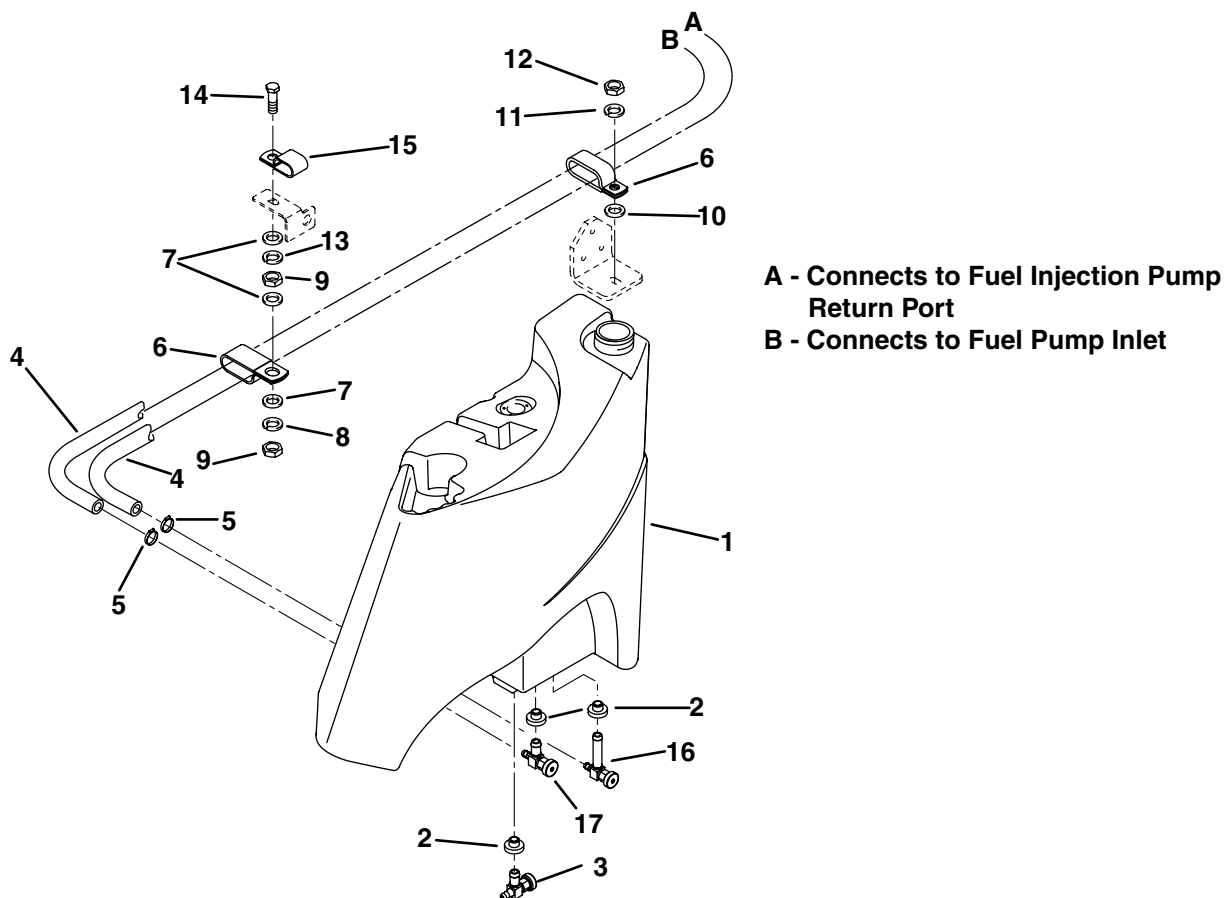
9016-19

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3006264	1	Tank, Hydraulic oil	
2	3006566	2	Strainer	
	339904	2	• O-Ring SAE -32	
3	3006847	1	Fitting, Beaded	
	339904	1	• O-Ring SAE -32	
4	3002397	1	Plug, Magnetic	
5	-	1	Control Panel	See 6.1 and 7.1
6	-	1	Instrument Panel	See 5.1
7	400182	3	Screw, 5/16-18 x 5/8" Hex Head	
8	446134	3	Lockwasher, 5/16	
9	453009	3	Flat Washer, 5/16	
10	404022	4	Screw, 1/4-20 x 1" Truss Head	
11	453023	4	Flat Washer, 1/4	
12	446128	4	Lockwasher, 1/4	
13	443102	4	Nut, 1/4-20 Hex	

> Change from previous revision



24.1 Fuel Tank

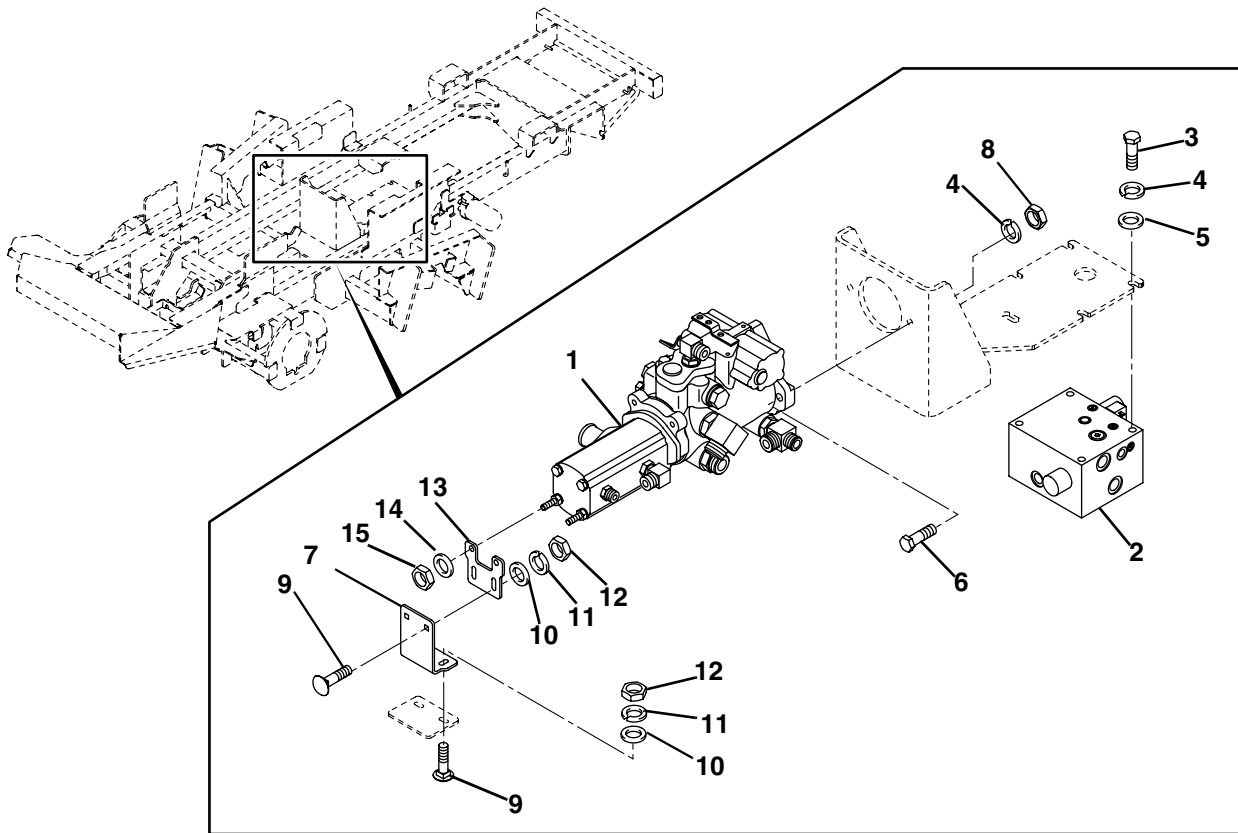


9016-20

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3006265	1	Tank, Fuel	
2	361117	3	Bushing	
3	132647	1	Fuel Shutoff	
4	554748	AR	Fuel Line, 5/16 I.D.	
5	366526	4	Clamp, Hose	
6	3008820	2	Clamp, Double Hose (5/8" O.D.)	
7	452008	3	Flat Washer, 3/8	
8	446140	1	Lockwasher, 3/8	
9	443110	2	Nut, 3/8-16 Hex	
10	452012	1	Flat Washer, 1/2	
11	446152	1	Lockwasher, 1/2	
12	443118	1	Nut, 1/2-13 Hex	
13	446142	1	Lockwasher, 3/8 Heavy	
14	400264	1	Screw, 3/8-16 x 1-1/4" Hex Head	
15	3009272	1	Clamp, Double Hose (3/8" O.D.)	Retains Steering Tubes
16	2810702	1	Valve, Needle	
17	3003704	1	Elbow, 90° Fuel	

> Change from previous revision

## 25.1 Pump and 4WD Valve Mounting

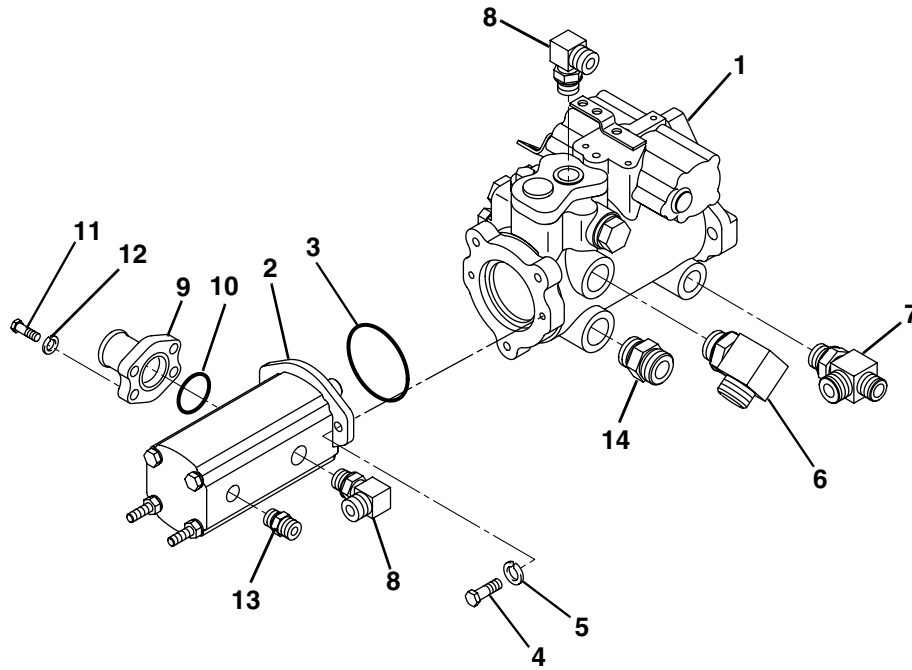


9016-06

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	—	1	Pump Assembly	See 26.1
2	1002977	1	4WD Valve with Oil Shuttle	See 55.1
3	400406	4	Screw, 1/2-13 x 1-1/4" Hex Head	
4	446154	6	Lockwasher, 1/2 Heavy	
5	453017	4	Flat Washer, 1/2	
6	400412	2	Screw, 1/2-13 x 2" Hex Head	
7	3006658	1	Bracket, Pump Support	
8	443118	2	Nut, 1/2-13 Hex	
9	440082	4	Carriage Bolt, 5/16-18 x 1"	
10	452006	4	Flat Washer, 5/16	
11	446136	4	Lockwasher, 5/16 Heavy	
12	443106	4	Nut, 5/16-18 Hex	
13	3006913	1	Bracket, Pump Support	
14	446140	2	Lockwasher, 3/8	Included with Pump
15	443110	2	Nut, 3/8-16 Hex	Included with Pump

> Change from previous revision

26.1 Pump Assembly

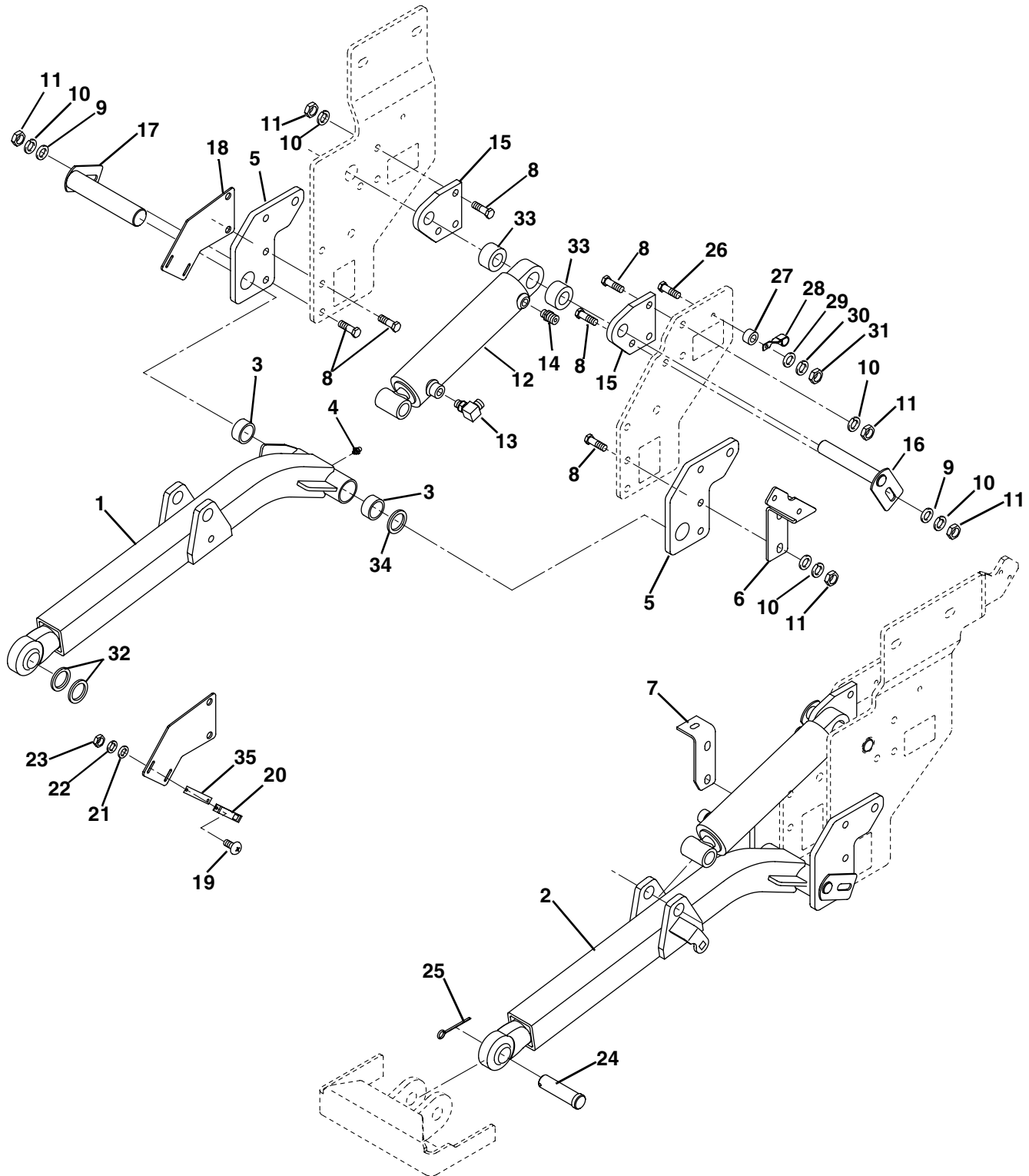


9016-07

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1002927	1	Pump, Traction	
	5003034	1	• Seal Kit	
	5003432	1	• Control Kit	
	5003433	1	• Shaft Seal Kit	
	5003544	1	• System Relief Kit	
2	1003248	1	Pump, Double	
	5003165	1	• Seal Kit, Front Section	
	5003166	1	• Seal Kit, Rear Section	
3	362743	1	O-Ring	
4	400262	2	Screw, 3/8-16 x 1" Hex Head	
5	446142	2	Lockwasher, 3/8 Heavy	
6	340077	1	Adapter, 90°	
7	340269	1	Adapter, Tee	
8	340070	2	Adapter, 90°	
9	3006829	1	Fitting, 4 Bolt Flange	
10	3006835	1	O-Ring, 1-3/4" O.D. x 1-1/2" I.D.	
11	400336	4	Screw, 7/16-14 x 1-1/4" Hex Head	
12	446148	4	Lockwasher, 7/16 Heavy	
13	339984	1	Adapter, Straight	
14	339999	1	Adapter, Straight	

> Change from previous revision

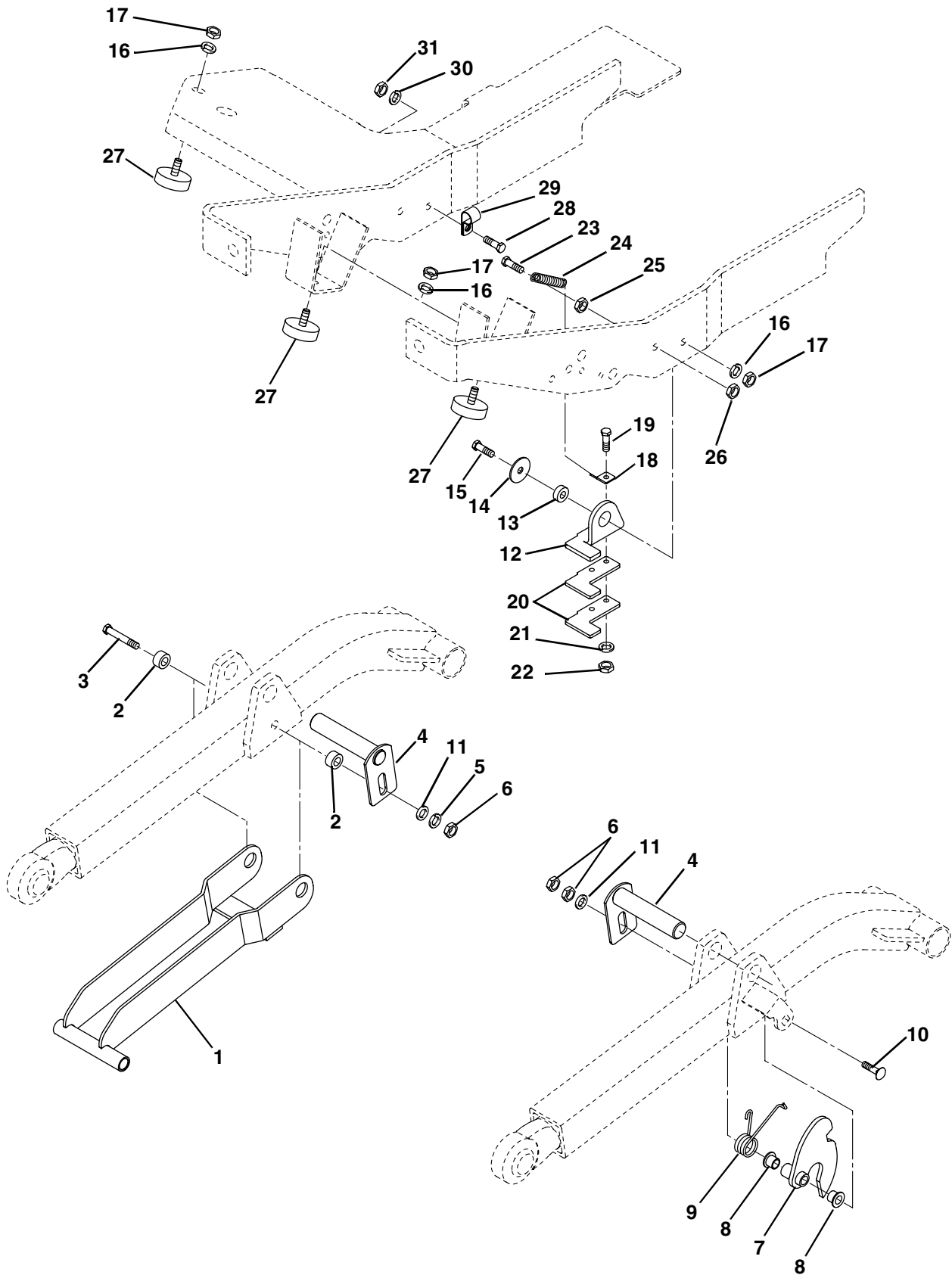
## 27.1 Front Lift Arms and Cylinders



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1002785	1	R.H. Front Lift Arm	
2	1003900	1	L.H. Front Lift Arm	
3	342033	4	• Bushing	
4	471214	2	• Grease Fitting	
5	3006490	4	Bracket, Front Deck Pivot	
6	3007091	1	Angle, R.H. Valve Mount	
7	3007092	1	Angle, L.H. Valve Mount	
8	400412	28	Screw, 1/2-13 x 2" Hex Head	
9	453017	4	Flat Washer, 1/2	
10	446154	28	Lockwasher, 1/2 Heavy	
11	443118	28	Nut, 1/2-13 Hex	
12	3006008	2	Front Lift Cylinder	See 52.1
13	340061	2	Adapter, 90°	
14	339979	2	Adapter, Straight	
15	3006491	4	Bracket, Front Cylinder Pivot	
16	1003274	2	Pin, Front Cylinder	
17	1003275	2	Pin, Front Lift Arm Pivot	
18	3007468	1	Bracket, Switch	
19	403746	2	Screw, #10-24 x 3/4" Truss Head	
20	3007392	1	Switch, Proximity	
21	452002	2	Flat Washer, #10	
22	446118	2	Lockwasher, #10 Heavy	
23	444310	2	Nut, #10-24 Hex	
24	3007680	2	Pin, Front Deck Mounting	
25	460054	2	Cotter Pin, 3/16 x 1-3/4"	
26	400192	2	Screw, 5/16-18 x 1-1/2" Hex Head	
27	3004410	2	Spacer	
28	3009269	2	Clamp, Wire Harness Twisted	
29	452006	2	Flat Washer, 5/16	
30	446134	2	Lockwasher, 5/16	
31	443106	2	Nut, 5/16-18 Hex	
32	455004	2	Flat Washer, 1"	
33	3010015	4	Spacer	
34	364830	AR	Thrust Washer	
35	3009193	5	Shim, Switch	

> Change from previous revision

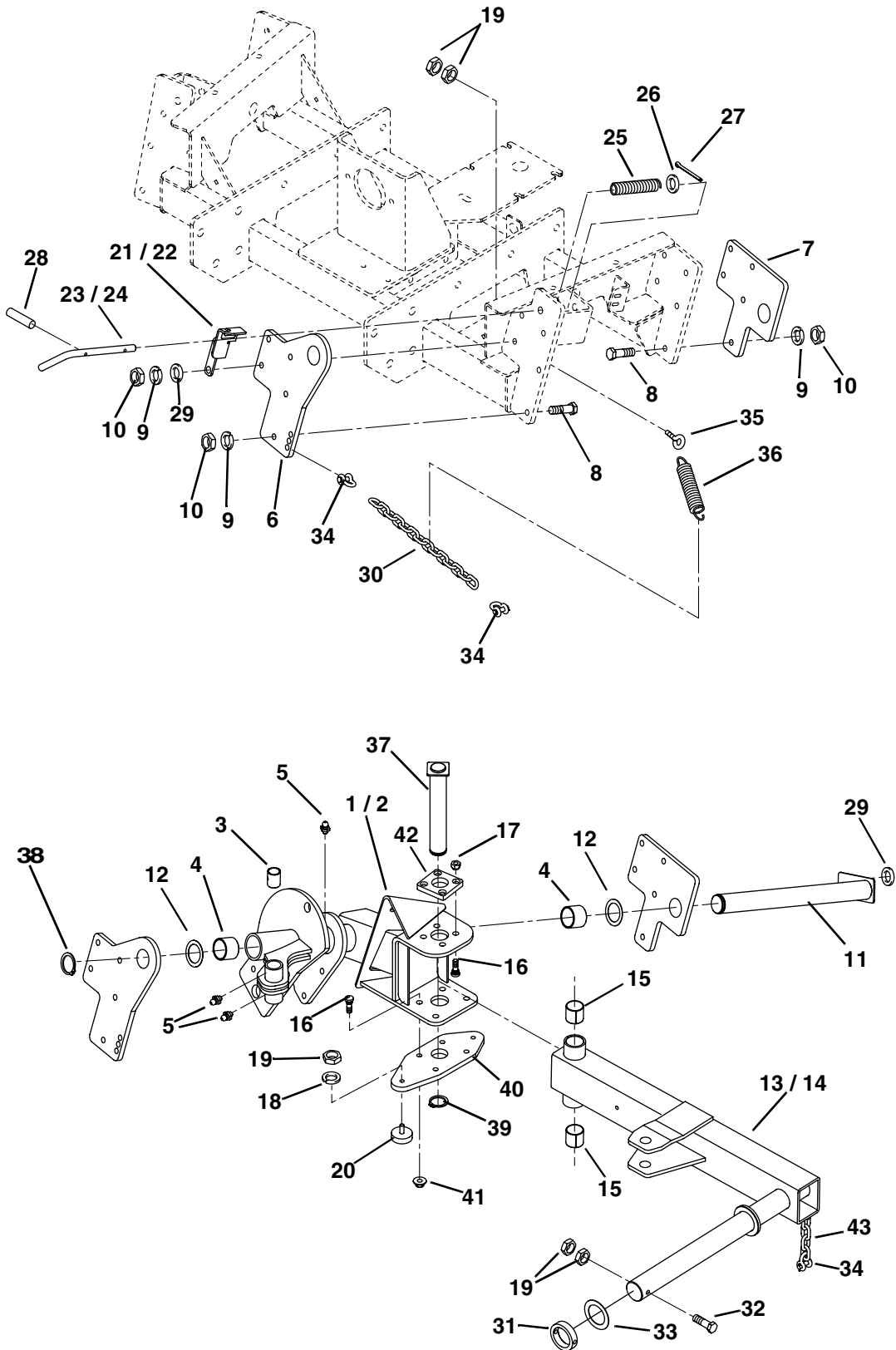
## 28.1 Front Deck Latch



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003483	1	Brace, Stand Up	
2	365826	2	Spacer	
3	400430	1	Screw, 1/2-13 x 5-1/2" Hex Head	
4	1003277	2	Pin, Cylinder Rod End	
5	446154	1	Lockwasher, 1/2 Heavy	
6	443118	3	Nut, 1/2-13 Hex	
7	1003484	1	Latch, Front Deck	
8	352936	2	• Bushing	
9	3008472	1	Spring, Torsion	
10	441690	1	Carriage Bolt, 1/2-13 x 7"	
11	453017	2	Flat Washer, 1/2	
12	3008453	1	Stop, Anti Sway Latch	
13	352435	1	Spacer	
14	319755	1	Washer	
15	400264	1	Screw, 3/8-16 x 1-1/4" Hex Head	
16	446142	4	Lockwasher, 3/8 Heavy	
17	443110	4	Nut, 3/8-16 Hex	
18	3007297	1	Tab, Spring	
19	400114	2	Screw, 1/4-20 x 1-1/4" Hex Head	
20	3007712	2	Shim	
21	446128	2	Lockwasher, 1/4	
22	443102	2	Nut, 1/4-20 Hex	
23	400194	1	Screw, 5/16-18 x 1-3/4" Hex Head	
24	346802	1	Spring, Extension	
25	443806	1	Nut, 5/16-18 Hex Jam	
26	444718	1	Locknut, 5/16-18 Center	
27	361723	3	Stop, Rubber	
28	400186	1	Screw, 5/16-18 x 7/8" Hex Head	
29	354081	1	Clamp, Wire Harness	
30	446134	1	Lockwasher, 5/16	
31	443106	1	Nut, 5/16-18 Hex	

> Change from previous revision

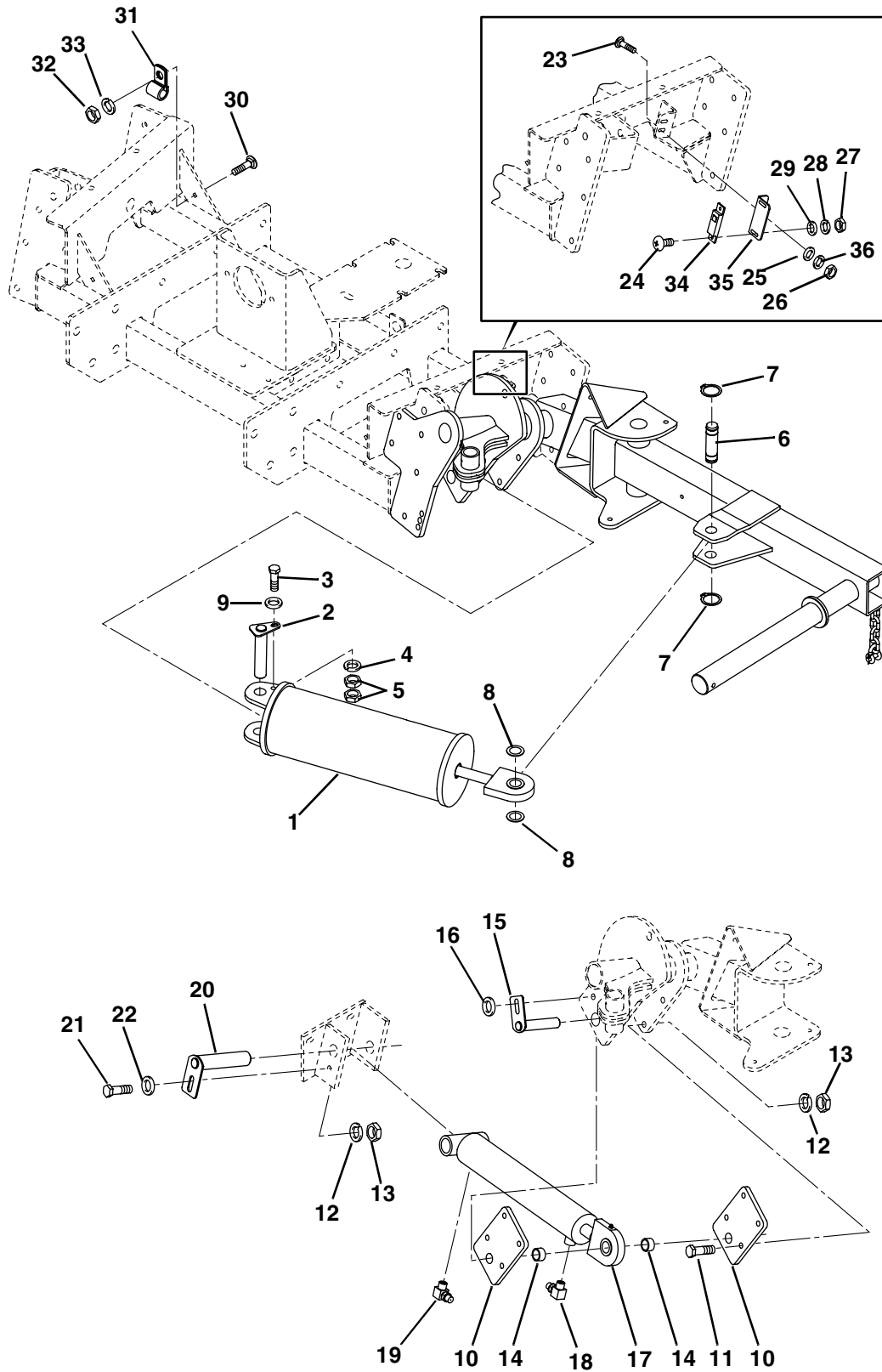
## 29.1 Side Lift Arms





Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1005016	1	Pivot, Left Side Arm	
2	1005017	1	Pivot, Right Side Arm	
3	304569	4	• Bushing	
4	332351	4	• Bushing	
5	471214	6	• Grease Fitting	
6	3006294	2	Plate, Side Arm Pivot	
7	3006295	2	Plate, Side Arm Pivot	
8	400412	20	Screw, 1/2-13 x 2" Hex Head	
9	446154	20	Lockwasher, 1/2 Heavy	
10	444758	20	Locknut, 1/2-13 Center	
11	2809628	2	Pin, Side Arm Pivot	
12	3006727	4	Washer, Thrust	
13	1002885	1	Left Side Lift Arm	
14	1002886	1	Right Side Lift Arm	
	471214	2	• Grease Fitting	
15	350800	4	• Bushing	
16	362464	16	Wheel Bolt	
17	346294	8	Wheel Nut	
18	446142	8	Lockwasher, 3/8 Heavy	
19	443110	16	Nut, 3/8-16 Hex	
20	361723	8	Stop, Rubber	
21	3007897	1	Bracket, Left Side Deck Latch	
22	3007896	1	Bracket, Right Side Deck Latch	
23	3009163	1	Bolt, Left Side Deck Latch	
24	3009162	1	Bolt, Right Side Deck Latch	
25	3009309	2	Spring, Compression	
26	453020	2	Flat Washer, 5/8	
27	460052	2	Cotter Pin, 3/16 x 1-1/2"	
28	461408	2	Spring Pin, 1/4 x 1-1/2"	
29	452012	6	Flat Washer, 1/2	
30	363746	2	Chain, Dump Box	
31	3006204	2	Collar	
32	401030	2	Screw, 3/8-16 x 3-3/4" Hex Head	
33	363572	AR	Washer	
34	162716.6	8	Shackle, Chain	
35	366978	2	Eyebolt	
36	3008374	2	Spring, Extension	
37	1005018	2	Pin, Lift Arm	
38	2809630	2	Retaining Ring, Side Arm Pivot	
39	3010825	2	Retaining Ring, Lift Arm	
40	2811064	2	Plate, Bottom	
41	444730	8	Locknut, 7/16-20 Hex	
42	3010811	2	Collar	
43	363746	4	Chain	

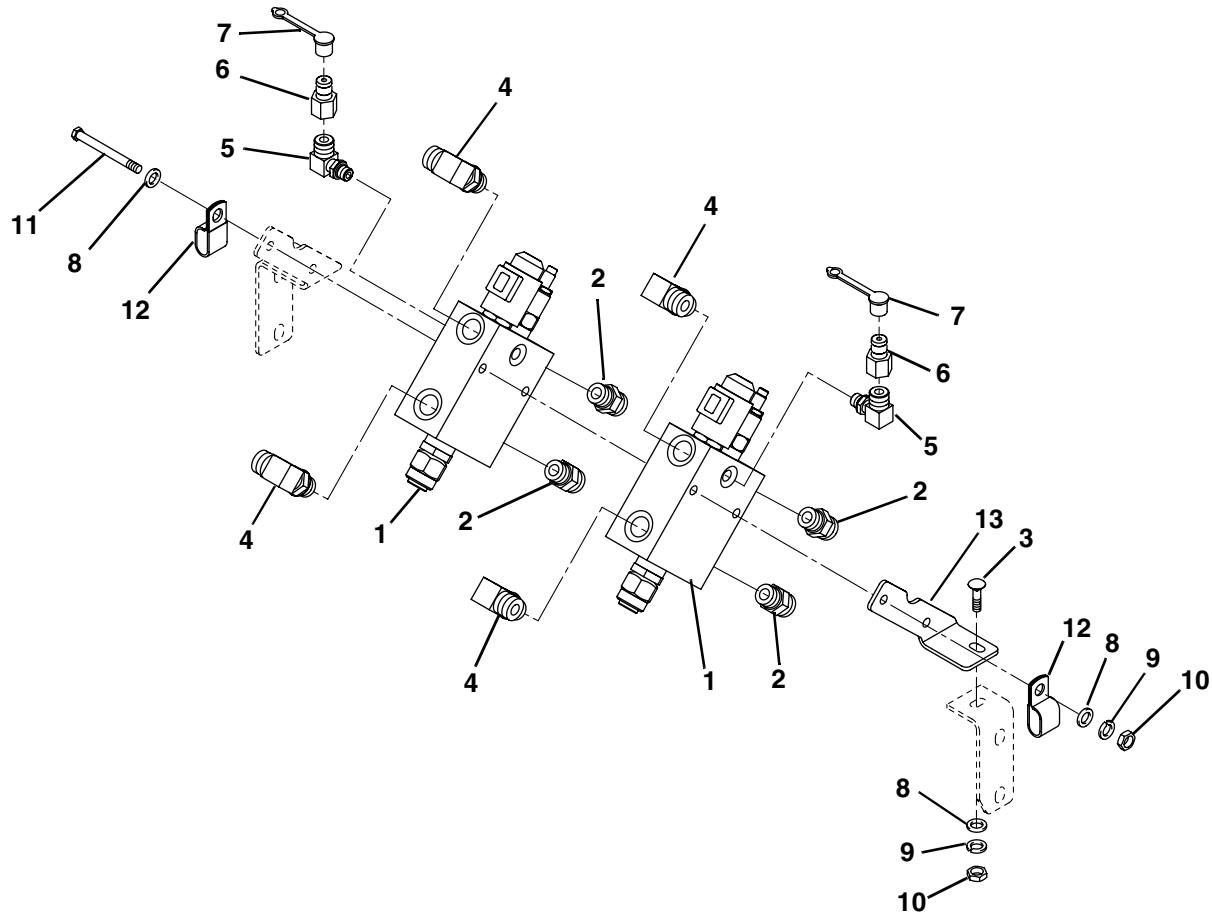
&gt; Change from previous revision



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>	
1	5003371	2	Canister, Deck Return	See 50.1	
2	1003823	2	Pin, Canister Mount		
3	400266	2	Screw, 3/8-16 x 1-1/2" Hex Head		
4	446140	2	Lockwasher, 3/8		
5	443110	4	Nut, 3/8-16 Hex		
6	3009535	2	Pin, Shear		
7	458039	4	Retaining Ring		
8	455004	4	Flat Washer		
9	453011	2	Flat Washer, 3/8		
10	3006293	4	Plate, Side Cylinder Mounting		
11	400412	14	Screw, 1/2-13 x 2" Hex Head		
12	446154	14	Lockwasher, 1/2 Heavy		
13	444758	14	Locknut, 1/2-13 Center		
14	3004092	4	Spacer		
15	1003277	1	Pin, Cylinder Rod End Mounting		
16	452012	2	Flat Washer, 1/2		
17	3006249	2	Cylinder, Rear Lift		See 53.1
18	340061	2	Adapter, 90°		
19	340078	2	Adapter, 90°		
20	1003272	2	Pin, Side Cylinder Mounting		
21	400408	2	Screw, 1/2-13 x 1-1/2" Hex Head		
22	453017	2	Flat Washer, 1/2		
23	441606	2	Carriage Bolt, 1/4-20 x 3/4"		
24	403912	4	Screw, #10-24 x 5/8" Truss Head		
25	453023	2	Flat Washer, 1/4		
26	443102	2	Nut, 1/4-20 Hex		
27	444310	4	Nut, #10-24 Hex		
28	446118	4	Lockwasher, #10 Heavy		
29	452002	8	Flat Washer, #10		
30	441614	2	Carriage Bolt, 5/16-18 x 1"		
31	354081	2	Clamp, Wire Harness		
32	443106	2	Nut, 5/16-18 Hex		
33	446134	2	Lockwasher, 5/16		
34	3007392	2	Switch, Proximity		
35	3009026	2	Angle, Switch		
36	446128	2	Lockwasher, 1/4		

> Change from previous revision

## 31.1 Front Deck Valves

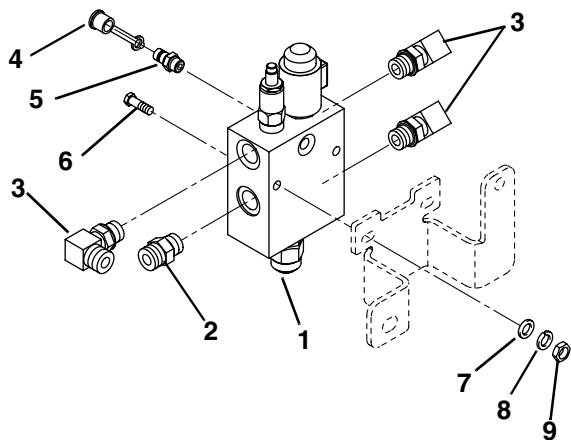


9016-22

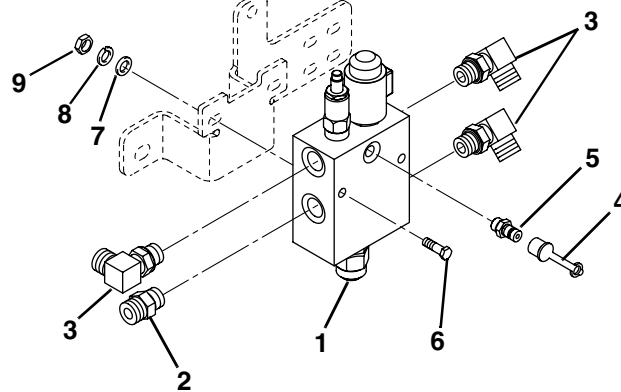
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004337	2	Valve, Deck	See 54.1
2	339989	4	Adapter, Straight	
3	441624	1	Carriage Bolt, 3/8-16 x 1"	
4	340070	4	Adapter, 90°	
5	340065	2	Adapter, 90°	
6	364945	2	Fitting, Diagnostic	
7	363030	2	Cover, Dust	
8	452008	6	Flat Washer, 3/8	
9	446142	3	Lockwasher, 3/8 Heavy	
10	443110	3	Nut, 3/8-16 Hex	
11	401225	2	Screw, 3/8-16 x 6-1/2" Hex Head	
12	3008820	2	Clamp, Double Hose	
13	3008357	1	Angle, L.H. Valve Mount	

> Change from previous revision

32.1 Wing Deck Valves



Right Wing Valve



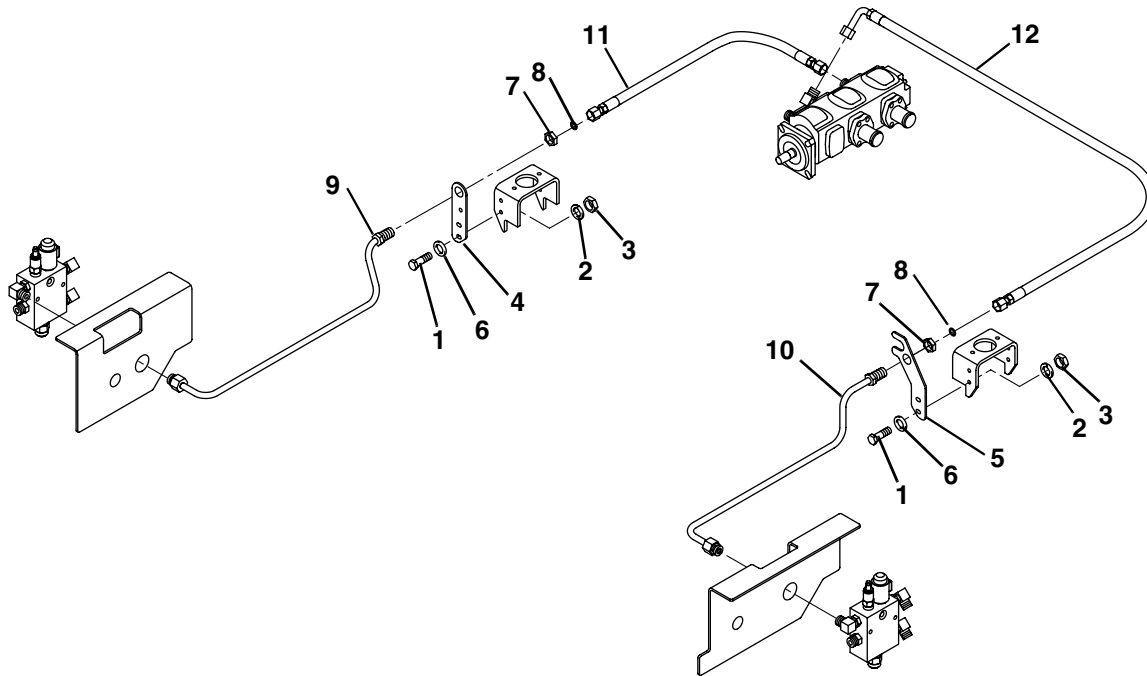
Left Wing Valve

9016-23

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004337	2	Valve, Deck	See 54.1
2	339989	2	Adapter, Straight	
3	340070	6	Adapter, 90°	
4	363030	2	Cover, Dust	
5	365466	2	Fitting, Diagnostic	
6	401028	4	Screw, 3/8-16 x 3-1/4" Hex Head	
7	452008	4	Flat Washer, 3/8	
8	446142	4	Lockwasher, 3/8 Heavy	
9	443110	4	Nut, 3/8-16 Hex	

> Change from previous revision

## 33.1 Side Deck Valve Supply

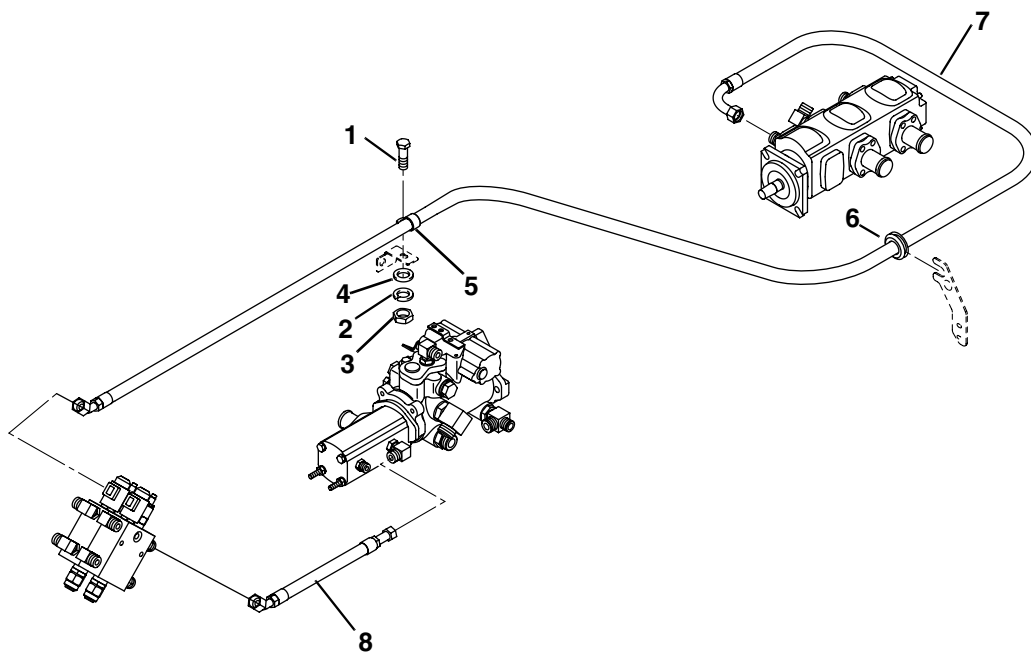


9016-31

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
2	446142	4	Lockwasher, 3/8 Heavy	
3	443110	4	Nut, 3/8-16 Hex	
4	3008423	1	Plate, Right Side Tube Mounting	
5	2811712	1	Plate, Left Side Tube Mounting	
6	452008	4	Flat Washer, 3/8	
7	339963	2	Locknut, Bulkhead	
8	339899	2	O-Ring, SAE #10	
9	1003866	1	Tube, Right Side Deck Valve Supply	
10	1003863	1	Tube, Left Side Deck Valve Supply	
11	1003587	1	Hose, Pump to Right Side Tube	
12	1003586	1	Hose, Pump to Left Side Tube	

> Change from previous revision

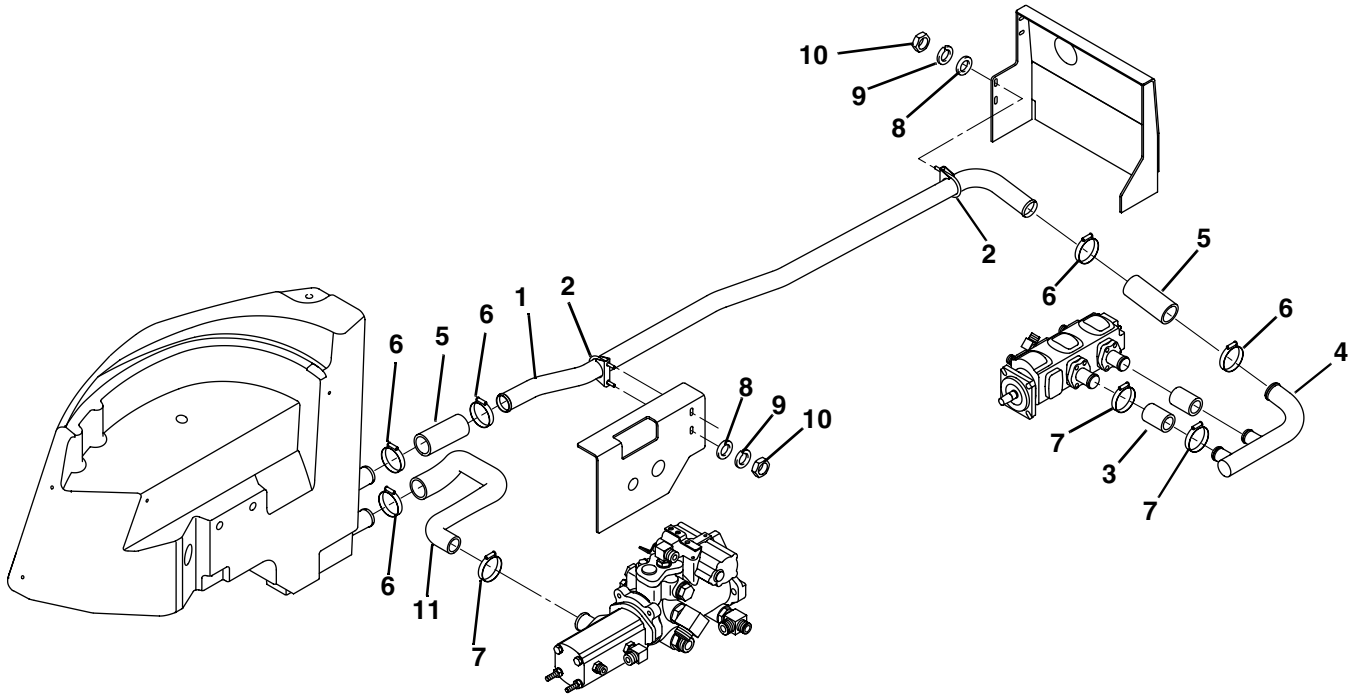
**34.1 Front Deck Valve Supply**



9016-32

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	400264	1	Screw, 3/8-16 x 1-1/4" Hex Head	
2	446142	1	Lockwasher, 3/8 Heavy	
3	443110	1	Nut, 3/8-16 Hex	
4	452008	1	Flat Washer, 3/8	
5	3008474	1	Clamp, Tube	
6	365660	1	Grommet	
7	2811968	1	Hose, Pump to Right Front Valve	
8	1003607	1	Hose, Pump to Left Front Valve	
9	473144	1	Tie Wrap (Not Shown)	

> Change from previous revision



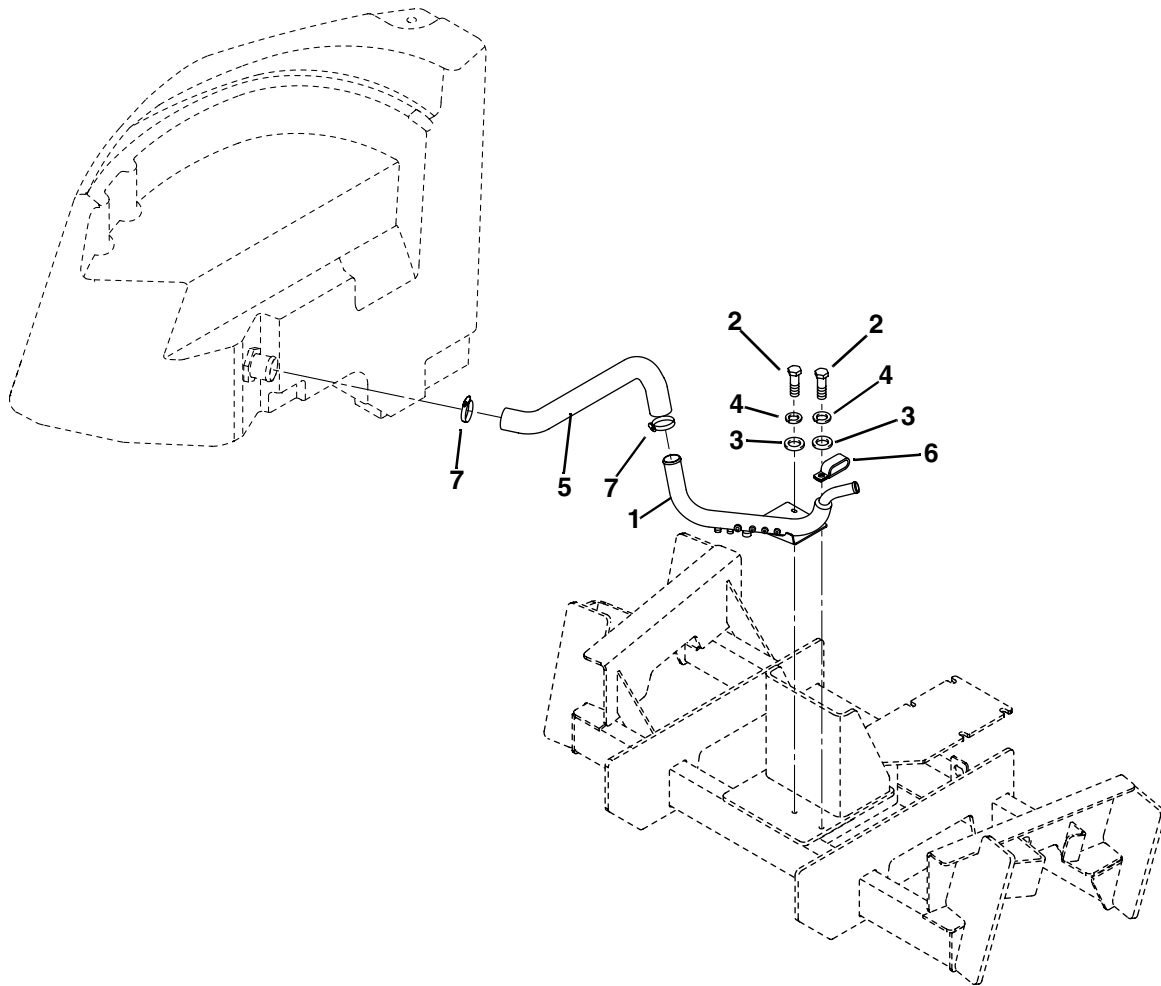
9016-30

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3007778	1	Tube, Rear Pump Suction	
2	162236	2	Clamp	
3	3007775	2	Hose, Rear Pump Inlet	
4	1003610	1	Manifold, Rear Pump Suction	
5	3007779	2	Hose, Rear Pump Suction	
6	359615	5	Clamp, Hose	
7	326112	5	Clamp, Hose	
8	452006	4	Flat Washer, 5/16	
9	446134	4	Lockwasher, 5/16	
10	443106	4	Nut, 5/16-18 Hex	
11	3007060	1	Hose, Front Pump Inlet	

> Change from previous revision



36.1 Return Manifold

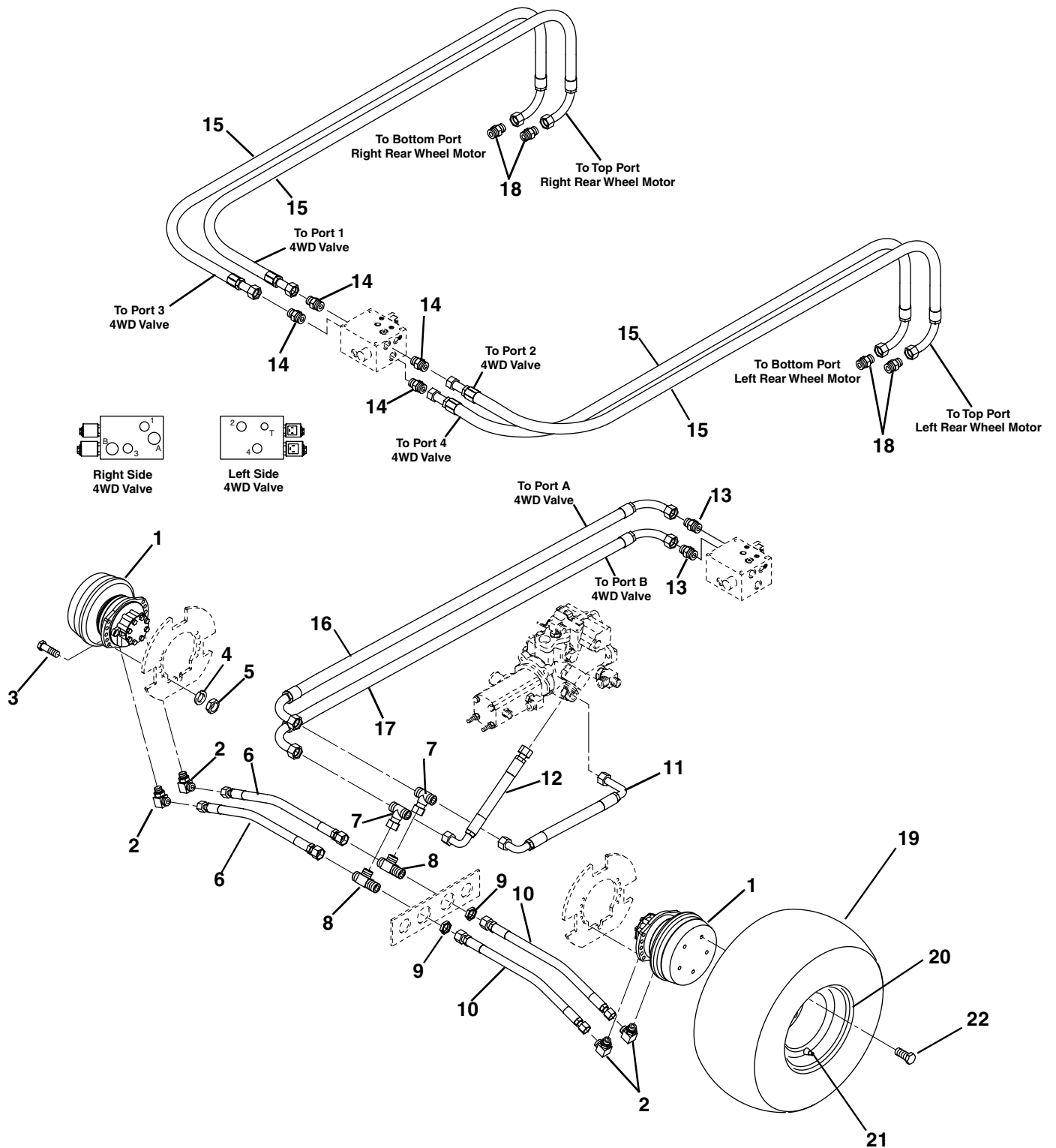


9016-39

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003891	1	Return Manifold	
2	400266	2	Screw, 3/8-16 x 1-1/2" Hex Head	
3	452008	2	Flat Washer, 3/8	
4	446140	2	Lockwasher, 3/8	
5	3007061	1	Hose, Return	
6	3008820	1	Clamp, Double Hose	
7	359615	2	Clamp, Hose	

> Change from previous revision

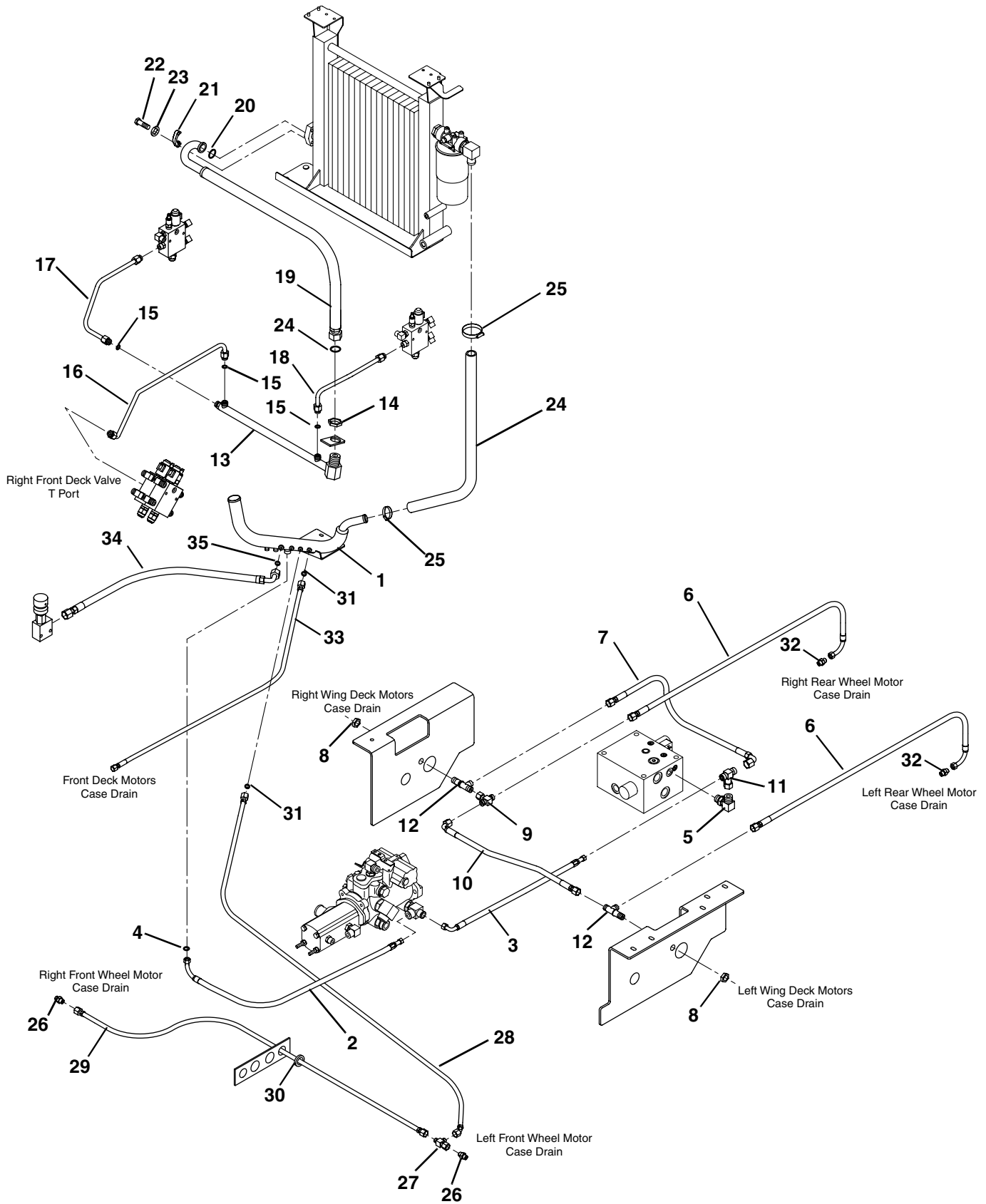
## 37.1 Traction Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1002769	2	Wheel Motor, Front	
	5003641	1	• Brake Shoe Kit	
	5003642	1	• Mechanical Control Kit	
	5003643	1	• Adjusting System Kit	
	5003651	1	• Motor Seal Kit	
2	340074	4	Adapter, 90°	
3	400410	20	Screw, 1/2-13 x 1-3/4" Hex Head	
4	446154	20	Lockwasher, 1/2 Heavy	
5	443118	20	Nut, 1/2-13 Hex	
6	1003307	2	Hose, Tee to Right Wheel Motor	
7	340147	2	Adapter, Tee	
8	340219	2	Adapter, Bulkhead Tee	
9	339965	2	Nut, Bulkhead	
10	1003308	2	Hose, Tee to Left Wheel Motor	
11	1003310	1	Hose, Traction Pump to Front Tee	
12	1003309	1	Hose, Traction Pump to Rear Tee	
13	339994	2	Adapter, Straight	
14	339989	4	Adapter, Straight	
15	1003313	4	Hose, 4WD Valve to Rear Motors	
16	1003311	1	Hose, Rear Tee to 4WD Valve	
17	1003312	1	Hose, Front Tee to 4WD Valve	
18	339990	4	Adapter, Straight	
19	5003421	2	Tire, 29 x 14-15 Ultra Trac TL	
20	5003422	2	Wheel	
21	363233	2	Inflation Valve	
22	3007683	12	Wheel Bolt, 1/2-20	

> Change from previous revision

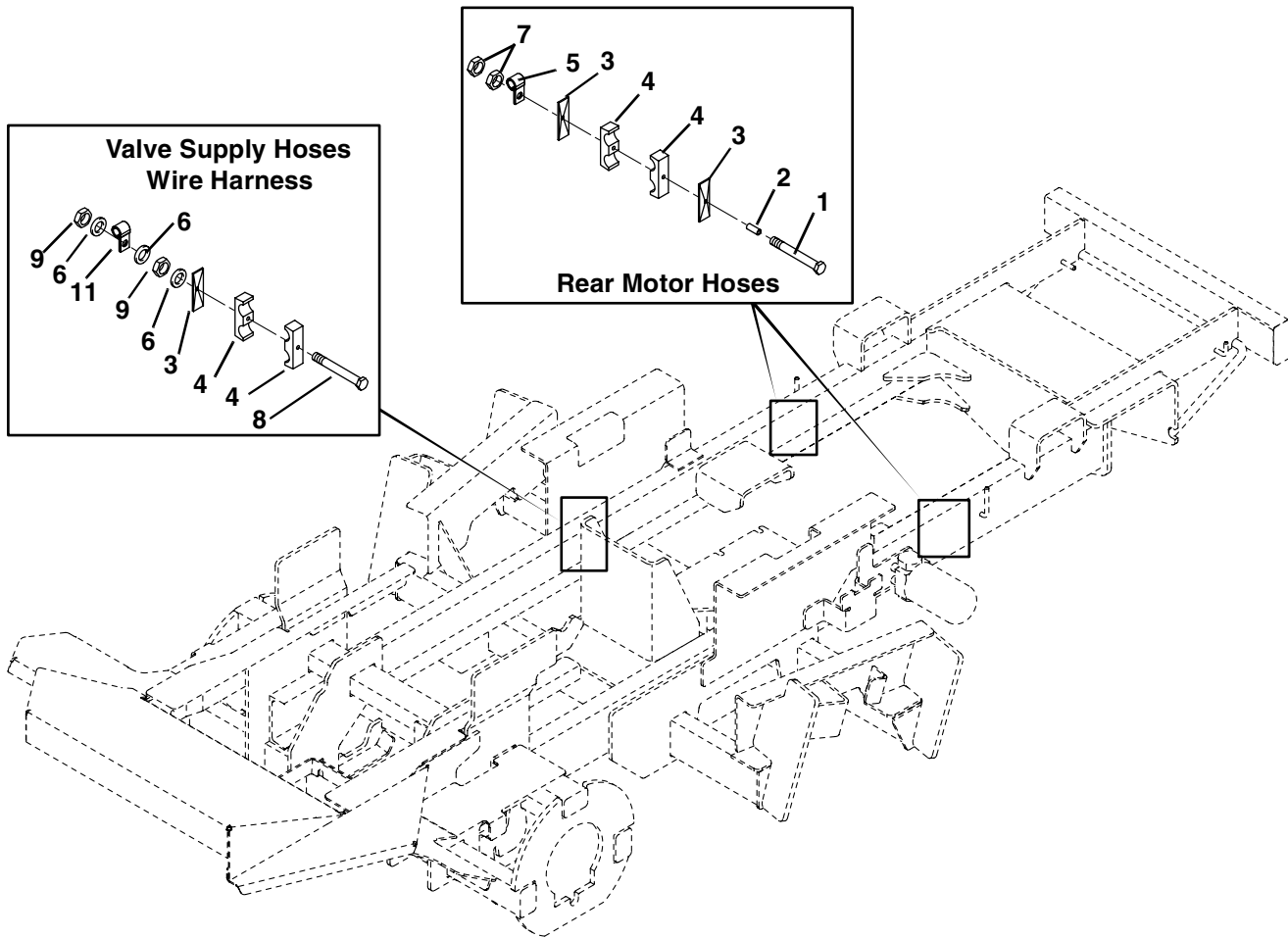
## 38.1 Return Hydraulics



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	-	1	Return Manifold	See 36.1
2	1003573	1	Hose, Pump to Return Manifold	
3	1003575	1	Hose, 4WD Valve to Pump	
4	339911	1	O-Ring, SAE #10 Face Seal	
5	340065	1	Adapter, 90°	
6	1003604	2	Hose, Rear Wheel Motor Drain	
7	1003577	1	Hose, Right Tee to 4WD Valve	
8	339961	2	Locknut, Bulkhead	
9	340143	1	Adapter, Tee	
10	1003574	1	Hose, Right Tee to Left Tee	
11	340144	1	Adapter, Tee	
12	340215	2	Adapter, Bulkhead Tee	
13	1003988	1	Manifold, Cooler Inlet	
14	339966	1	Locknut, Bulkhead	
15	339899	3	O-ring, SAE #10	
16	1003862	1	Tube, Right Front Valve to Inlet	
17	1003860	1	Tube, Right Side Valve to Inlet	
18	1003861	1	Tube, Left Side Deck to Inlet	
19	1004266	1	Hose, Cooler Inlet to Cooler	
20	3006835	1	O-Ring, 1-3/4" O.D. x 1-1/2" I.D.	
21	3009496	2	Flange Half, 1-1/4 SAE #20	
22	400336	4	Screw, 7/16-14 x 1-1/4 Hex Head	
23	446148	4	Lockwasher, 7/16 Heavy	
24	3007767	1	Hose, Cooler to Return Manifold	
25	3008673	2	Clamp, Constant Torque	
26	339974	2	Adapter, Straight	
27	340118	1	Adapter, Tee	
28	1003592	1	Hose, Tee to Return Manifold	
29	1003603	1	Hose, Right Motor to Left Motor	
30	365660	1	Grommet	
31	339909	2	O-Ring, SAE #6 Face Seal	
32	339972	2	Adapter, Straight	
33	2810188	1	Hose, Front Deck Motor Case Drain	
34	1003608	1	Hose, Back Pressure Valve Return	
35	339910	1	O-Ring, SAE #8 Face Seal	

> Change from previous revision

## 39.1 4WD Hose Clamps

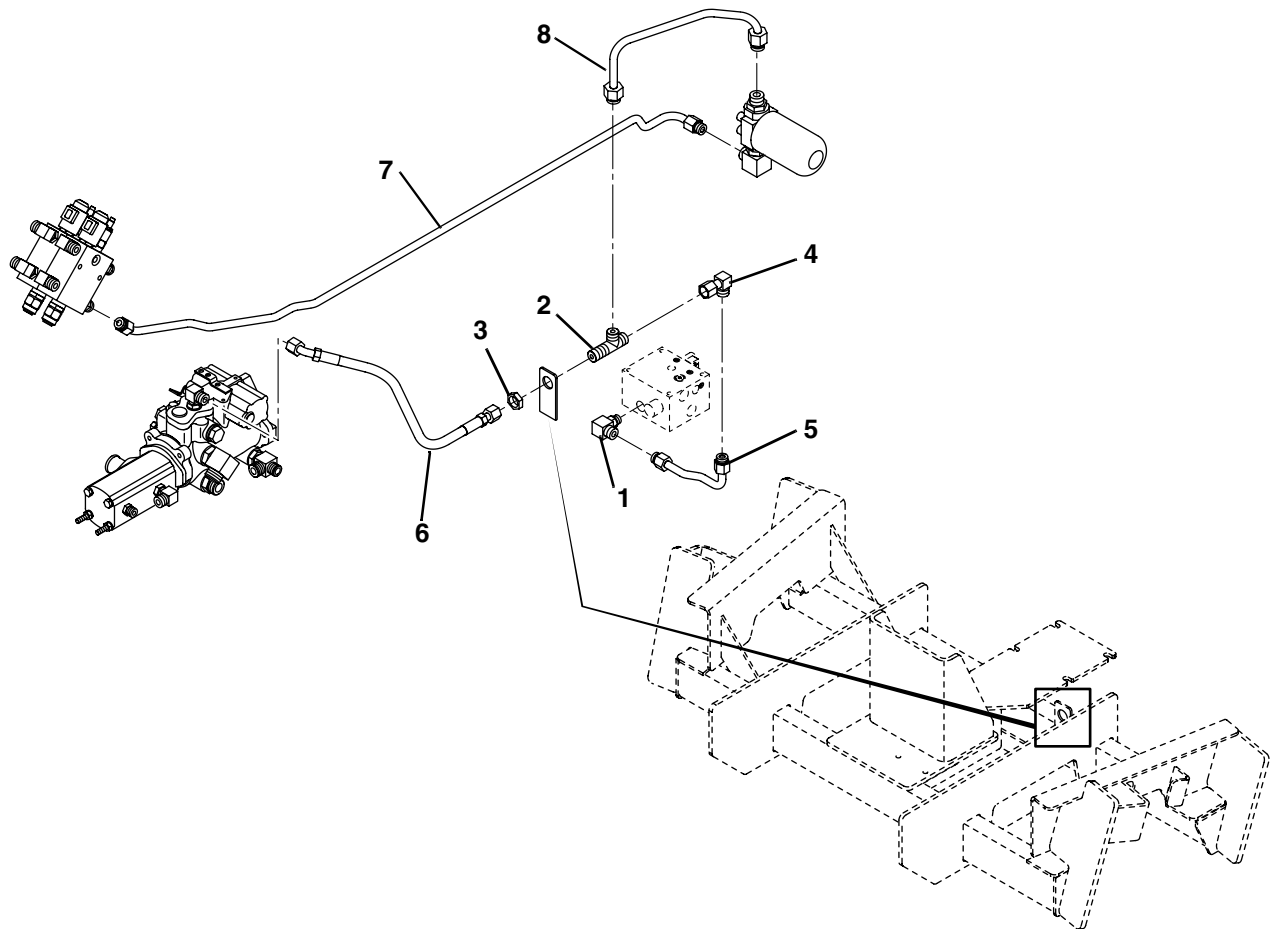


9016-41

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	400210	2	Screw, 5/16-18 x 5" Hex Head	
2	366114	2	Spacer	
3	3008792	5	Spacer Plate	
4	3008793	6	Clamp, Double Hose	
5	366424	2	Clamp, Hose	
6	452006	3	Flat Washer, 5/16	
7	443106	4	Nut, 5/16-18 Hex	
8	400204	1	Screw, 5/16-18 x 3-1/2" Hex Head	
9	444718	2	Nut, 5/16-18 Center	
10	473144	2	Tie Wrap (Not Shown)	Used on rear motor hoses after clamp.
11	365566	1	Clamp, Wire Harness	

> Change from previous revision

**40.1 Charge Pressure**

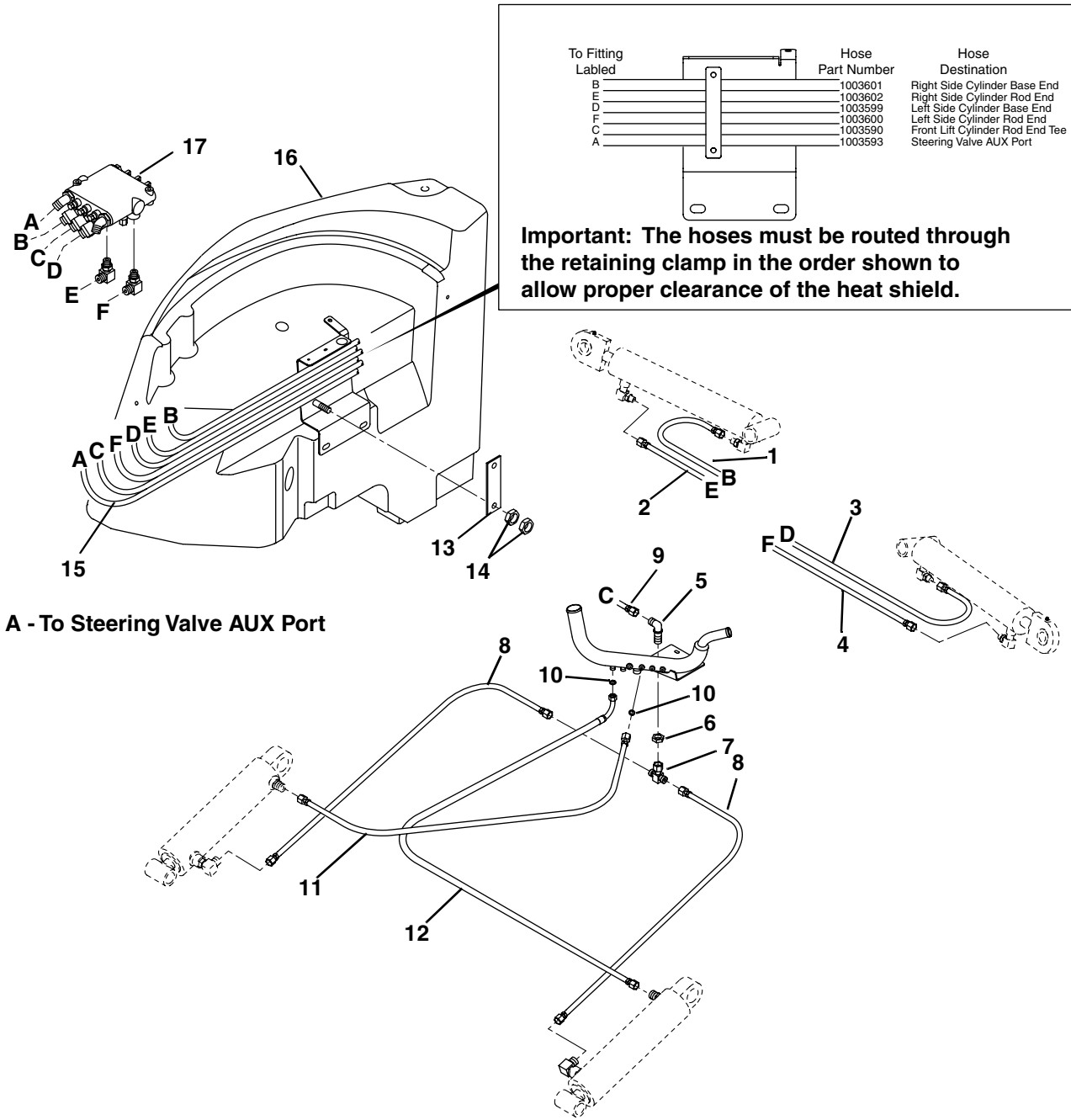


9016-40

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340069	1	Adapter, 90°	
2	340217	1	Adapter, Tee	
3	339963	1	Locknut, Bulkhead	
4	340377	1	Adapter, 90°	
5	1003878	1	Tube, 4WD Valve to Tee	
6	1003605	1	Hose, Tee to Pump	
7	1003865	1	Tube, Lift Valve to Filter	
8	1003864	1	Tube, Filter to Tee	

> Change from previous revision

## 41.1 Lift Valve Hydraulics

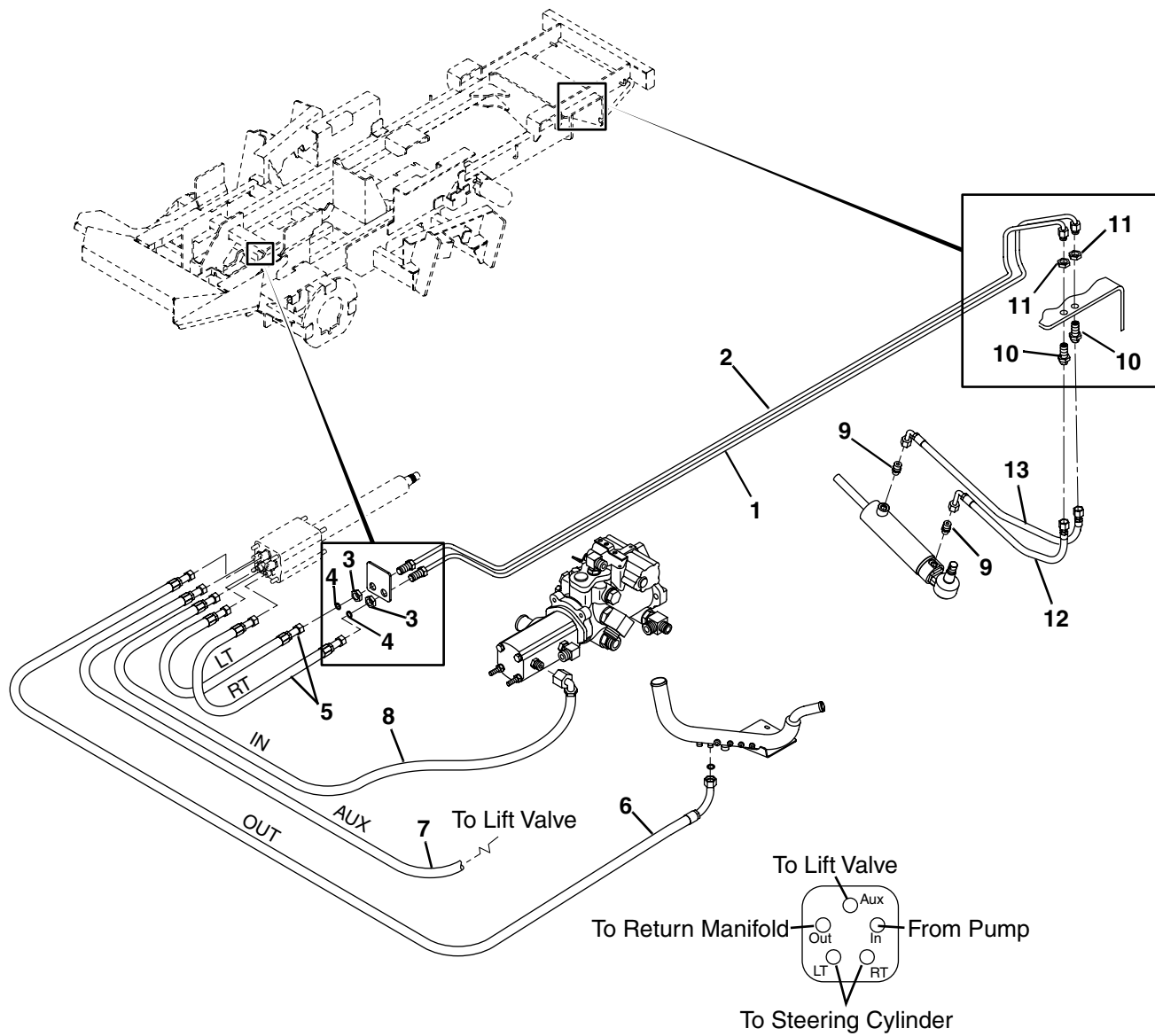




<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003601	1	Hose, Right Side Cylinder Base End	
2	1003602	1	Hose, Right Side Cylinder Rod End	
3	1003599	1	Hose, Left Side Cylinder Base End	
4	1003600	1	Hose, Left Side Cylinder Rod End	
5	340167	1	Adapter, 90° Bulkhead	
6	339961	1	Nut, Bulkhead	
7	340143	1	Adapter, Tee	
8	1003591	2	Hose, Front Cylinders Rod End	
9	1003590	1	Hose, Lift Valve to Tee	
10	339909	2	O-Ring, SAE #6 Face Seal	
11	1003598	1	Hose, Right Front Cylinder Rod End	
12	1002940	1	Hose, Left Front Cylinder Rod End	
13	3008459	1	Plate, Hose Retaining Clamp	
14	443106	4	Nut, 5/16-18 Hex	
15	1003594	1	Hose, Steering Valve to Lift Valve	
16	-	1	Hydraulic Tank	See 22.1
17	-	1	Lift Valve	See 7.1

> Change from previous revision

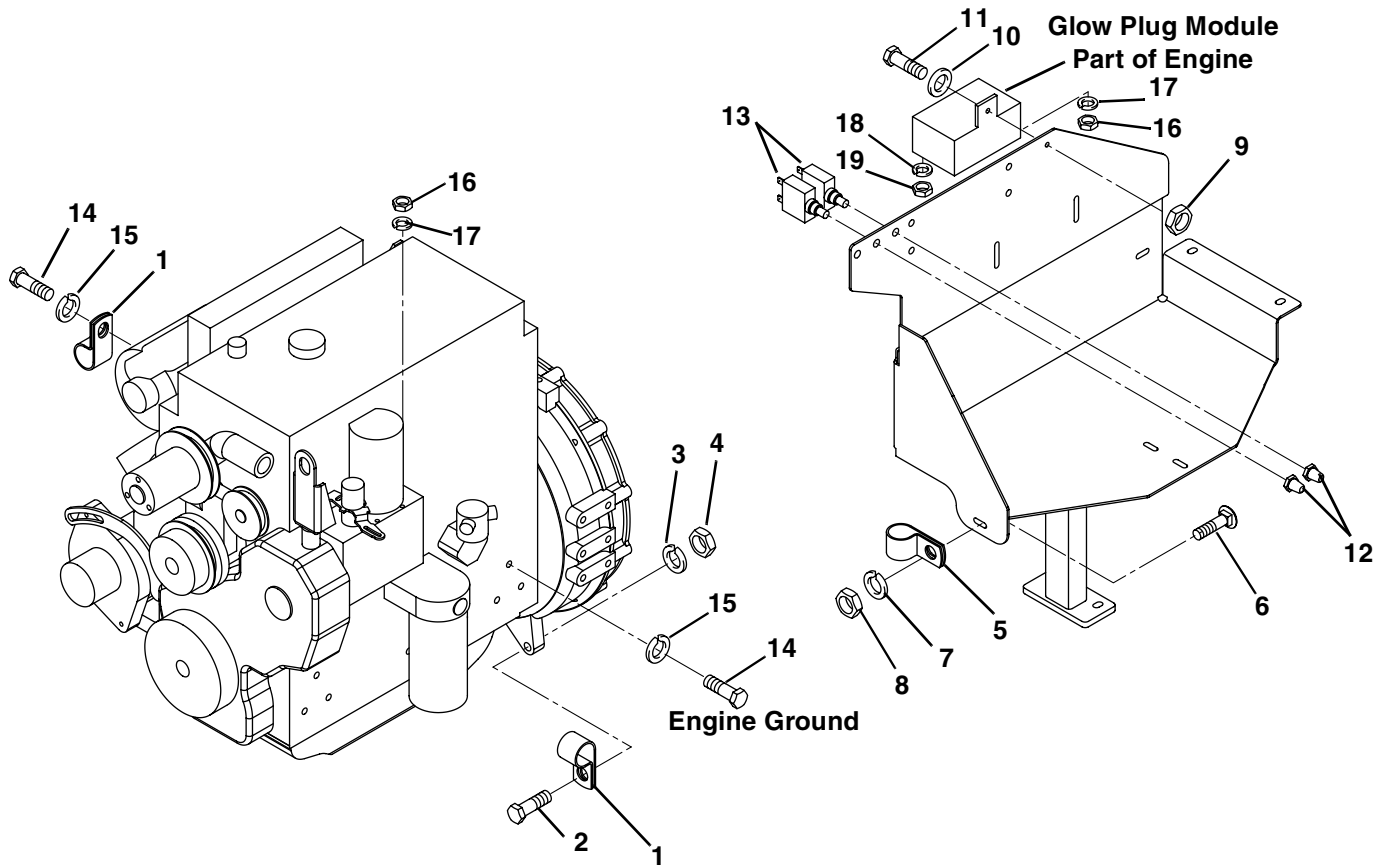
## 42.1 Power Steering Hoses



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003876	1	Tube, RT Hose to Rod End Hose	
2	1003875	1	Tube, LT Hose to Base End Hose	
3	339961	2	Locknut, Bulkhead	
4	339909	2	O-Ring, SAE #6 Face Seal	
5	1003606	2	Hose, Valve to Cylinder Tubes	
6	1003593	1	Hose, Valve to Return Manifold	
7	-	1	Hose, Steering Valve to Lift Valve	See 41.1
8	1003596	1	Hose, Gear Pump to Valve	
9	339979	2	Adapter, Straight	
10	340239	2	Adapter, Straight Bulkhead	
11	339961	2	Locknut, Bulkhead	
12	1003597	1	Hose, LT Tube to Cylinder Base End	
13	1003595	1	Hose, RT Tube to Cylinder Rod End	

> Change from previous revision

## 43.1 Engine Compartment Clamps



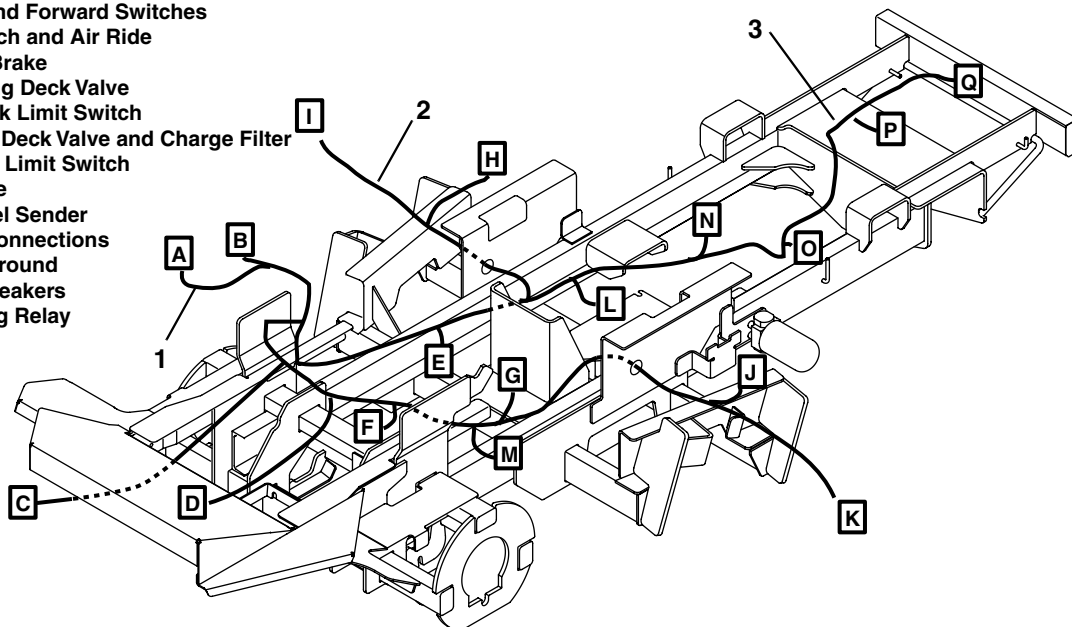
9016-43

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	364190	3	Clamp, Wire Harness	
2	400266	2	Screw, 3/8-16 x 1-1/2" Hex Head	
3	446140	2	Lockwasher, 3/8	
4	443110	2	Nut, 3/8-16 Hex	
5	365566	1	Clamp, Wire Harness	
6	440078	1	Carriage Bolt, 5/16-18 x 3/4"	
7	446134	1	Lockwasher, 5/16	
8	443106	1	Nut, 5/16-18 Hex	
9	444708	1	Locknut, 1/4-20 Center	
10	453023	1	Flat Washer, 1/4	
11	400108	1	Screw, 1/4-20 x 3/4" Hex Head	
12	364774	2	Boot, Protective	
13	3000359	2	Circuit Breaker, 50A	
14	361500	2	Screw, M10-1.5 x 20mm Hex Head	
15	363385	2	Lockwasher, M10	
16	362534	2	Nut, M5 Hex	
17	446118	2	Lockwasher, #10 Heavy	
18	446130	1	Lockwasher, 1/4 Heavy	
19	361001	1	Nut, M6 Hex	

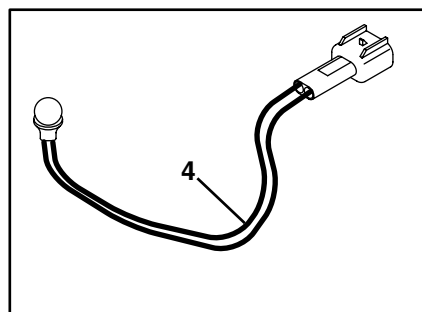
> Change from previous revision

## 44.1 Wire Harness Routing

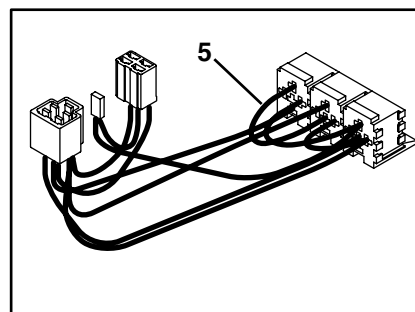
- A - Instrument Panel
- B - Oil Level, Horn and Seat Relay
- C - Front Limit Switch and Cruise Magnet
- D - Front Deck Valves
- E - Neutral and Forward Switches
- F - Seat Switch and Air Ride
- G - Parking Brake
- H - Right Wing Deck Valve
- I - Right Deck Limit Switch
- J - Left Wing Deck Valve and Charge Filter
- K - Left Deck Limit Switch
- L - 4WD Valve
- M - Fuel Level Sender
- N - Engine Connections
- O - Engine Ground
- P - Circuit Breakers
- Q - Glow Plug Relay



**Glow Plug Light Adapter**  
Located under Instrument Panel



**Kubota Key Switch Adapter**  
Located under Instrument Panel



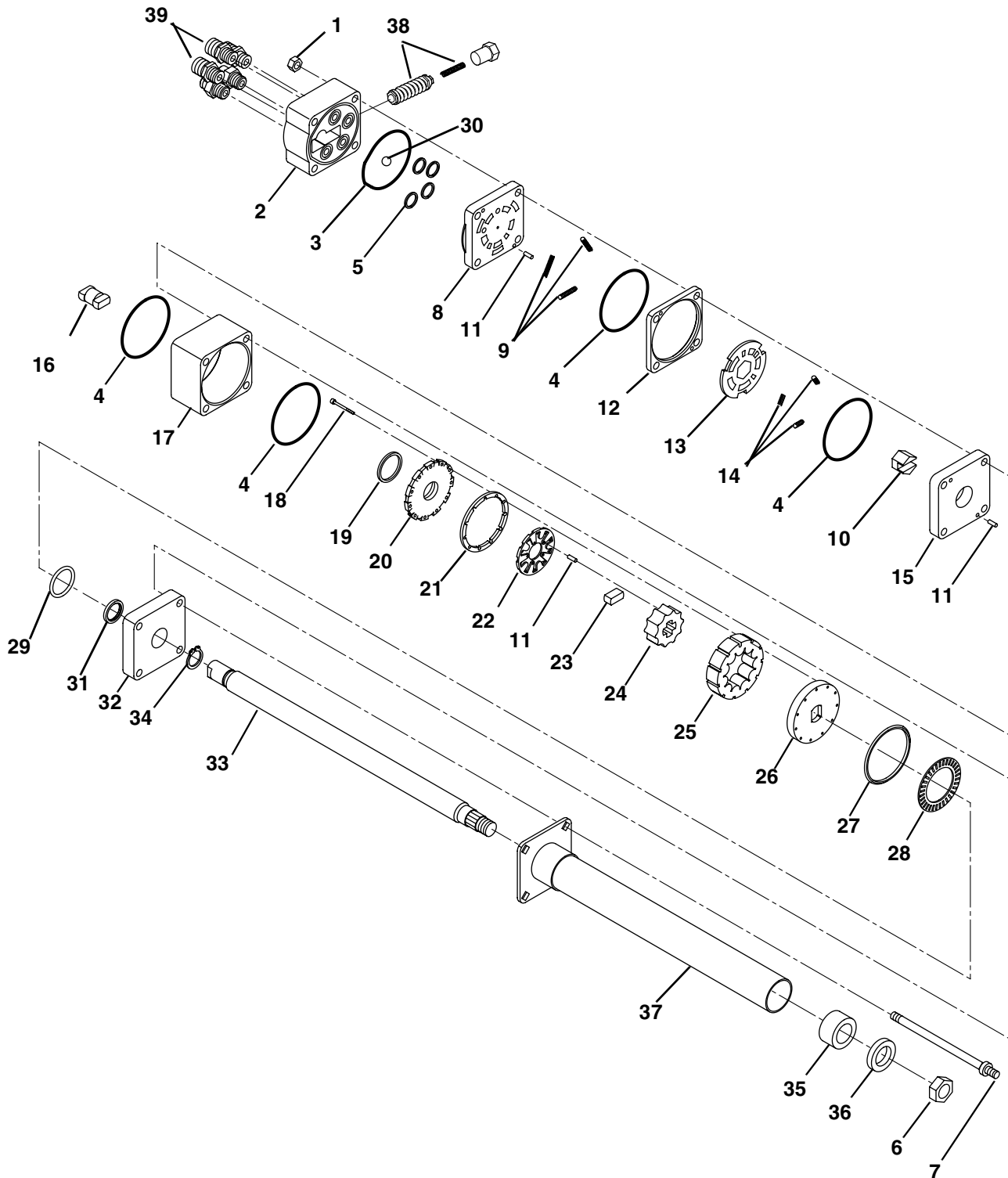
9016-44

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2811003	1	Wire Harness, Console	Serial Number 70524 1601 ~ 1756 Serial Number 70525 1601 ~ 1882
1	4116909	1	Wire Harness, Console	Serial Number 70524 1757 and Up Serial Number 70525 1883 and Up
2	2811004	1	Wire Harness, Chassis	
3	1004797	1	Wire Harness, Engine	
4	1004931	1	Wire Harness, Glow Plug Light	
5	2822523	1	Wire Harness, Kubota Keyswitch	Serial Number 70524 1726 and Up Serial Number 70525 1778 and Up

> Change from previous revision

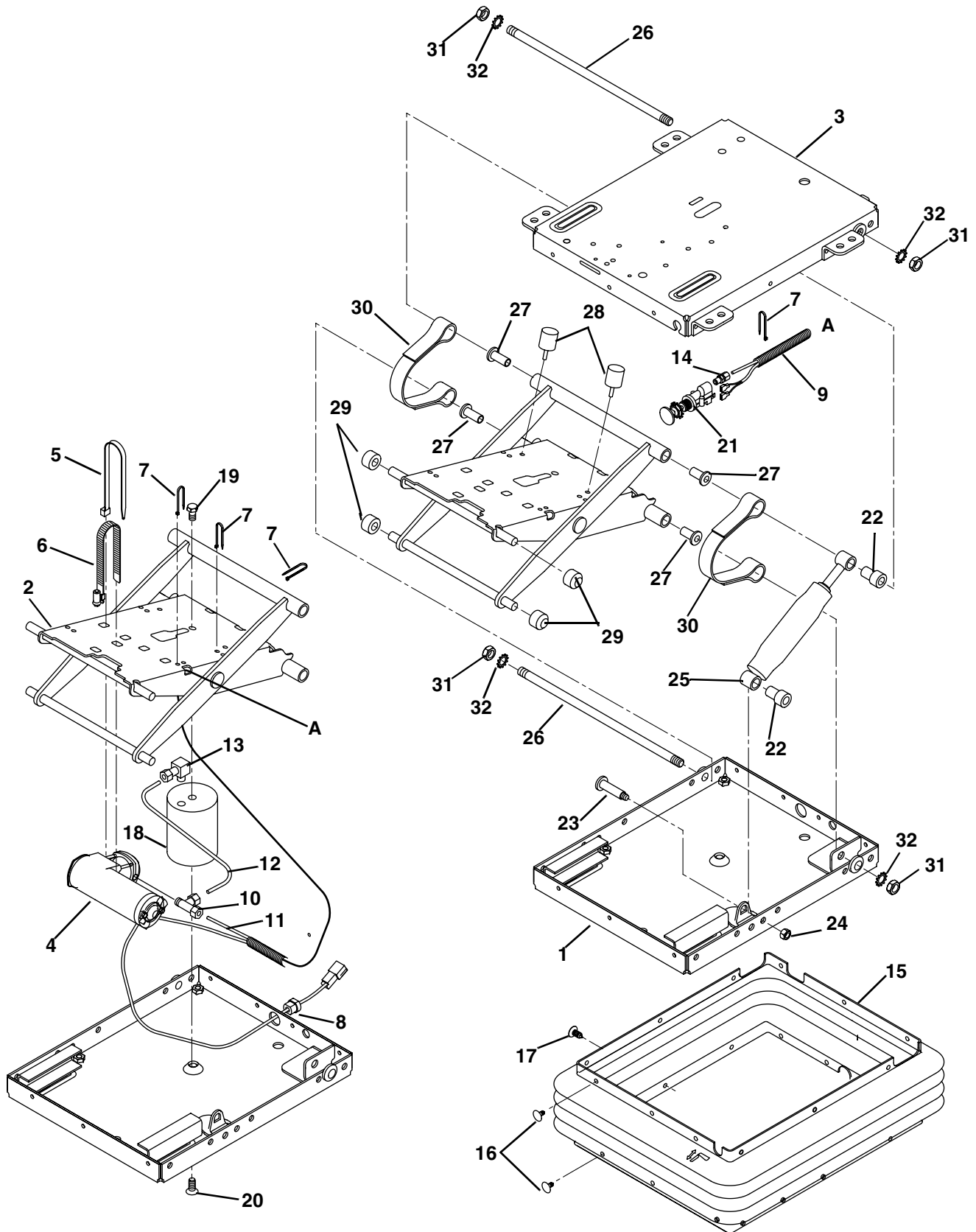
## 45.1 Steering Valve

Part Number 1002800



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	443108	4	Locknut, 5/16-18 Center	
2	N/S	1	Port Cover	
3	C	1	Seal, O-Ring	
4	C	4	Seal, O-Ring	
5	C	4	Seal, O-Ring	
6	443828	1	Nut, 5/8-18 Hex Jam	
7	N/S	4	Special Bolt	
8	N/S	1	Port Manifold	
9	B	3	Spring, Port Side	
10	503387	1	Hex Drive	
11	A and E	9	Needle Roller	
12	503398	1	Valve Ring	
13	503398	1	Valve Plate	
14	B	3	Spring, Shaft Side	
15	554854	1	Isolation Manifold	
16	551105	1	Drive Link	
17	N/S	1	Metering Ring	
18	A	11	Screw, Socket Head	
19	C	1	Seal, Commutator	
20	A	1	Commutator Cover	
21	A	1	Commutator Ring	
22	A	1	Commutator	
23	A	1	Spacer	
24	A	1	Rotor	
25	A	1	Stator	
26	A	1	Drive Plate	
27	554855	1	Spacer	
28	554856	1	Thrust Bearing	
29	C	1	Face Seal	
30	N/S	1	Ball, 9/32"	
31	554857	1	Seal, Spacer	
32	N/S	1	Upper Cover Plate	
33	D	1	Shaft	
34	D	1	Retaining Ring	
35	D	1	Bushing	
36	D	1	Seal	
37	D	1	Jacket	
38	557733	1	Relief Valve Cartridge	
39	339979	5	Adapter, Straight	
<b>Service Kits</b>				
A	5003548	1	Metering Assembly Kit	
B	502924	1	Spring Kit	
C	557738	1	Seal Kit	
D	5003219	1	Jacket Tube Kit	
E	502925	1	Needle Roller Kit	

> Change from previous revision





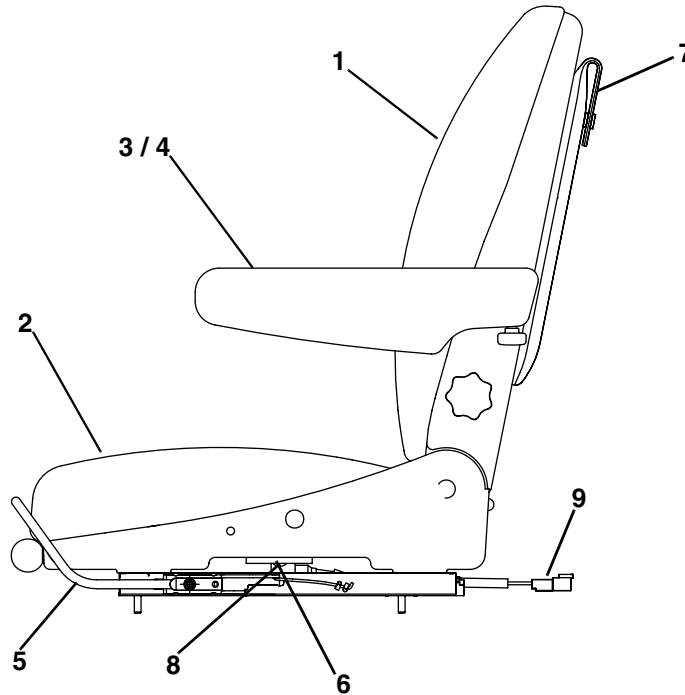
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	N/S	1	Lower Housing	
2	N/S	1	Scissors	
3	N/S	1	Upper Housing	
	5003627	1	Compressor Kit	
4	N/S	1	• Compressor	
5	N/S	1	• Tie Wrap	
6	N/S	1	• Clamp, Compressor	
7	N/S	4	• Tie Wrap	
8	N/S	1	• Bushing, Strain	
	5003628	1	Air Fitting/Tubing Kit	
9	N/S	1	• Braided Sleeve	
10	N/S	1	• Fitting, Tee	
11	N/S	1	• 3/16 O.D. Tubing	
12	N/S	1	• 3/16 O.D. Tubing	
13	N/S	1	• Fitting, 90°	
14	N/S	1	• Fitting, Straight	
	5003629	1	Boot and Clip Kit	
15	N/S	1	• Boot with Label	
16	N/S	21	• Clip, Christmas Tree	
17	N/S	6	• Clip, Christmas Tree	
	5003630	1	Airspring Kit	
18	N/S	1	• Airspring	
19	N/S	1	• Cap Screw	
20	N/S	1	• Cap Screw	
21	5003631	1	Valve Kit	
	5003632	1	Damper Kit	
22	N/S	2	• Bearing, Flanged	
23	N/S	1	• Threaded Pin	
24	N/S	1	• Nut, Hex Lock	
25	N/S	1	• Damper	
	5003633	1	Miscellaneous Kit	
26	N/S	2	• Shaft, Threaded	
27	N/S	4	• Bearing, Flanged	
28	N/S	2	• Bumper	
29	N/S	4	• Roller	
30	N/S	2	• Tether	
31	N/S	4	• Jam Nut	
32	N/S	4	• Lockwasher	

> Change from previous revision

## 47.1 Seat Assembly

Part No. 5003626

Serial No. All



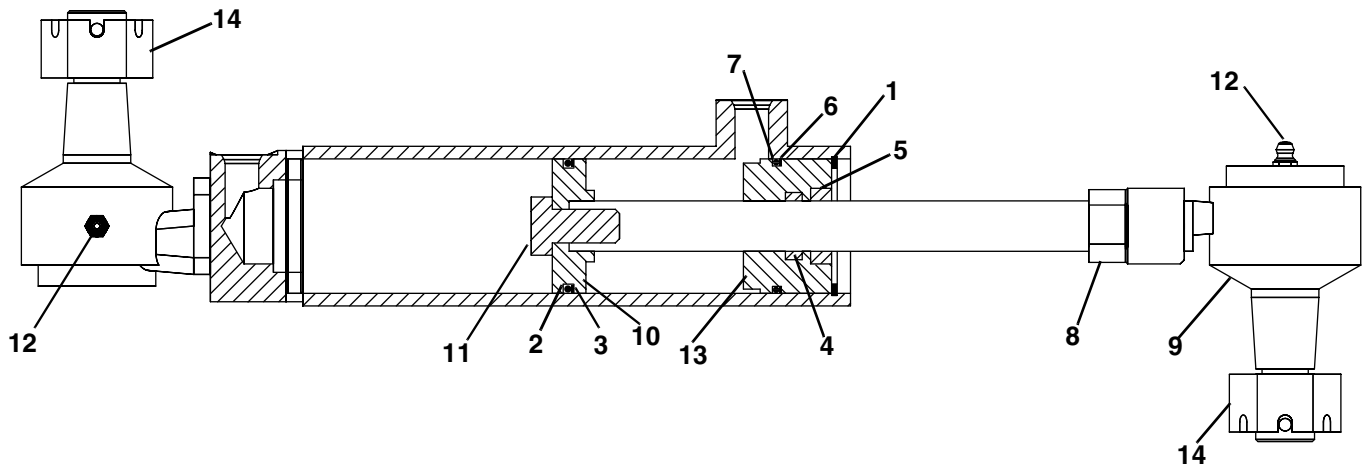
9016-63

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003634	1	Pad, Back	
2	5003635	1	Pad, Seat	
3	5003636	1	Arm Rest, Left Side	
4	5003637	1	Arm Rest, Right Side	
5	5003690	1	Adjuster Assembly	
6	554390	1	Seat Switch	
7	3003928	1	Literature Pouch	
8	409757	2	Screw, Seat Switch	
9	5003769	1	Wire Assembly	

> Change from previous revision

48.1 Steering Cylinder

Part No. 5003541



9016-64

Item	Part No.	Qty.	Description	Serial Numbers/Notes
	5003542	1	Seal Kit	
1	N/S	1	• Retaining Ring	
2	N/S	1	• O-Ring, Piston	
3	N/S	1	• Seal, Piston	
4	N/S	1	• Seal, Rod	
5	N/S	1	• Wiper	
6	N/S	1	• Backup Ring, Gland	
7	N/S	1	• O-Ring, Gland	
8	443126	1	Nut, 5/8-11 Hex	
9	5003543	1	Socket Assembly	
10	N/S	1	Piston	
11	N/S	1	Screw, Piston	
12	471214	2	Grease Fitting	
13	N/S	1	Gland	
14	N/S	2	Nut, 7/8-14 Castle	

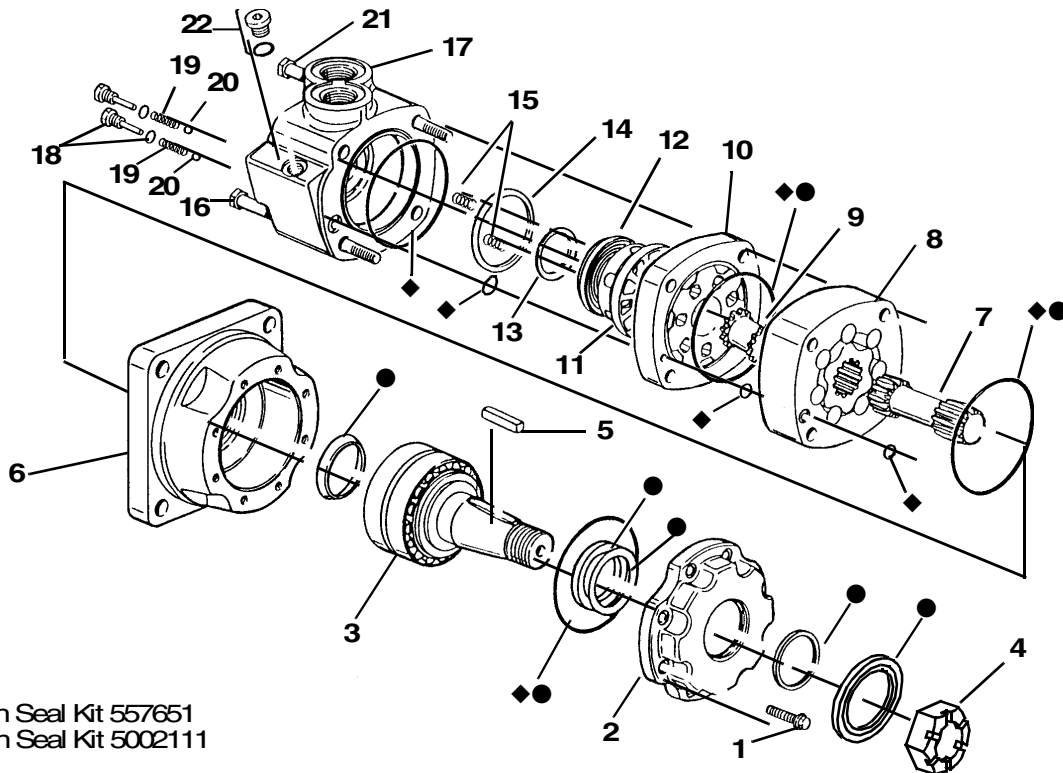
> Change from previous revision

# HR-9016

## 49.1 Rear Wheel Motor

Part Number 5003540

Serial No. All  
Serial No. All



- ◆ Included In Seal Kit 557651
- Included In Seal Kit 5002111

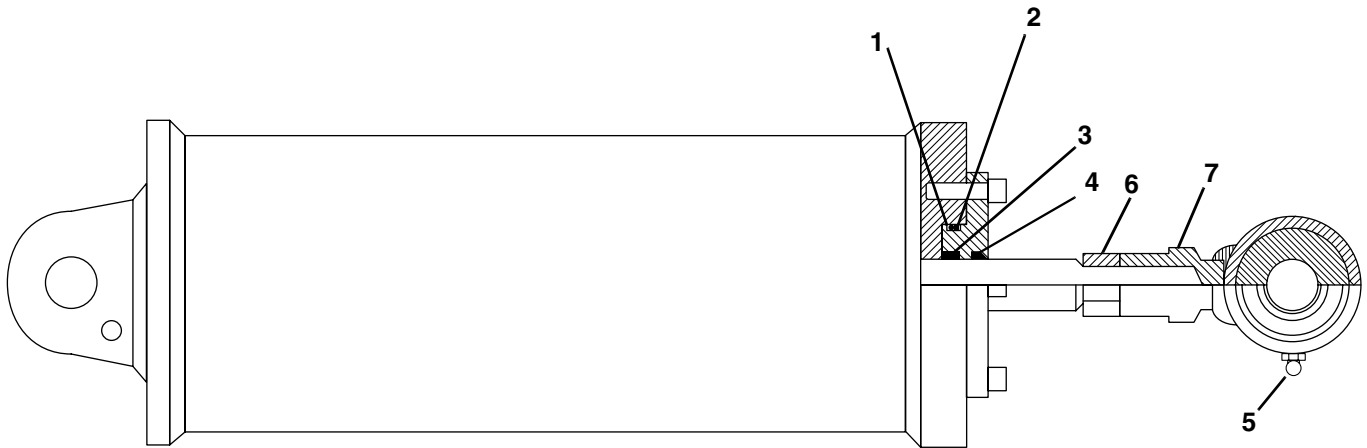
9016-46

Item	Part No.	Qty.	Description	Serial Numbers/Notes	
	1	558066	8	Screw, Torx	
	2	5002110	1	Front Retainer	
	3	558063	1	Shaft and Bearing Kit	
	4	557624	1	Nut, Hex	
	5	557623	1	Key	
	6	558064	1	Bearing Housing	
	7	557629	1	Drive	
	8	5003590	1	Geroler	
	9	557632	1	Drive, Valve	
	10	557631	1	Plate, Valve	
	11	557633	1	Valve	
	12	557637	1	Balance Ring and Pins	
◆	13	557634	1	Seal, Inner Face	
◆	14	557635	1	Seal, Outer Face	
	15	557636	2	Spring	
	16	557650	3	Bolt, 5-3/4"	
	17	5003591	1	Housing, Valve	
	18	557639	2	Check Plug Assembly	
	19	557642	2	Spring	
	20	557640	2	Ball, Steel	
	21	5000318	1	Bolt	
	22	557641	1	Plug	

> Change from previous revision

50.1 Deck Return Canister

Part Number 5003371



9016-47

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	●	1	O-Ring	Gold Star Return Canisters HDM Return Canisters
2	●	1	Back Up Ring	
3	●	1	Loaded U-Cup	
4	●	1	Rod Wiper	
5	471214	1	Grease Fitting	
6	443132	1	Nut, 3/4-16 Hex	
7	5003428	1	Collar Assembly	
●	5003427	1	Seal Kit	
●	5003662	1	Seal Kit	

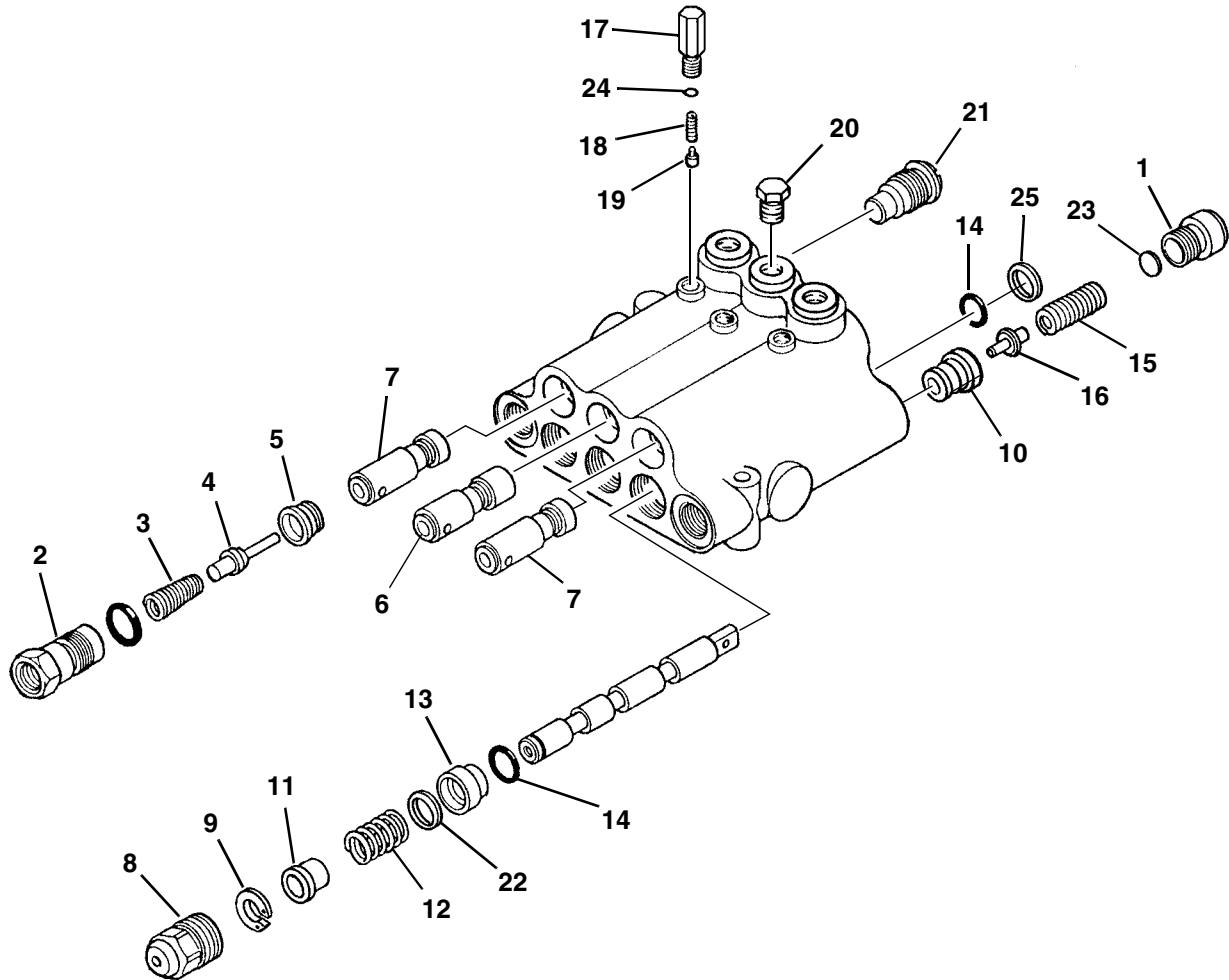
> Change from previous revision

# HR-9016

Serial No. All

## 51.1 Lift Valve

Part Number 1001802

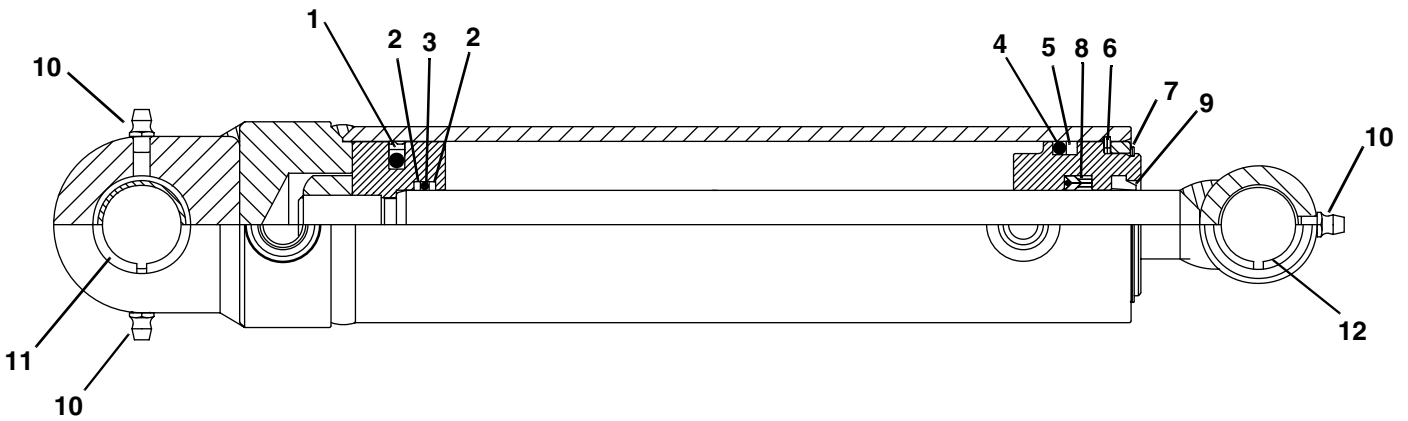


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	558005	1	Plug Assembly, Relief Valve	
2	500745	3	Plug Assembly, Port Adapter	
3	545914	3	Spring, Lockout	
4	■	3	Poppet Assembly	
5	500736	3	Seat Assembly	
6	5001599	1	Plunger, Lockout	
7	5001603	2	Plunger, Lockout	
8	558004	3	Cap Assembly	
9	558007	3	Retaining Ring	
10	5001613	1	Seat	
11	558011	3	Spacer	
12	5001616	3	Spring, Spool Centering	
13	545921	3	Bushing	
14	■	6	O-Ring	
15	5001614	1	Spring Relief Valve (Yellow)	
16	5001615	1	Poppet, Relief Valve	
17	◆	3	Plug Assembly, Plunger Detent	
18	◆	3	Spring, Detent	
19	◆	3	Plunger, Detent	
20	351122	3	Hex Plug Assembly	
21	500750	3	Plug Assembly	
22	558008	3	Washer	
23	545925	AR	Shim (.015 Thick)	
	545926	AR	Shim (.010 Thick)	
	545927	AR	Shim (.035 Thick)	
24	546112	AR	Disc, Plain	
25	5001617	3	Wiper Seal	
◆	5001612	1	Detent Repair Kit	
■	558010	1	Seal Kit	

> Change from previous revision

## 52.1 Front Lift Cylinder

Part Number 3006008



9016-49

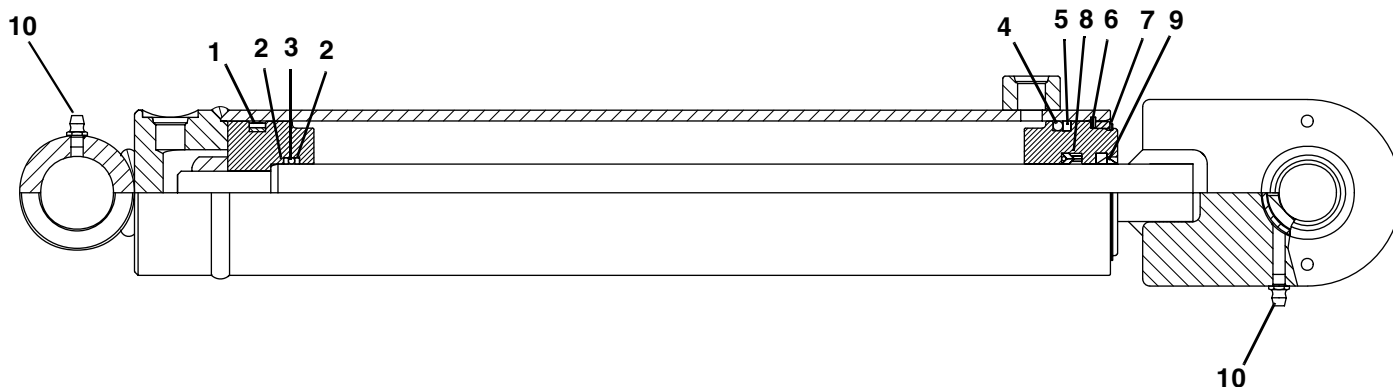
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	●	1	PSP Seal	
2	●	2	Back Up Ring	
3	●	1	O-Ring	
4	●	1	O-Ring	
5	●	1	Back Up Ring	
6	●	1	Internal Snap Ring	
7	●	1	External Snap Ring	
8	●	1	Loaded U-Cup	
9	●	1	Rod Wiper	
10	471214	3	Grease Fitting	
11	5003415	1	Bushing	
12	5003566	2	Bushing	
●	5003414	1	Seal Kit	Gold Star Cylinders
●	5003667	1	Seal Kit	HDM Cylinders

> Change from previous revision



53.1 Wing Lift Cylinders

Part Number 3006249



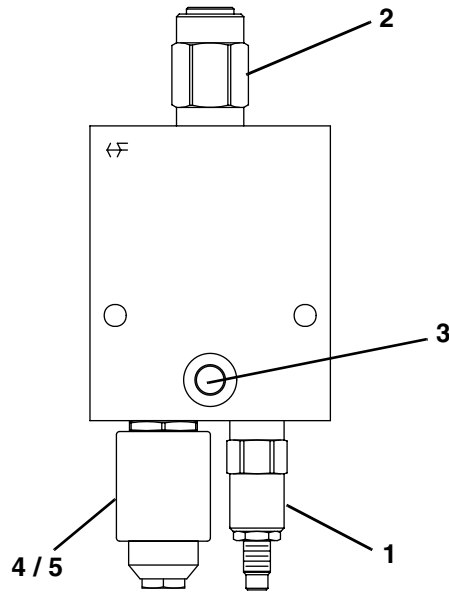
9016-50

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	●	1	PSP Seal	
2	●	2	Back Up Ring	
3	●	1	O-Ring	
4	●	1	O-Ring	
5	●	1	Back Up Ring	
6	●	1	Internal Snap Ring	
7	●	1	External Snap Ring	
8	●	1	Loaded U-Cup	
9	●	1	Rod Wiper	
10	471214	2	Grease Fitting	
●	5003413	1	Seal Kit	Gold Star Cylinders
●	5003659	1	Seal Kit	HDM Cylinders

> Change from previous revision

## 54.1 Deck Valve

Part Number 1004337



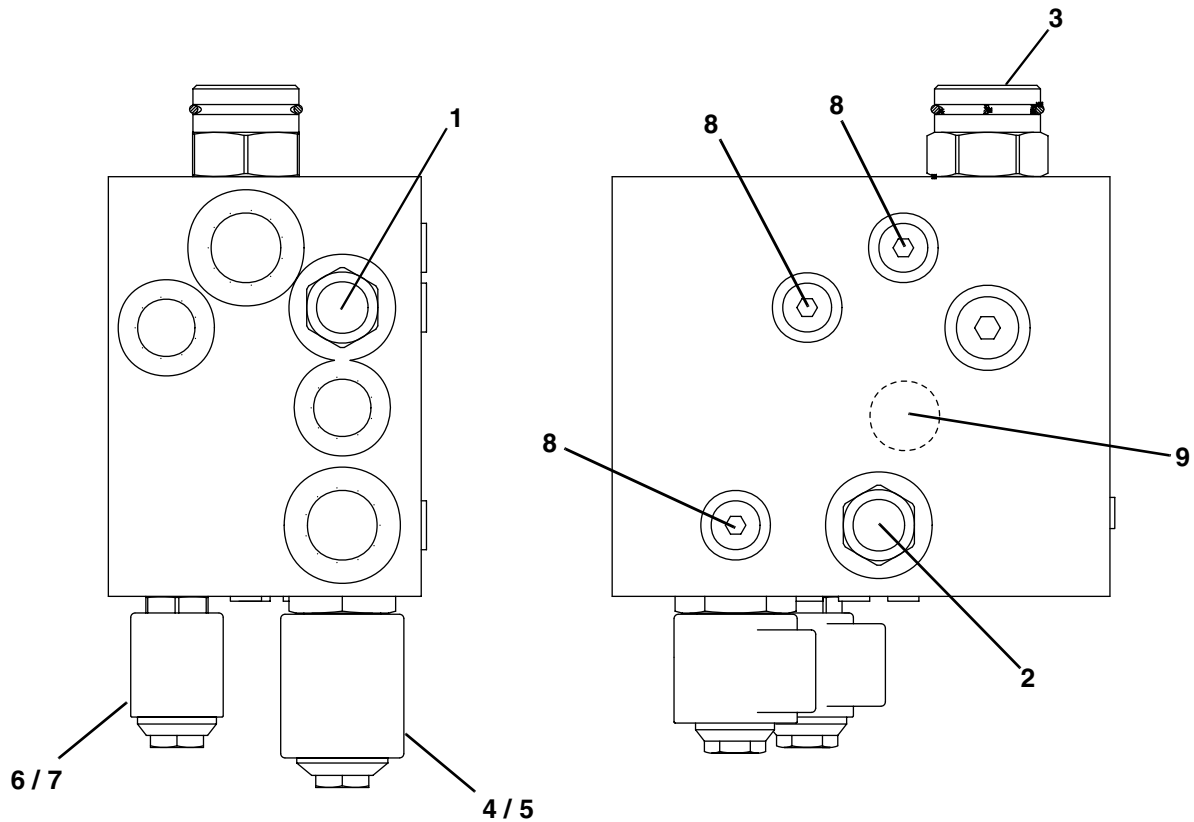
9016-51

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5002911	1	Relief Valve	Located opposite Diagnostic port
	5003579	1	• Seal Kit	
2	5002912	1	Relief Valve	
	5003554	1	• Seal Kit	
3	3010199	1	Plug, SAE #6	
	339897	1	• O-Ring	
4	5002913	1	Solenoid Valve	
	5003579	1	• Seal Kit	
5	5003507	1	Coil, 12 Volt DC	

> Change from previous revision

55.1 4WD Valve

Part Number 1002977




9016-52




Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003342	1	Check Valve	
	5003582	1	• Seal Kit	
2	5003344	1	Shuttle, Hot Oil	
	5003582	1	• Seal Kit	
3	5003346	1	3-Way Spool	
	5003583	1	• Seal Kit	
4	5003348	1	Solenoid Valve	
	5003583	1	• Seal Kit	
5	5003506	1	Coil, 10 Volt DC	
6	5003350	1	Solenoid Valve	
	5003578	1	• Seal Kit	
7	5003508	1	Coil, 12 Volt DC	
8	5003353	3	Plug, SAE #6	
	339897	3	• O-ring	
9	5003353	1	Plug, Orifice	

> Change from previous revision

56.1 Decals - Decks



## DANGER

Serious injury or death can result from blade contact or from objects being thrown very long distances

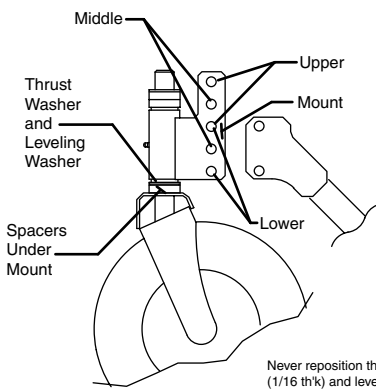
- Do not operate machine with discharge chute or guards flipped up or removed.
- Do not operate machine with bent components or with implement in raised position.
- Keep yourself and others away from the mower when in operation

**Deck Flip Up Procedure**

1. Rotate anti-sway mechanism downward. (Located under tractor floorboard)
2. Start tractor engine and raise deck until gage wheels are off the ground.
3. Remove cut height adjustment pins from rear gage wheel arms.
4. Raise deck to full raised position.
5. Turn tractor engine off.
6. Rotate front of deck upward until support is securely latched.

5

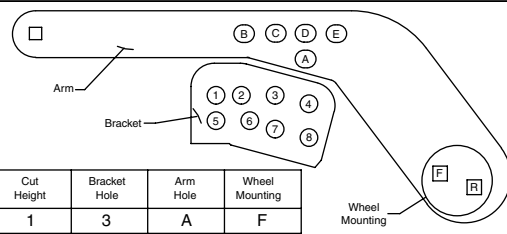
3



Never reposition the thrust washer(s) (1/16 thk) and leveling washer(s) (1/8 thk) when setting cut height

Cut Height	Mount Location	Number of Spacers Under Mount
1	Lower	0
1-1/2	Lower	1
2	Lower	2
2-1/2	Lower	3
2-1/2	Middle	0
3	Middle	1
3-1/2	Middle	2
4	Middle	3
4	Upper	0
4-1/2	Upper	1
5	Upper	2
5-1/2	Upper	3

1



Cut Height	Bracket Hole	Arm Hole	Wheel Mounting
1	3	A	F
1-1/2	1	B	F
2	2	C	F
2-1/2	3	D	F
3	4	E	F
3-1/2	5	B	F
4	6	C	F
4-1/2	7	D	F
5	8	E	F
5-1/2	8	E	R

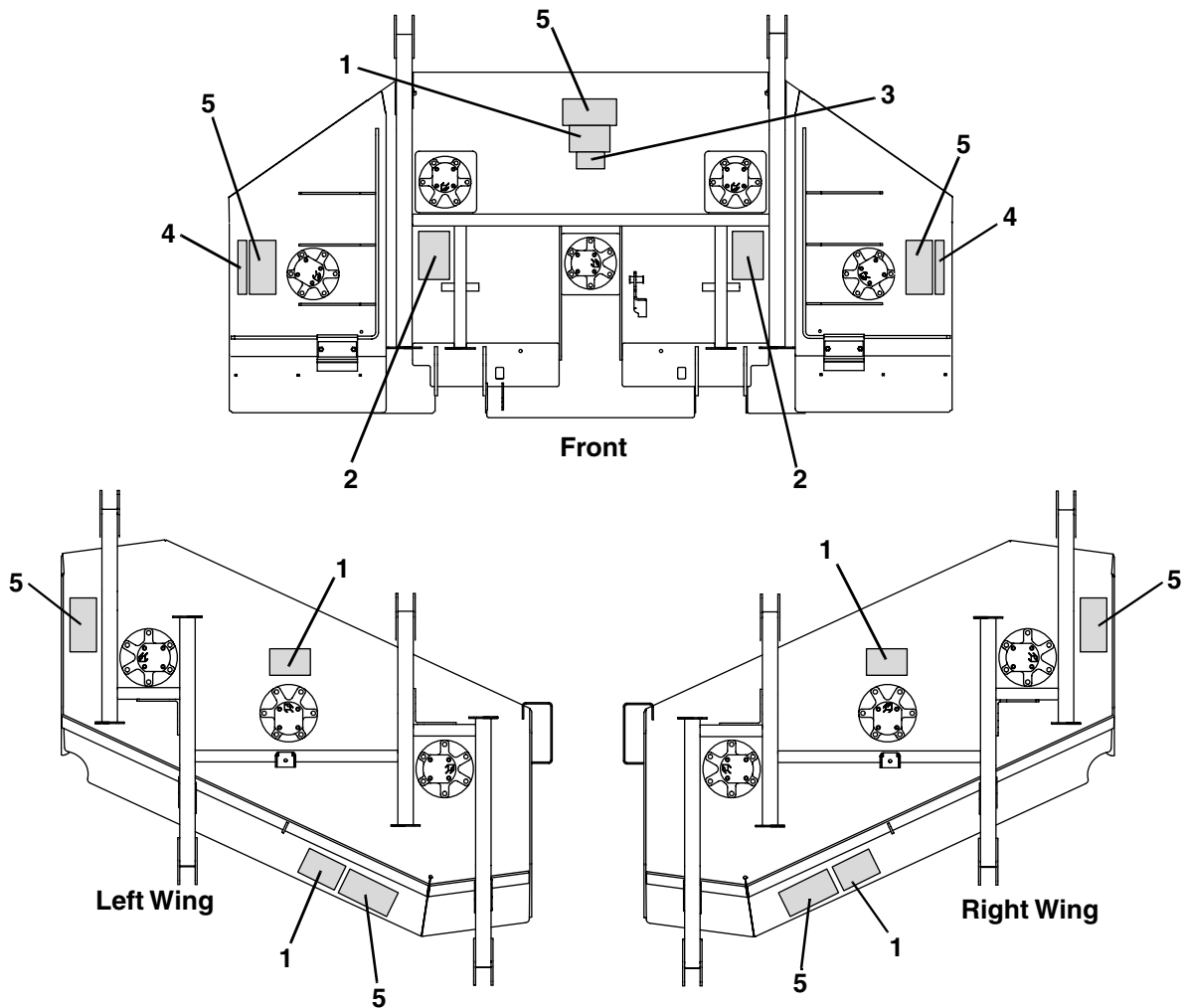
**Wheel Mounting Instructions**

1. While Rotating wheel, tighten nut until wheel is difficult to rotate.
2. Loosen nut 1/4 turn or just until wheel rotates freely.
3. Lock nut into place using second nut. Do not allow first nut to rotate when tightening second nut securely.
4. Rotate wheel to check for free rotation with zero end play.

2

NO STEP

4

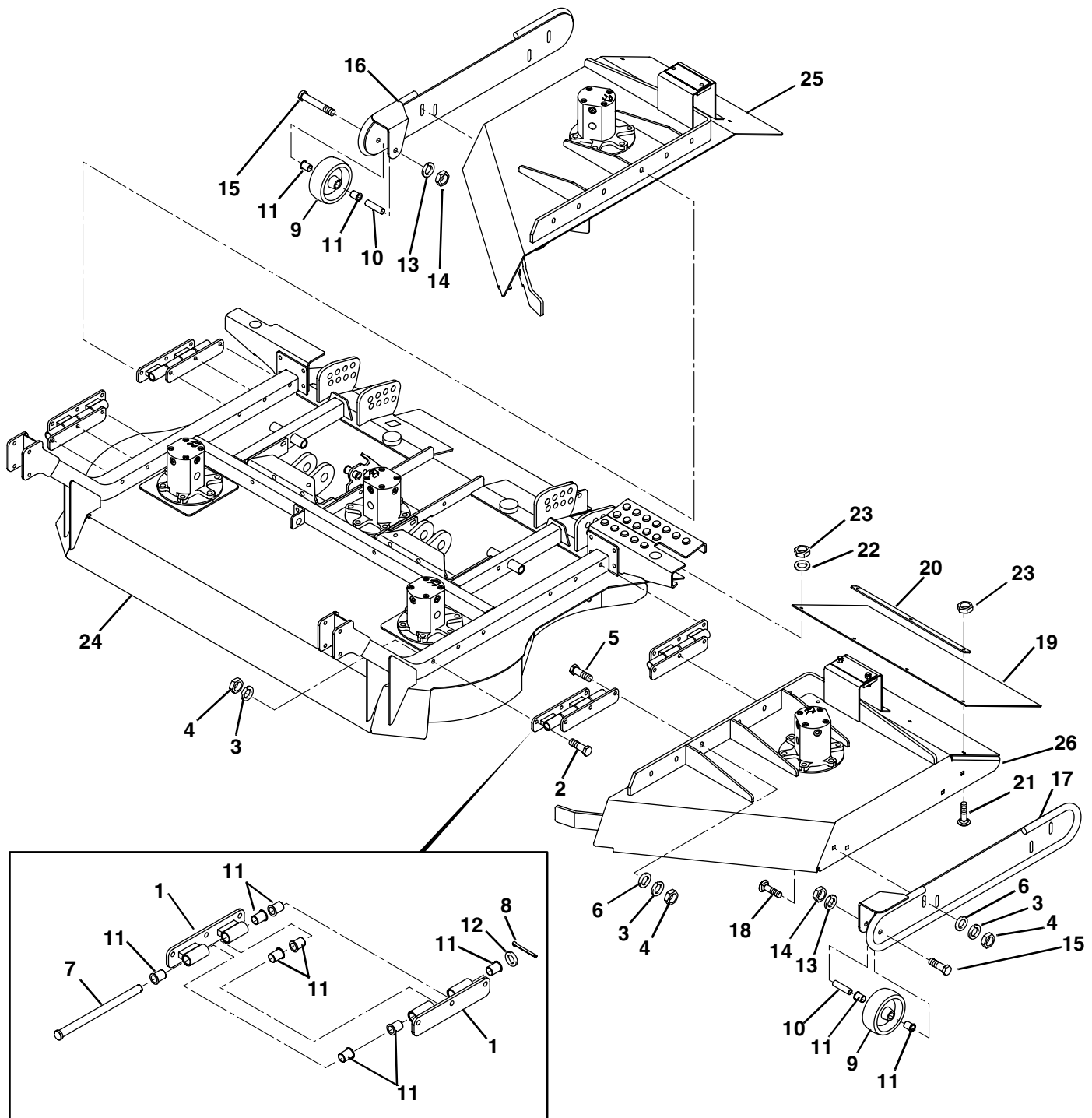


9016-63

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3009317	5	Decal, Caster Cut Height	
2	3009318	2	Decal, Gage Wheel Cut Height	
3	3009319	1	Decal, Flip Up Deck	
4	366609	2	Decal, No Step	
5	3002502	7	Decal, Danger	

> Change from previous revision

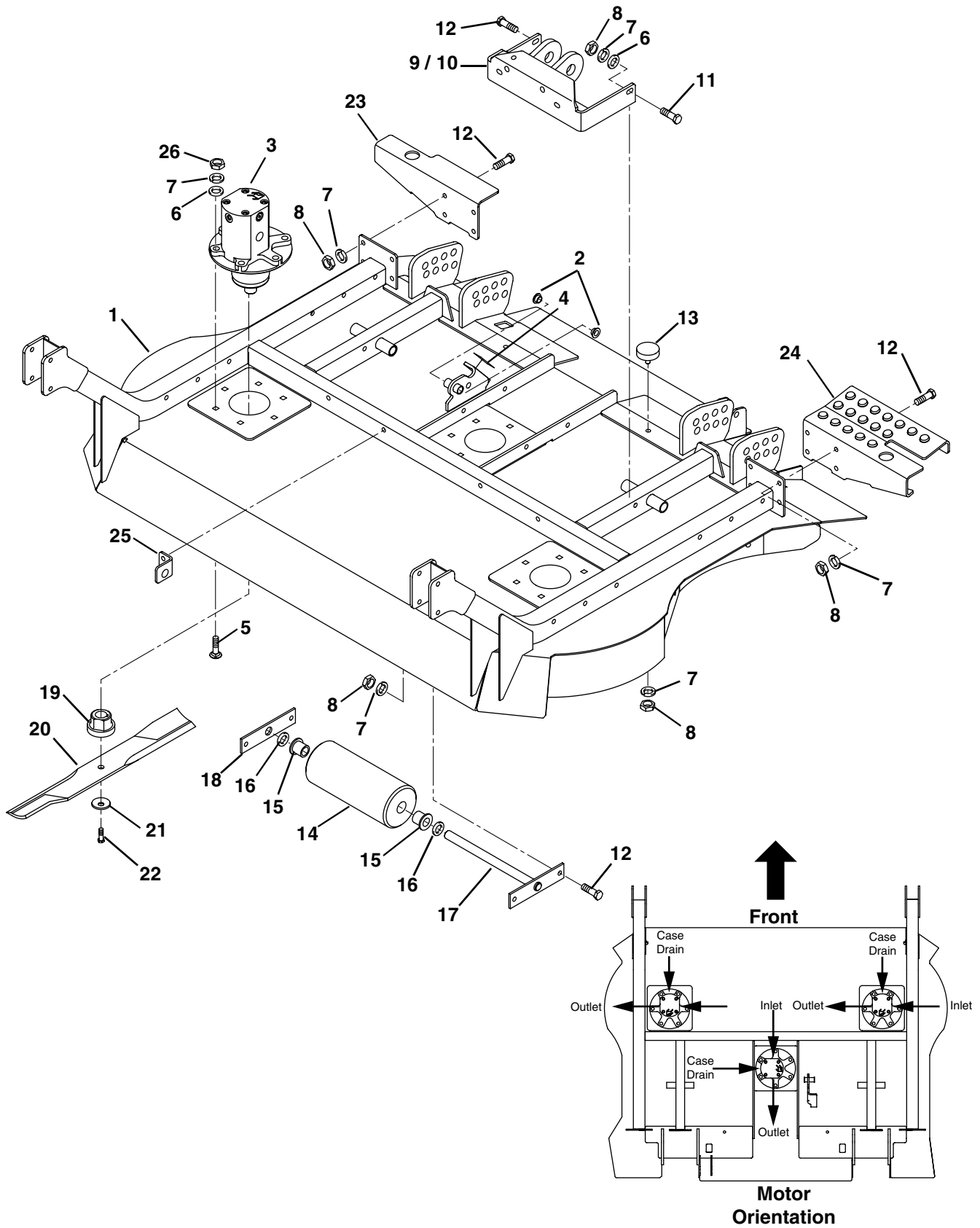
## 57.1 Front Deck



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	1003430.6	8	Hinge Assembly	
2	400286	12	Screw, 3/8-16 x 2-3/4" Hex Head	
3	446142	32	Lockwasher, 3/8 Hvy	
4	444762	32	Locknut, 3/8-16 Center	
5	400264	12	Screw, 3/8-16 x 1-1/4" Hex Hd	
6	453011	20	Flat Washer, 3/8	
7	3007678	4	Pin, Clevis	
8	460050	4	Cotter Pin, 3/16 x 1-1/4"	
9	3003939	2	Wheel, Deck	
10	3003714	2	Spacer, Wheel	
11	3004113	36	Bushing	
12	453020	4	Flat Washer, 5/8	
13	446152	2	Lockwasher, 1/2	
14	444758	2	Locknut, 1/2-13 Center	
15	400420	2	Screw, 1/2-13 x 3-1/2" Hex Head	
16	1003325.6	1	Skid Assembly, Anti Scalp	
17	1003321.6	1	Skid Assembly, Anti Scalp	
18	441624	8	Carriage Bolt, 3/8-16 x 1"	
19	3008840	2	Flap, Rear	
20	3009175	2	Hold Down, Drag Flap	
21	441606	8	Carriage Bolt, 1/4-20 x 3/4"	
22	452004	2	Flat Washer, 1/4	
23	444708	8	Locknut, 1/4-20 Center	
24	-	1	Front Deck Center Section	See 58.1
25	-	1	Right Side Winglet	See 59.1
26	-	1	Left Side Winglet	See 59.1

> Change from previous revision

## 58.1 Front Deck Center Section



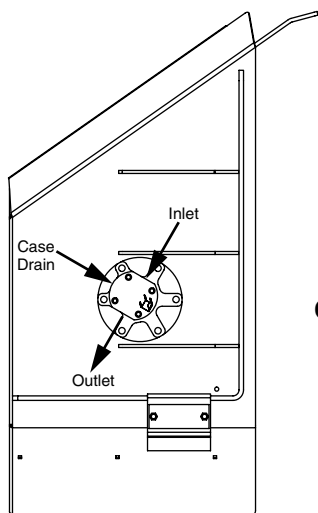
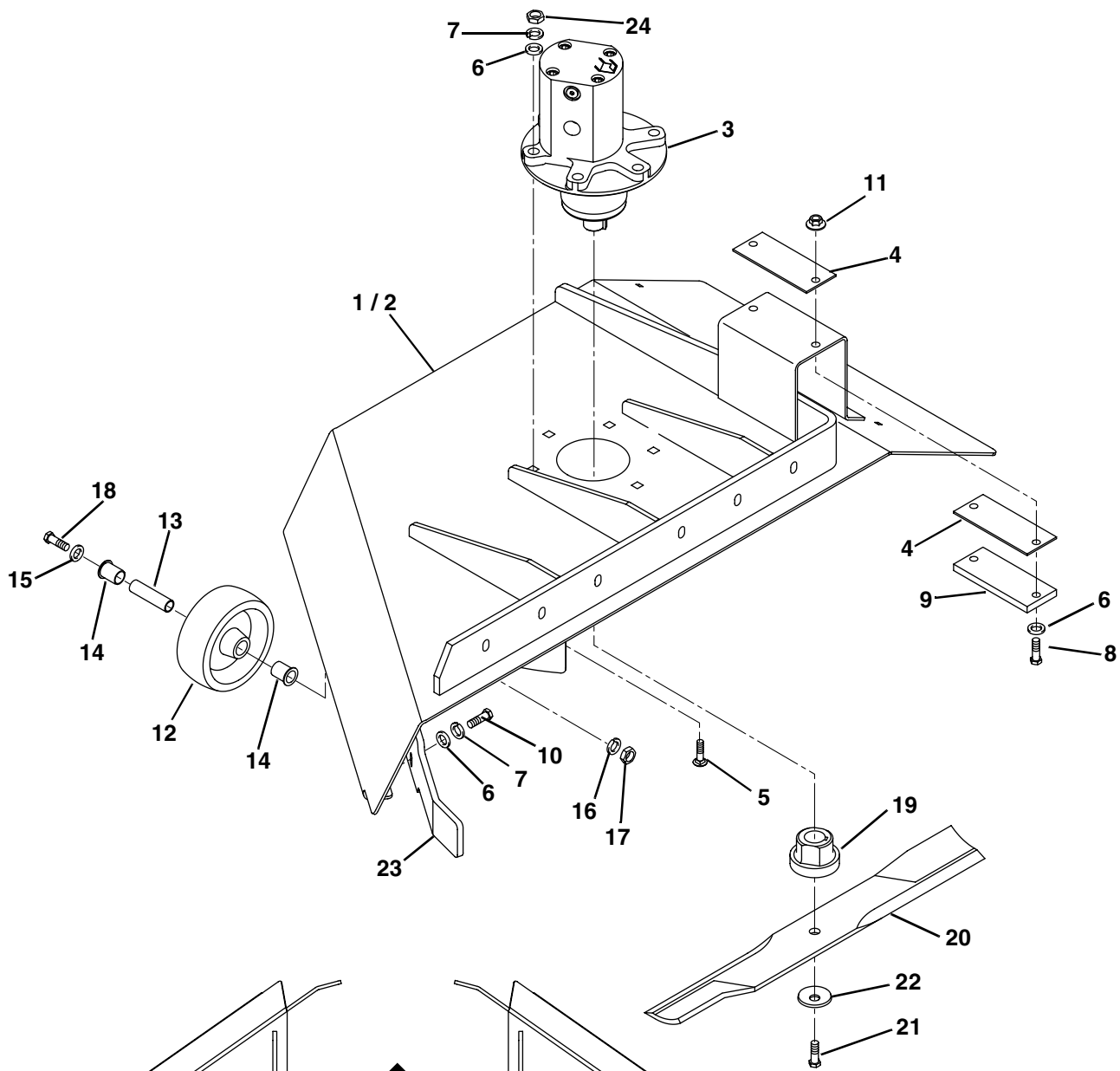


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003188	1	Deck, Front Assembly	
2	352936	2	• Bushing	
3	2810069	3	Motor, Spindle Assembly	
	5003763	1	• Seal Kit	
4	REF	1	Serial Plate, Front Deck	
5	440124	18	Carriage Bolt, 3/8-16 x 1-3/4"	
6	453011	26	Flat Washer, 3/8	
7	446142	40	Lockwasher, 3/8 Hvy	
8	444762	22	Locknut, 3/8-16 Center	
9	1003424.6	1	Bracket Assembly, RH	
10	1003425.6	1	Bracket Assembly, LH	
11	400274	6	Screw, 3/8-16 x 2-1/2" Hex Head	
12	400262	14	Screw, 3/8-16 x 1" Hex Head	
13	361723	2	Stop, Rubber	
14	163302	1	Roller	
15	552824	2	• Bushing	
16	455048	2	Flat Washer, 3/4	
17	1003429	1	Shaft Assembly, Roller	
18	3007374.6	1	Plate, Shaft Support	
19	3008388	3	Adapter, Blade	
20	2810030	3	Bar, Rotary Mower Cutter	
21	3007764	3	Washer, Blade	
22	400410	3	Screw, 1/2-13 x 1-3/4" Hex Head	
23	3007368.6	1	Arm, Winglet Support	
24	3007369.6	1	Arm, Winglet Support	
25	2810195.6	1	Angle, Bulkhead	
26	443110	18	Nut, 3/8-16 Hex	

&gt; Change from previous revision

## 59.1 Front Deck Winglets

(Right Winglet Shown)

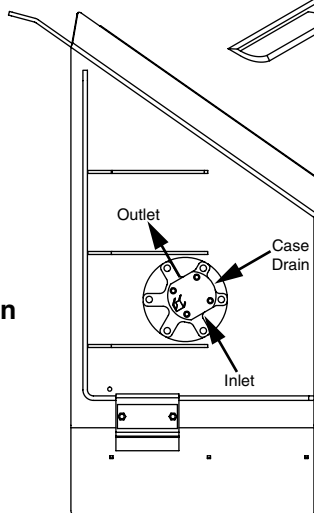


Left Winglet



Front

Motor  
Orientation

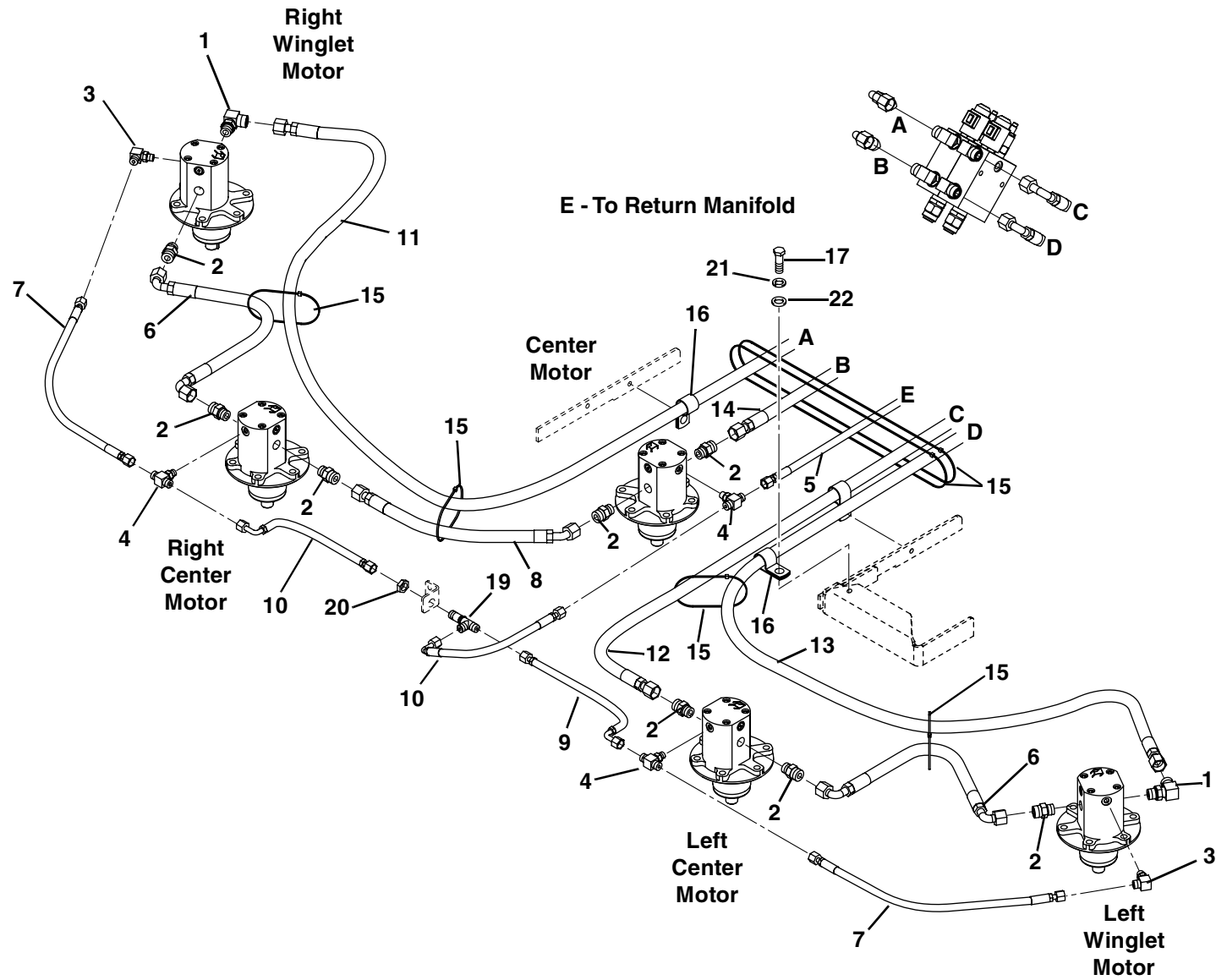


Right Winglet

<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	5003186	1	Deck, RH Winglet	
2	5003187	1	Deck, LH Winglet	
3	2810069	2	Motor, Spindle Assembly	
	5003763	1	• Seal Kit	
4	366613	4	Shim	
5	440124	12	Carriage Bolt, 3/8-16 x 1-3/4"	
6	453011	24	Flat Washer, 3/8	
7	446142	20	Lockwasher, 3/8 Hvy	
8	400264	4	Screw, 3/8-16 x 1-1/4" Hex head	
9	366473	2	Bumper, Arm	
10	400262	8	Screw, 3/8-16 x 1" Hex Head	
11	444762	4	Locknut, 3/8-16 Center	
12	3003939	2	Wheel, Deck	
13	3003714	2	Spacer, Wheel	
14	3004113	4	Bushing	
15	455012	2	Flat Washer, 1/2	
16	446152	2	Lockwasher, 1/2	
17	444758	2	Locknut, 1/2-13 Center	
18	400420	2	Screw, 1/2-13 x 3-1/2" Hex Head	
19	3008388	2	Adapter, Blade	
20	2810030	2	Bar, Rotary Mower Cutter	
21	400410	2	Screw, 1/2-13 x 1-3/4"Hex Head	
22	3007764	2	Washer, Blade	
23	3007376.6	2	Arm, Winglet Support, Front	
24	443110	12	Nut, 3/8-16 Hex	

> Change from previous revision

## 60.1 Front Deck Hydraulics

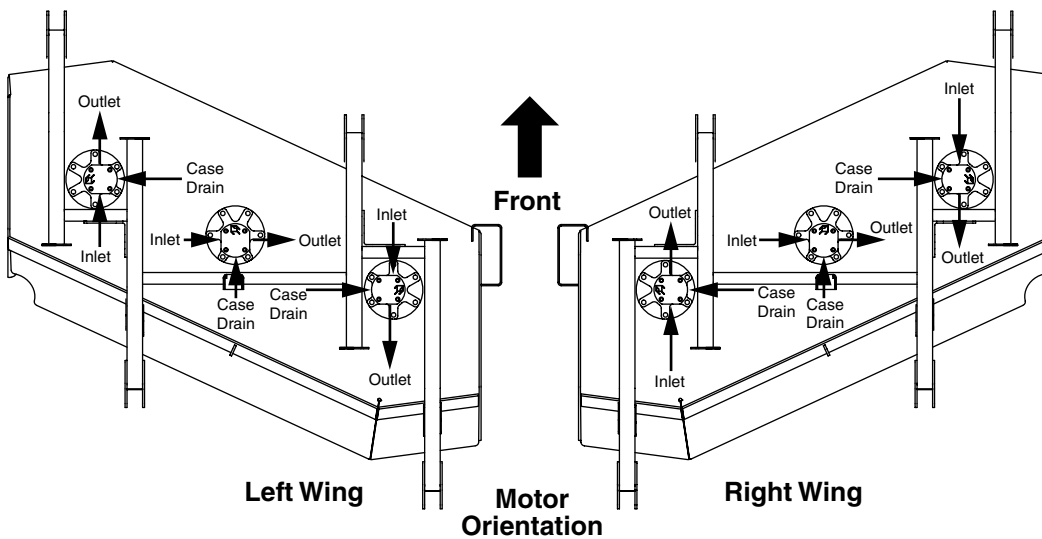
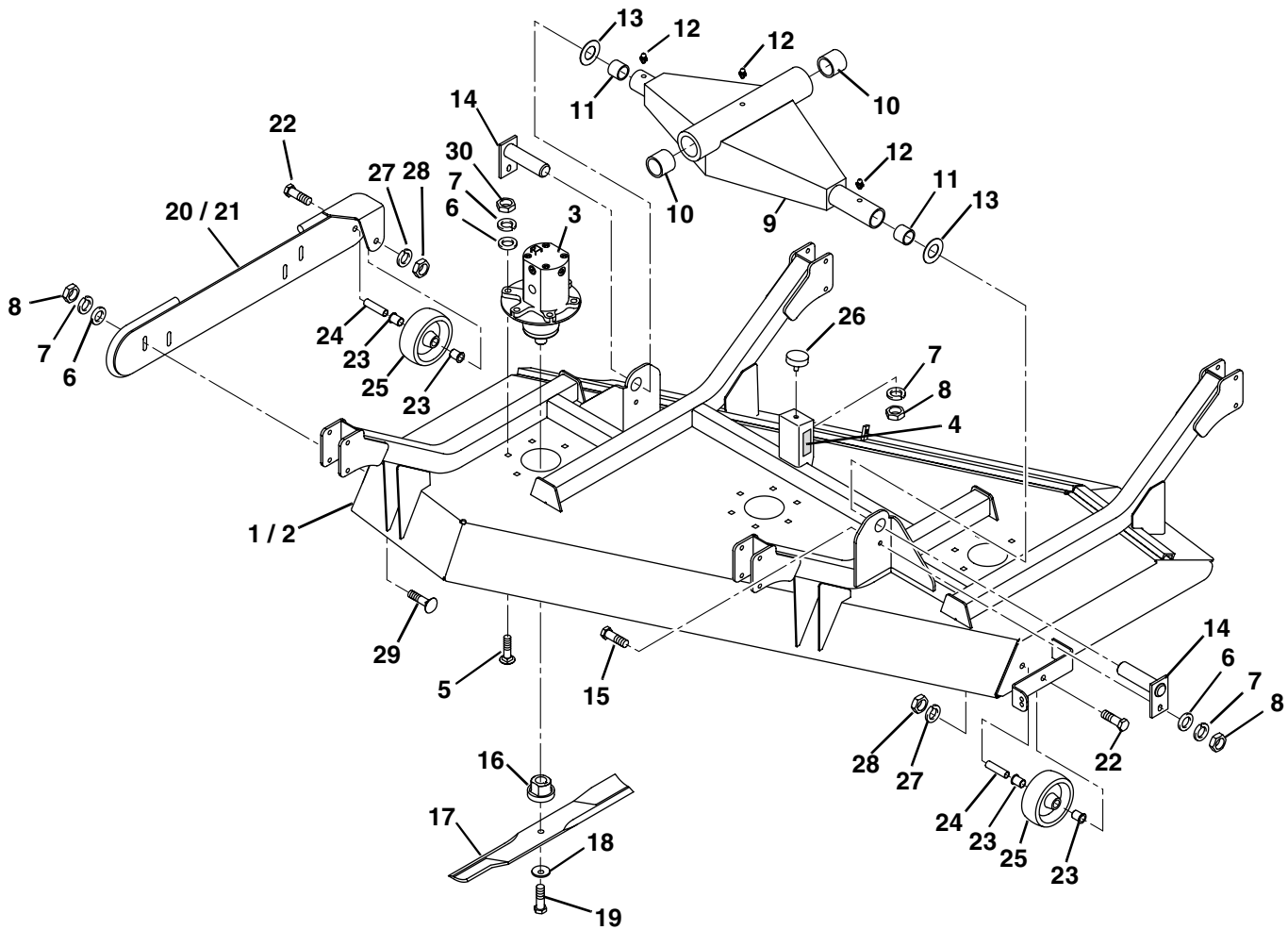


<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	340070	2	Adapter, 90°	
2	339989	8	Adapter, Straight	
3	340055	2	Adapter, 90°	
4	340095	3	Adapter, Tee	
5	REF	1	Hose, Front Deck Motor Case Drain	See 38.1
6	1003557	2	Hose, Winglet	
7	2810190	2	Hose, Winglet Motor Drain	
8	1003607	1	Hose, Left Center to Center Motor	
9	2810189	1	Hose, Tee to Left Center Motor Drain	
10	2810191	2	Hose, Right Center and Center Drain	
11	1003559	1	Hose, Right Valve to Right Winglet	
12	1003556	1	Hose, Left Valve to Left Center	
13	1003558	1	Hose, Left Winglet to Left Valve	
14	1003562	1	Hose, Center Motor to Right Valve	
15	473144	6	Tie Wrap	
16	363514	3	Clamp, 1-1/8" Diameter	
17	400188	3	Screw, 5/16-18 x 1" Hex Head	
18	443106	2	Nut, 5/16-18 Hex	
19	340214	1	Adapter, Bulkhead Tee	
20	339960	1	Locknut, Bulkhead	
21	446134	3	Lockwasher, 5/16	
22	453009	1	Flat Washer, 5/16	

> Change from previous revision

## 61.1 Wing Decks

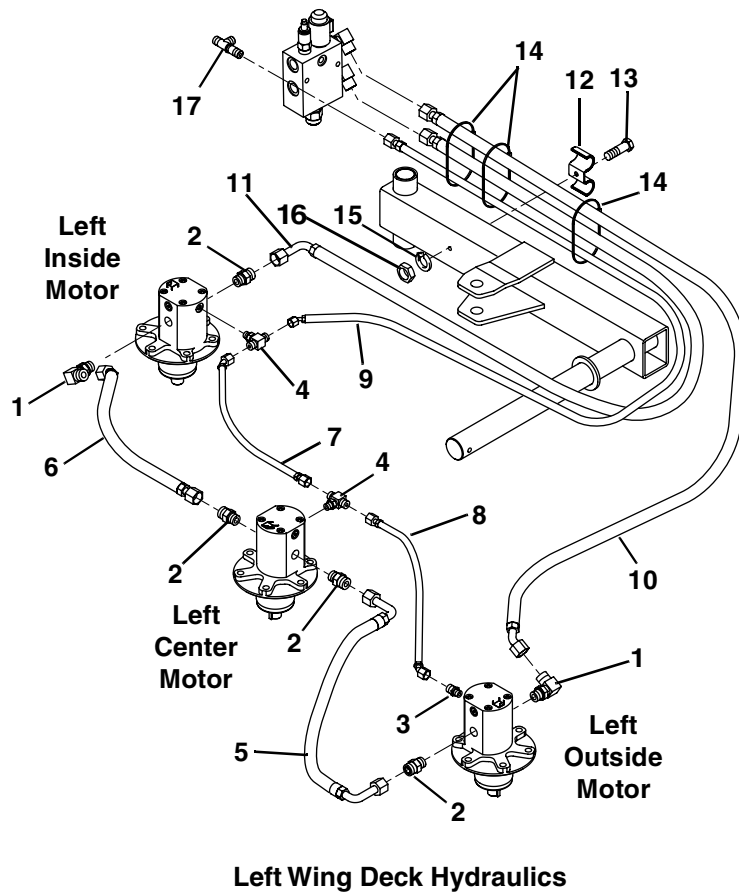
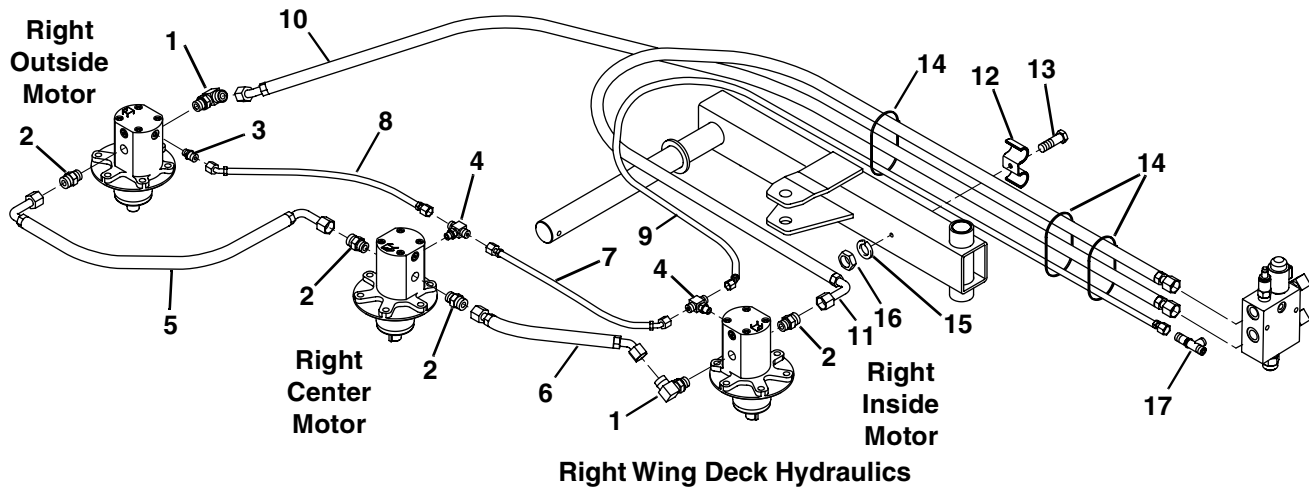
Right Wing Shown



<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	5003190	1	Deck, Right Wing	
2	5003189	1	Deck, Left Wing	
3	2810069	6	Motor, Spindle Assembly	
	5003763	1	• Seal Kit	
4	REF	2	Wing Deck Serial Plate	
5	440124	36	Carriage Bolt, 3/8-16 x 1-3/4"	
6	453011	48	Flat Washer, 3/8	
7	446142	50	Lockwasher, 3/8 Hvy	
8	444762	14	Locknut, 3/8-16 Center	
9	116686.6	2	Deck Mount Assembly	
10	363574	4	• Bushing	
11	363562	4	• Bushing	
12	471214	6	Fitting, Grease 1/4-28	
13	363568	4	Washer, Thrust	
14	163306.6	4	Pin Assembly	
15	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
16	3008388	6	Adapter, Blade	
17	2810030	6	Bar, Rotary Mower Cutter	
18	3007764	6	Washer, Blade	
19	400410	6	Screw, 1/2-13 x 1-3/4" Hex Head	
20	1003321.6	1	Skid, Right Wing Anti-Scalp	
21	1003325.6	1	Skid, Left Wing Anti Scalp	
22	400420	4	Screw, 1/2-13 x 3-1/2" Hex Head	
23	3004113	8	Bushing	
24	3003714	4	Spacer, Wheel	
25	3003939	4	Wheel, Deck	
26	361723	2	Stop, Rubber	
27	446152	4	Lockwasher, 1/2	
28	444758	4	Locknut, 1/2-13 Center	
29	441624	8	Carriage Bolt, 3/8-16 x 1"	
30	443110	36	Nut, 3/8-16 Hex	

> Change from previous revision

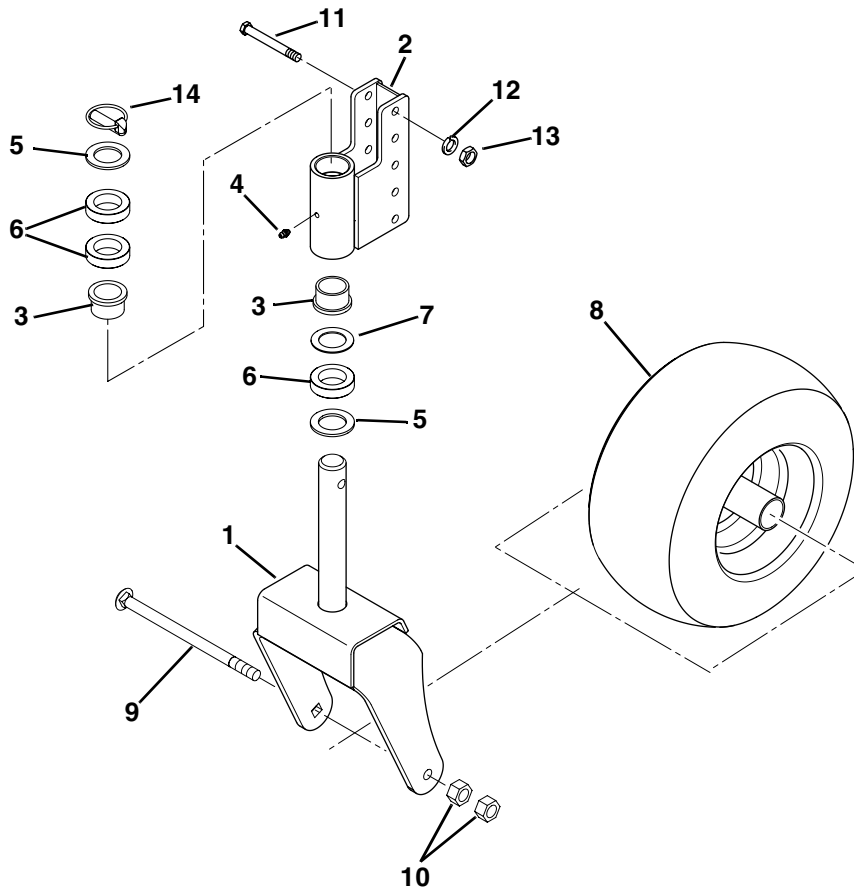
## 62.1 Wing Deck Hydraulics





<b>Item</b>	<b>Part No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Serial Numbers/Notes</b>
1	340070	4	Adapter, 90°	
2	339989	8	Adapter, Straight	
3	339972	2	Adapter, Straight	
4	340095	4	Adapter, Tee	
5	1003580	2	Hose, Outside to Center Motor	
6	1003579	2	Hose, Inside to Center Motor	
7	2810194	2	Hose, Center to Inside Motor Drain	
8	2810193	2	Hose, Outside to Center Motor Drain	
9	2810192	2	Hose, Wing Motor Drain to Tee	
10	1003584	2	Hose, Wing Motor Pressure	
11	1003583	2	Hose, Wing Motor Return	
12	359860	2	Clamp, Hose	
13	400206	2	Screw, 5/16-18 x 4" Hex Head	
14	473144	6	Tie Wrap	
15	446136	2	Lockwasher, 5/16 Heavy	
16	443106	2	Nut, 5/16-18 Hex	
17	REF	2	Adapter, Bulkhead Tee	See 38.1

> Change from previous revision



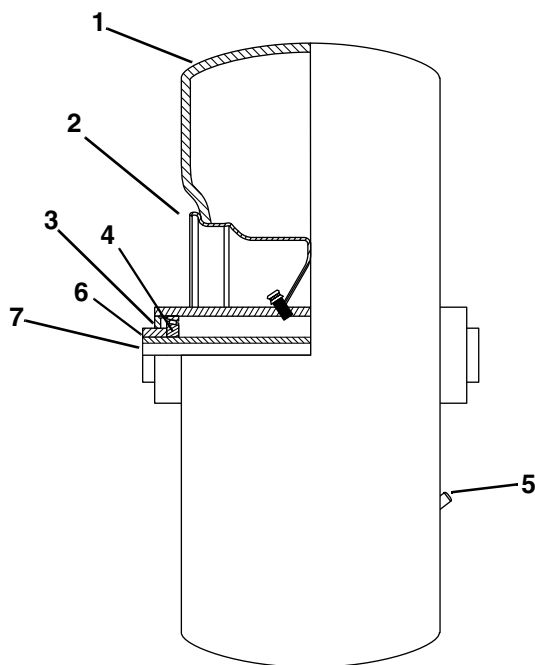
9016-62

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004276	8	Yoke, 11" Tire	Wing Decks Only
1	1004275.6	2	Yoke, 13" Tire	Front Deck Only
2	1004277.6	10	Tube, Yoke Pivot	
3	363539	2	• Bushing	
4	471214	1	• Grease Fitting	
5	366593	20	Spacer, Caster Wheel	
6	365772	30	Spacer, Caster Wheel	
7	361648	10	Washer, Thrust	
8	1004023	8	Wheel and Tire, 11"	Wing Decks Only, See 64.1
8	1004024	2	Wheel and Tire, 13"	Front Deck Only, See 64.1
9	441690	8	Carriage Bolt, 1/2-13 x 7"	Wing Decks Only
9	441689	2	Carriage Bolt, 1/2-13 x 8-1/2"	Front Deck Only
10	443118	20	Nut, 1/2-13 Hex	
11	401028	20	Screw, 3/8-16 x 3-1/4" Hex Head	
12	446142	20	Lockwasher, 3/8 Heavy	
13	443110	20	Nut, 3/8-16 Hex	
14	3004894	10	Pin, Klik Type	

> Change from previous revision

**64.1 Wheel and Tire Assemblies**

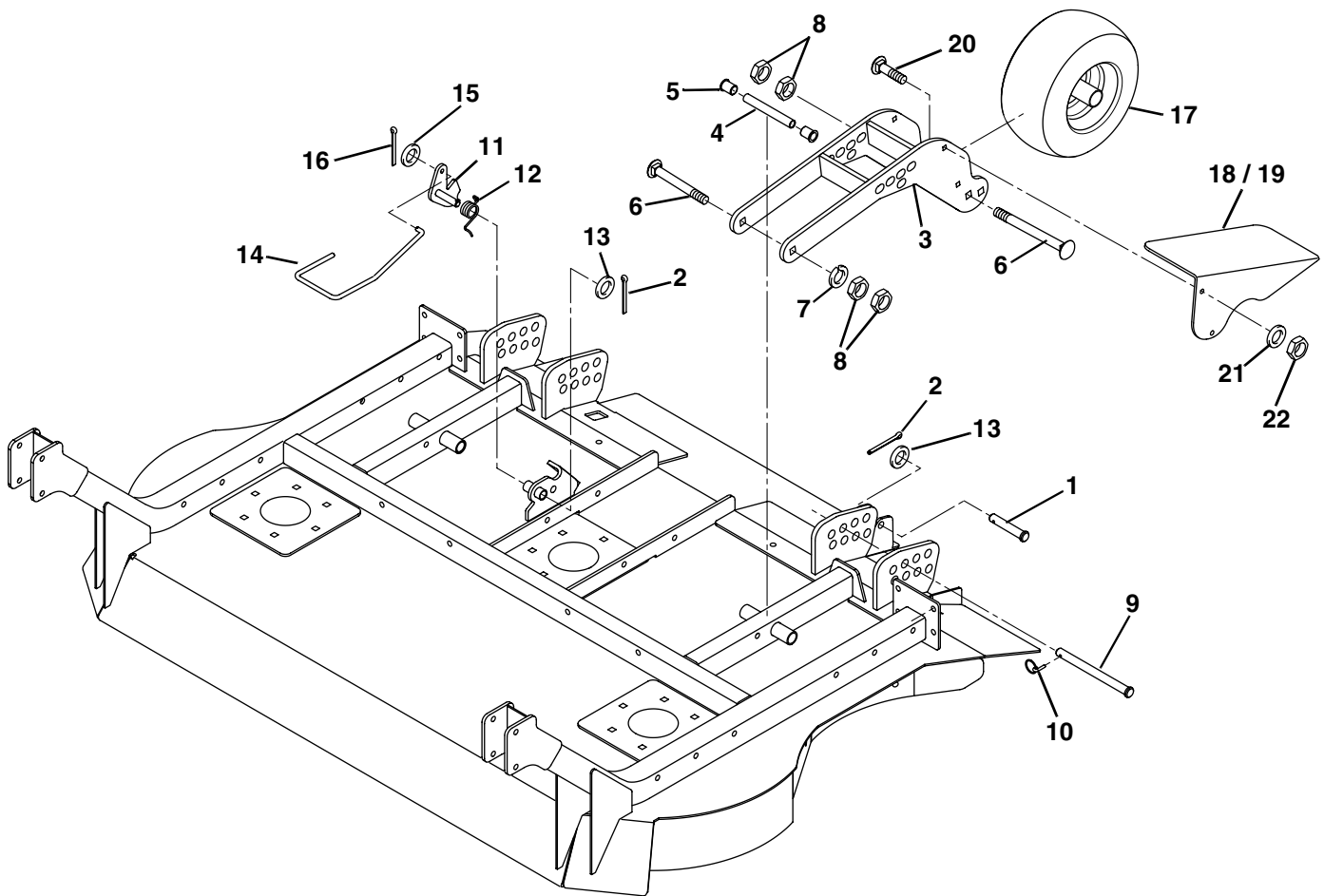
Part Numbers 1004023 and 1004024



9016-61

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	550346	1	Tire, 11 x 4-5 Smooth	1004023 Only
1	5003200	1	Tire, 13 x 6.5-6 Multi Rib	1004024 Only
2	5003196	1	Wheel	1004023 Only
2	5003201	1	Wheel	1004024 Only
3	5003197	2	Grease Seal	
4	5003198	2	Bearing Cone	
5	360111	1	Inflation Valve	
6	346883	2	Spacer	
7	5003199	1	Spacer	1004023 Only
7	5003202	1	Spacer	1004024 Only

> Change from previous revision

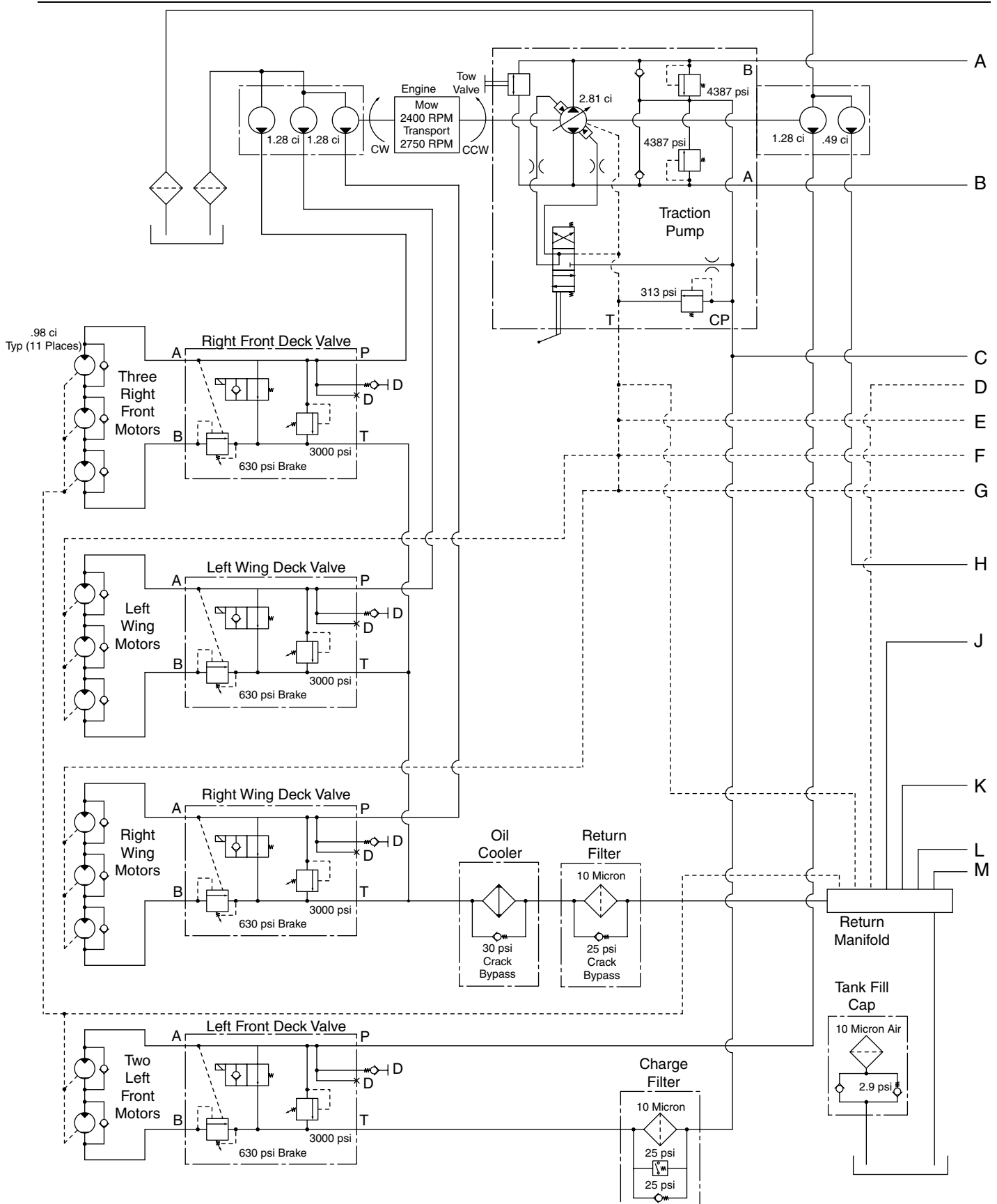


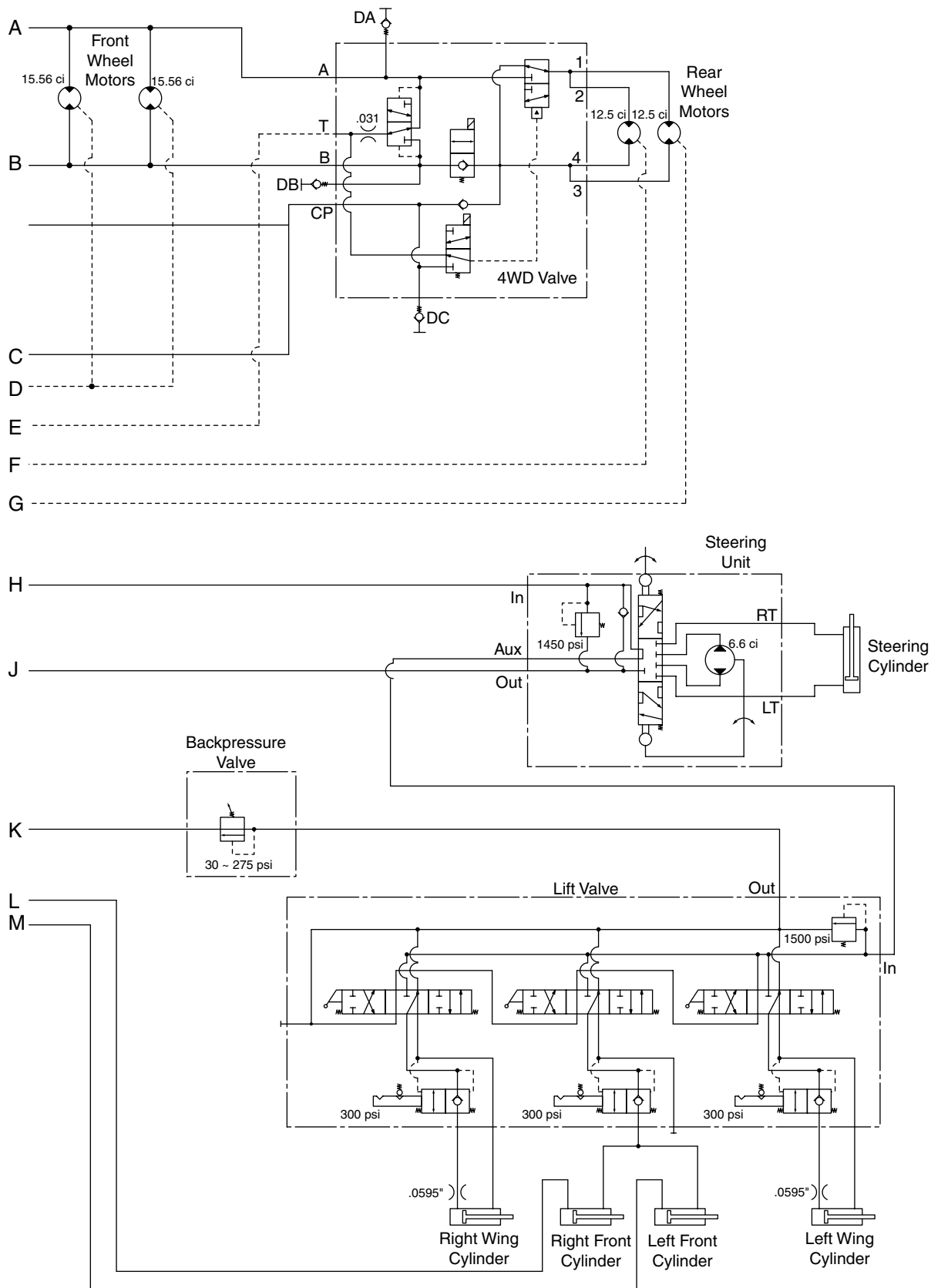
# HR-9016

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	461495	1	Clevis pin, 1/2 x 2-1/2"	
2	460028	2	Cotter Pin, 1/8 x 1"	
3	1003423.6	2	Yoke, Gage Wheel	
4	3007442	2	Spacer, Arm Pivot	
5	3004113	4	Bushing	
6	441690	4	Carriage Bolt, 1/2-13 x 7"	
7	446152	2	Lockwasher, 1/2	
8	443118	8	Nut, 1/2-13 Hex	
9	3007679	2	Clevis Pin, 5/8 x 9-5/16"	
10	342675	2	Snap Ring	
11	1003902	1	Latch, Standup	
12	3008471	1	Spring, Torsion	
13	453017	1	Flat Washer, 1/2	
14	3008478	1	Rod, Latch	
15	453009	1	Flat Washer, 5/16	
16	460014	1	Cotter Pin, 3/32 x 3/4"	
17	1004023	2	Wheel and Tire, 11"	See 64.1
18	3010075	1	Deflector, Left Side Grass	
19	3010074	1	Deflector, Right Side Grass	
20	441614	4	Carriage Bolt, 5/16-18 x 1"	
21	452006	4	Flat Washer, 5/16	
22	444718	4	Locknut, 5/16-18 Center	

> Change from previous revision

## 66.1 Hydraulic Schematic



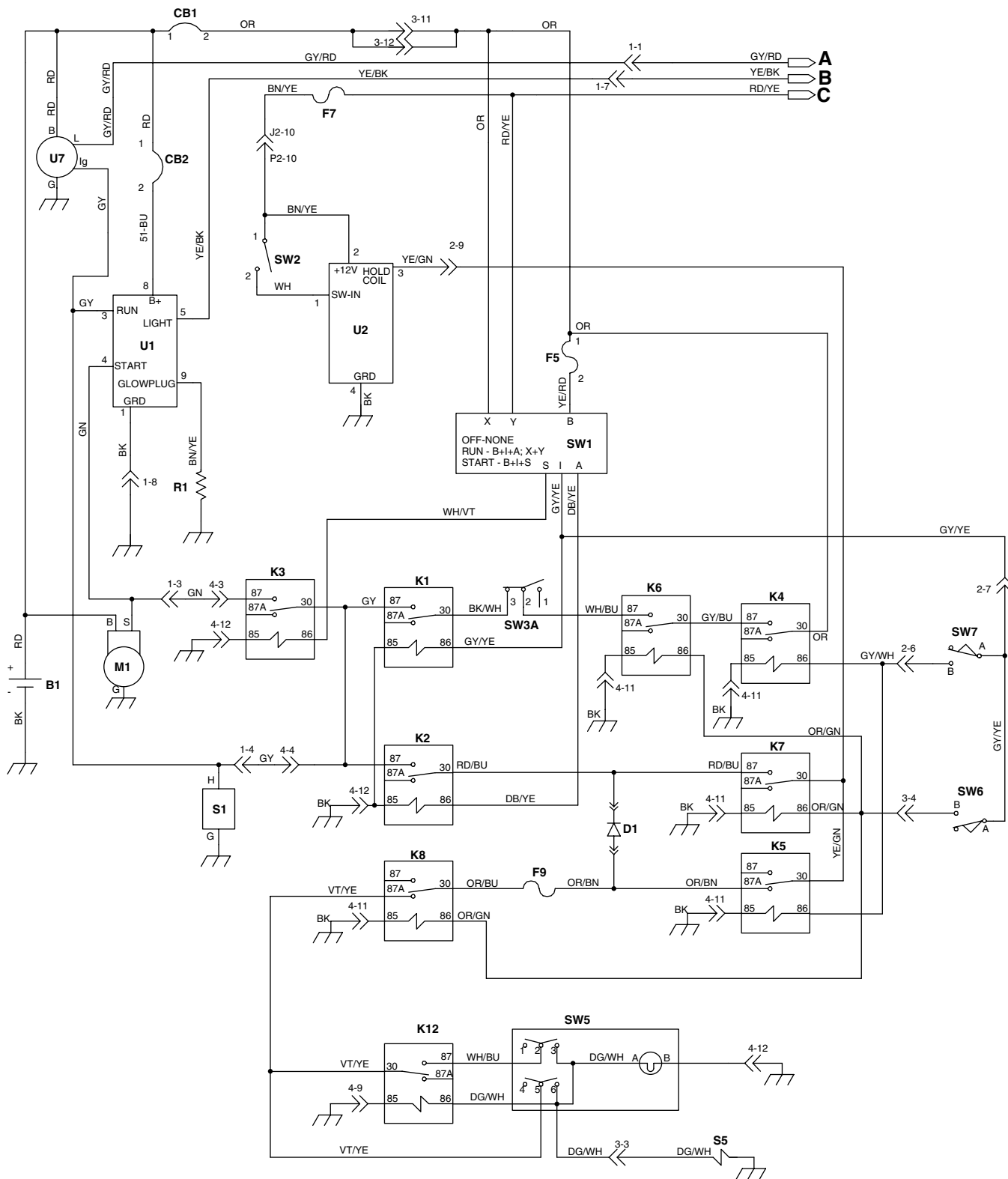


## 67.1 Electrical Schematic

### Interlock, Starting, Charging and Cruise Control Circuits

Serial No. 70524 1601 ~ 1725

Serial No. 70525 1601 ~ 1777



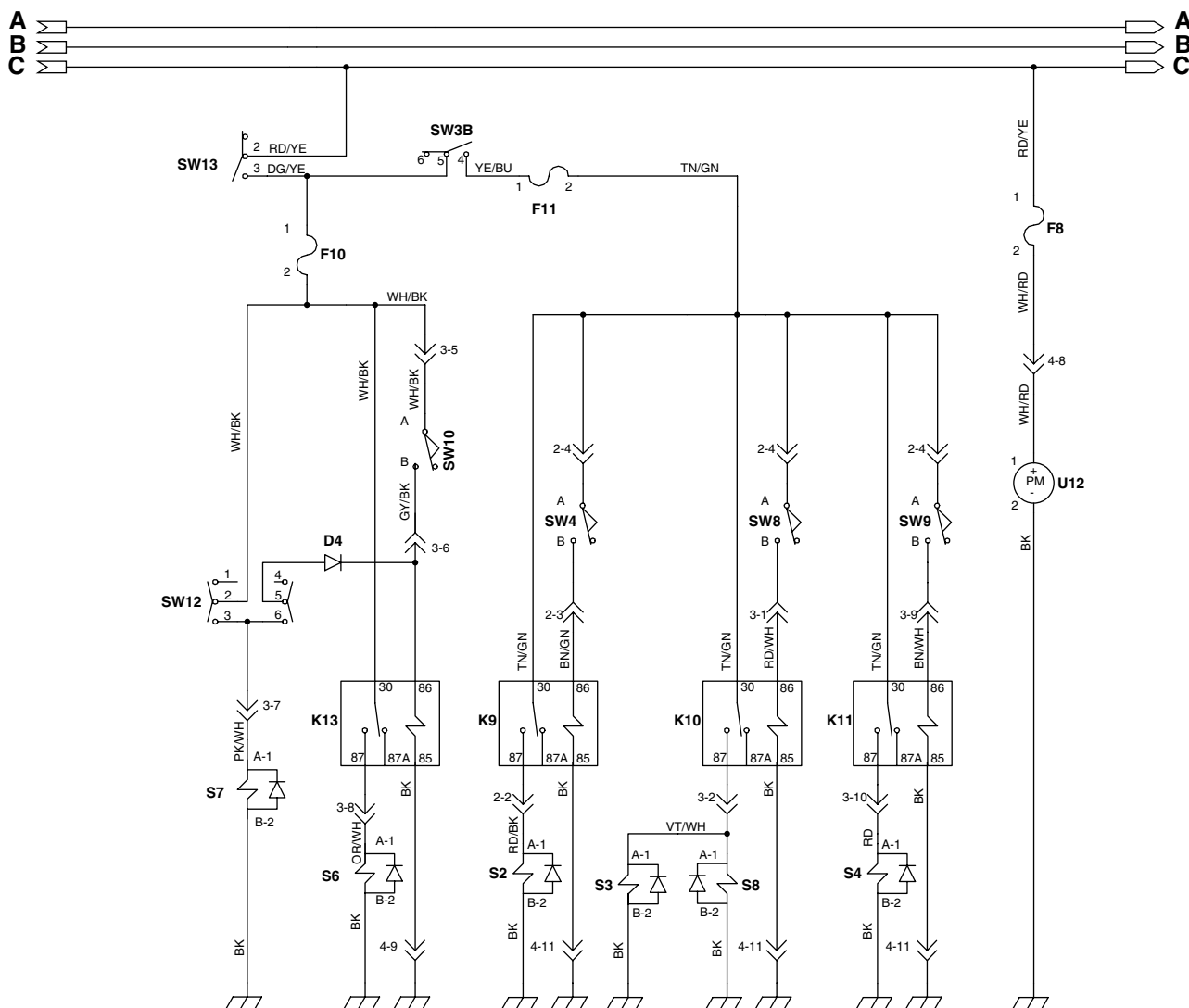


## 67.1 Electrical Schematic

### 4WD, Mow and Seat Control Circuits

Serial No. 70524 1601 ~ 1725

Serial No. 70525 1601 ~ 1777



### Color Abbreviations

**BK** - Black  
**DG** - Dark Green  
**LG** - Light Green  
**TN** - Tan

**BN** - Brown  
**GN** - Green  
**OG** - Orange  
**VT** - Violet

**BU** - Blue  
**GY** - Grey  
**PK** - Pink  
**WH** - White

**DB** - Dark Blue  
**LB** - Light Blue  
**RD** - Red  
**YE** - Yellow

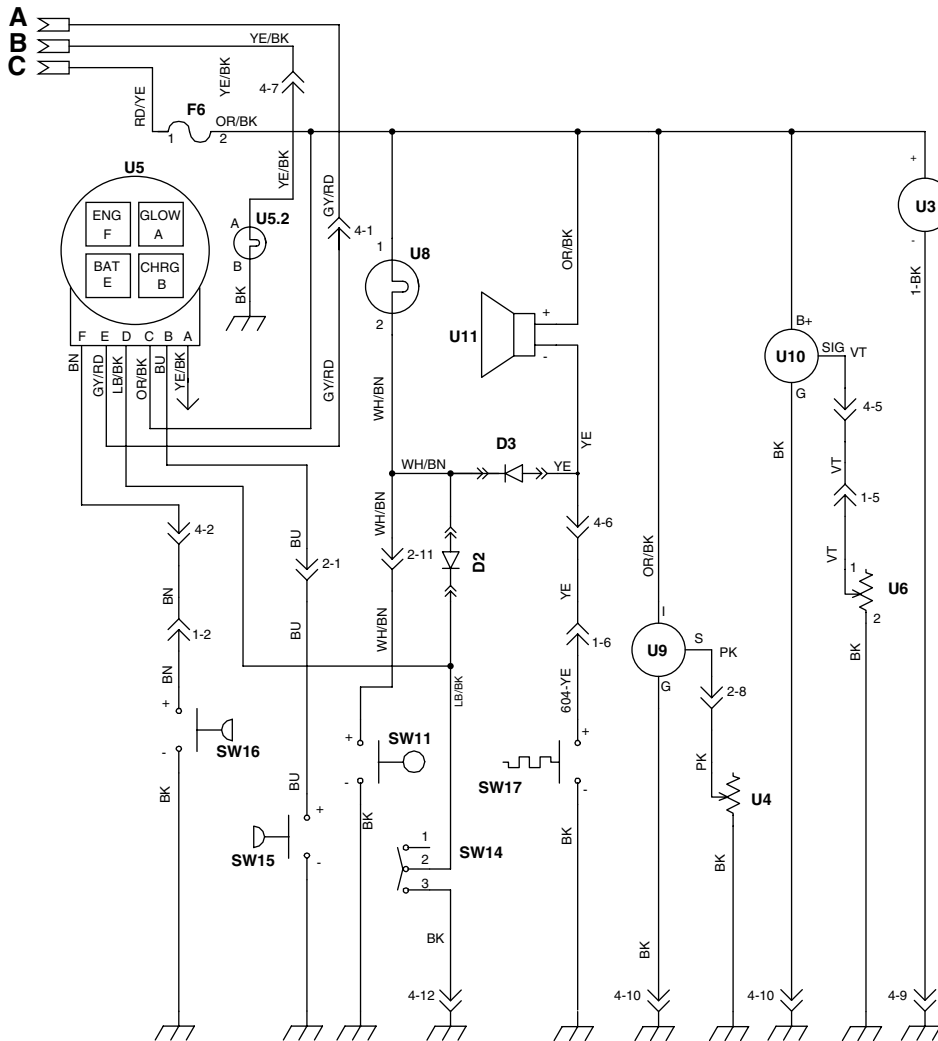
### Component Abbreviations

**CB1** - 50 Amp Circuit Breaker  
**CB2** - 50 Amp Circuit Breaker  
**D1** - Inter-Lock Diode Connector  
**D2** - Test Diode Connector  
**D3** - Alarm Diode Connector  
**D4** - 4WD Diode Connector  
**F1** - 5 Amp (Spare Fuse-Not Shown)  
**F2** - 5 Amp (Spare Fuse-Not Shown)  
**F3** - 15 Amp (Spare Fuse-Not Shown)  
**F4** - 15 Amp (Spare Fuse-Not Shown)  
**F5** - 5 Amp (Ignition Switch)  
**F6** - 5 Amp (Gauges)  
**F7** - 5 Amp (Interlock)  
**F8** - 15 Amp (Air Ride Seat)  
**F9** - 5 Amp (Cruise Control)  
**F10** - 5 Amp (4WD)  
**F11** - 15 Amp (Mow)  
**F12** - Not Used

**K1** - Interlock Relay  
**K2** - Run Circuit Relay  
**K3** - Start Circuit Relay  
**K4** - Brake (Start) Relay  
**K5** - Brake (Run) Relay  
**K6** - Neutral (Start) Relay  
**K7** - Neutral (Run) Relay  
**K8** - Neutral (Cruise) Relay  
**K9** - Left Mow Relay  
**K10** - Center Mow Relay  
**K11** - Right Mow Relay  
**K12** - Cruise Control Relay  
**K13** - 4WD Relay  
**M1** - Starter Motor  
**R1** - Glow Plug  
**S1** - Fuel Solenoid  
**S2** - Left Mow Solenoid  
**S3** - Center Mow Solenoid 1

**S4** - Right Mow Solenoid  
**S5** - Cruise Control Solenoid  
**S6** - 4WD Solenoid  
**S7** - 4WD Reverse Solenoid  
**S8** - Center Mow Solenoid 2  
**SW1** - Ignition Switch  
**SW2** - Seat Switch  
**SW3** - PTO Switch  
**SW4** - Left Wing Limit Switch  
**SW5** - Cruise Control Switch  
**SW6** - Neutral Switch  
**SW7** - Brake Switch  
**SW8** - Front Limit Switch  
**SW9** - Right Wing Limit Switch  
**SW10** - Forward Switch  
**SW11** - Hydraulic Level Switch  
**SW12** - 4WD Reverse Switch  
**SW13** - 4WD Switch

**SW14** - Test Switch  
**SW15** - Charge Filter Switch  
**SW16** - Engine Oil Switch  
**SW17** - High Water Temperature Switch  
**U1** - Glowplug Module  
**U2** - Seat Time Delay Relay  
**U3** - Hour Meter  
**U4** - Fuel Sender  
**U5** - Light Gauge  
**U5.2** - Glow Plug Light  
**U6** - Temperature Sender  
**U7** - Alternator  
**U8** - Oil Light  
**U9** - Fuel Gauge  
**U10** - Temperature Gauge  
**U11** - Alarm  
**U12** - Air Ride Seat



### Color Abbreviations

BK - Black  
 DG - Dark Green  
 LG - Light Green  
 TN - Tan

BN - Brown  
 GN - Green  
 OG - Orange  
 VT - Violet

BU - Blue  
 GY - Grey  
 PK - Pink  
 WH - White

DB - Dark Blue  
 LB - Light Blue  
 RD - Red  
 YE - Yellow

### Component Abbreviations

CB1 - 50 Amp Circuit Breaker  
 CB2 - 50 Amp Circuit Breaker  
 D1 - Inter-Lock Diode Connector  
 D2 - Test Diode Connector  
 D3 - Alarm Diode Connector  
 D4 - 4WD Diode Connector  
 F1 - 5 Amp (Spare Fuse-Not Shown)  
 F2 - 5 Amp (Spare Fuse-Not Shown)  
 F3 - 15 Amp (Spare Fuse-Not Shown)  
 F4 - 15 Amp (Spare Fuse-Not Shown)  
 F5 - 5 Amp (Ignition Switch)  
 F6 - 5 Amp (Gauges)  
 F7 - 5 Amp (Interlock)  
 F8 - 15 Amp (Air Ride Seat)  
 F9 - 5 Amp (Cruise Control)  
 F10 - 5 Amp (4WD)  
 F11 - 15 Amp (Mow)  
 F12 - Not Used

K1 - Interlock Relay  
 K2 - Run Circuit Relay  
 K3 - Start Circuit Relay  
 K4 - Brake (Start) Relay  
 K5 - Brake (Run) Relay  
 K6 - Neutral (Start) Relay  
 K7 - Neutral (Run) Relay  
 K8 - Neutral (Cruise) Relay  
 K9 - Left Mow Relay  
 K10 - Center Mow Relay  
 K11 - Right Mow Relay  
 K12 - Cruise Control Relay  
 K13 - 4WD Relay  
 M1 - Starter Motor  
 R1 - Glow Plug  
 S1 - Fuel Solenoid  
 S2 - Left Mow Solenoid  
 S3 - Center Mow Solenoid 1

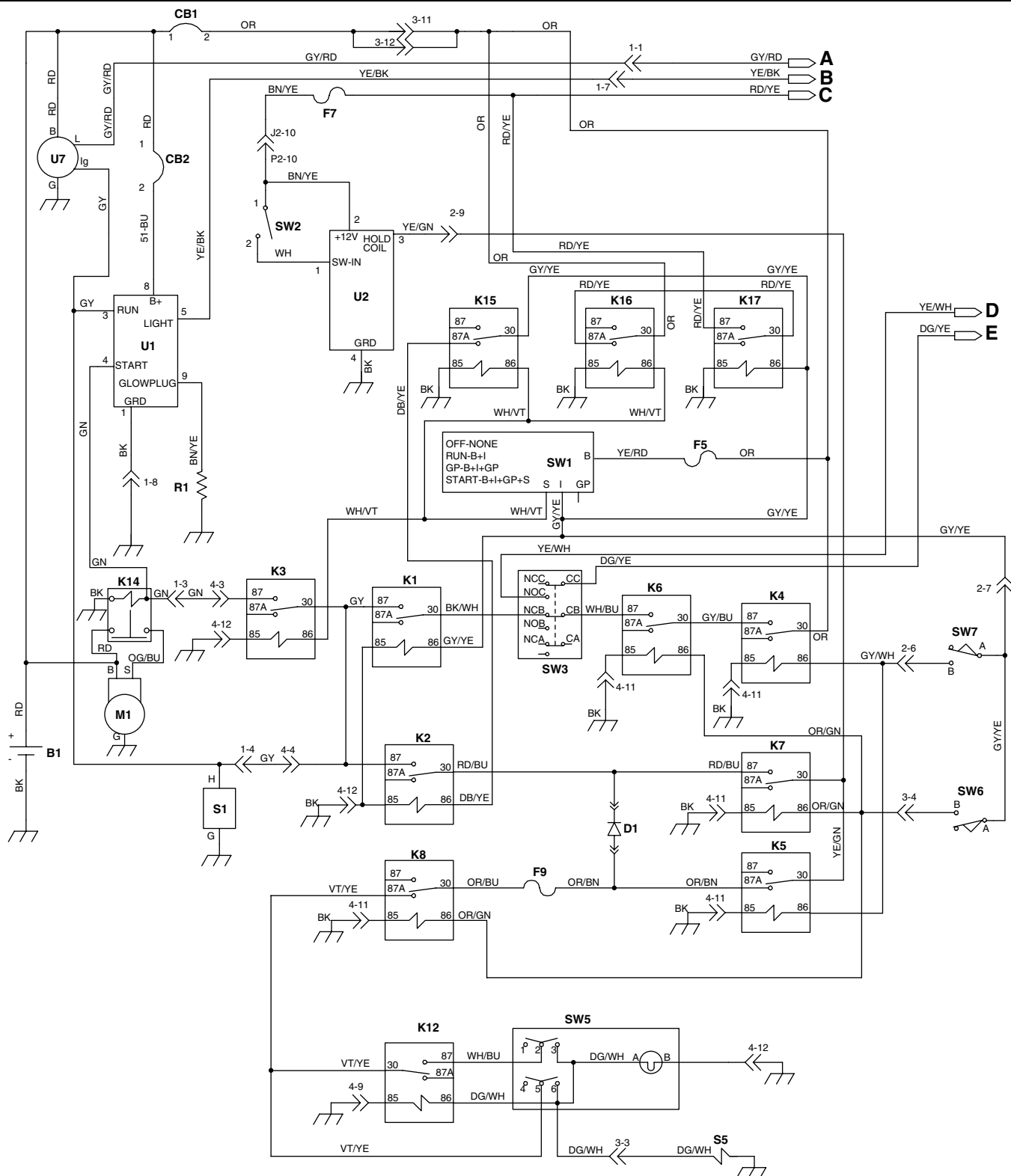
S4 - Right Mow Solenoid  
 S5 - Cruise Control Solenoid  
 S6 - 4WD Solenoid  
 S7 - 4WD Reverse Solenoid  
 S8 - Center Mow Solenoid 2  
 SW1 - Ignition Switch  
 SW2 - Seat Switch  
 SW3 - PTO Switch  
 SW4 - Left Wing Limit Switch  
 SW5 - Cruise Control Switch  
 SW6 - Neutral Switch  
 SW7 - Brake Switch  
 SW8 - Front Limit Switch  
 SW9 - Right Wing Limit Switch  
 SW10 - Forward Switch  
 SW11 - Hydraulic Level Switch  
 SW12 - 4WD Reverse Switch  
 SW13 - 4WD Switch

SW14 - Test Switch  
 SW15 - Charge Filter Switch  
 SW16 - Engine Oil Switch  
 SW17 - High Water Temperature Switch  
 U1 - Glowplug Module  
 U2 - Seat Time Delay Relay  
 U3 - Hour Meter  
 U4 - Fuel Sender  
 U5 - Light Gauge  
 U5.2 - Glow Plug Light  
 U6 - Temperature Sender  
 U7 - Alternator  
 U8 - Oil Light  
 U9 - Fuel Gauge  
 U10 - Temperature Gauge  
 U11 - Alarm  
 U12 - Air Ride Seat

### 67.2 Electrical Schematic

Serial No. 70524 1726 and Up  
Serial No. 70525 1778 and Up

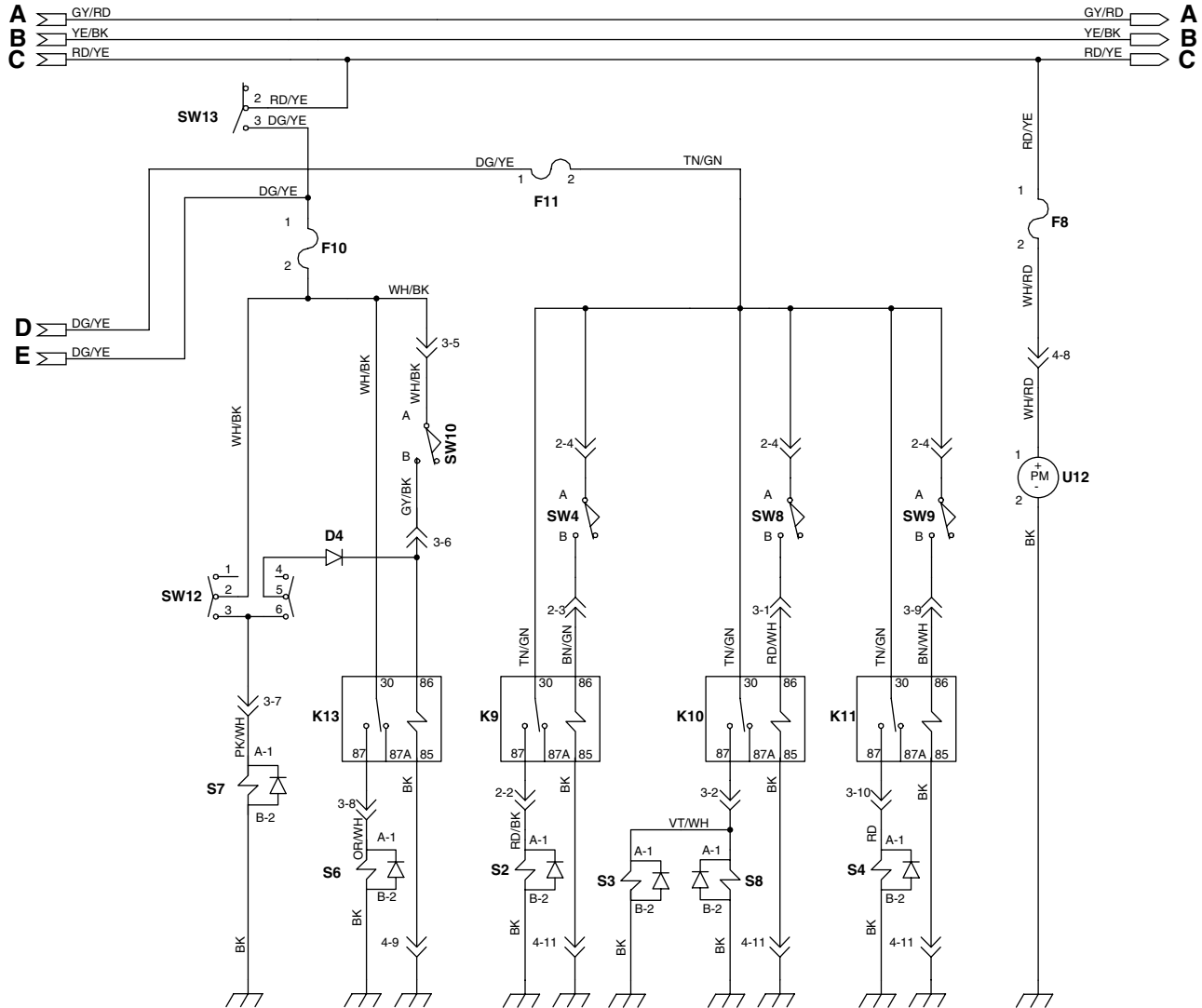
#### Interlock, Starting, Charging and Cruise Control Circuits



## 67.2 Electrical Schematic

### 4WD, Mow and Seat Control Circuits

Serial No. 70524 1726 and Up  
Serial No. 70525 1778 and Up



### Color Abbreviations

BK - Black	BN - Brown	BU - Blue	DB - Dark Blue
DG - Dark Green	GN - Green	GY - Grey	LB - Light Blue
LG - Light Green	OG - Orange	PK - Pink	RD - Red
TN - Tan	VT - Violet	WH - White	YE - Yellow

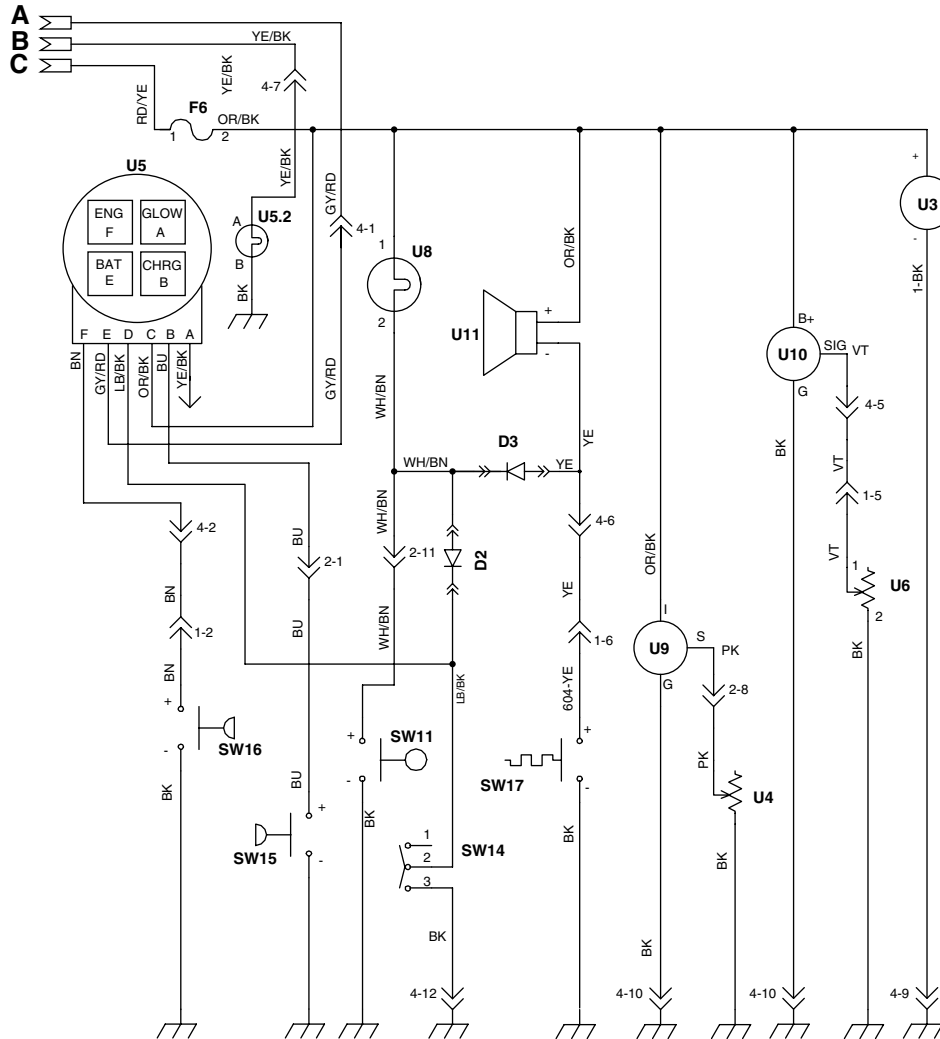
### Component Abbreviations

CB1 - 50 Amp Circuit Breaker	K2 - Run Circuit Relay	S2 - Left Mow Solenoid	SW13 - 4WD Switch
CB2 - 50 Amp Circuit Breaker	K3 - Start Circuit Relay	S3 - Center Mow Solenoid 1	SW14 - Test Switch
D1 - Inter-Lock Diode Connector	K4 - Brake (Start) Relay	S4 - Right Mow Solenoid	SW15 - Charge Filter Switch
D2 - Test Diode Connector	K5 - Brake (Run) Relay	S5 - Cruise Control Solenoid	SW16 - Engine Oil Switch
D3 - Alarm Diode Connector	K6 - Neutral (Start) Relay	S6 - 4WD Solenoid	SW17 - High Water Temperature Switch
D4 - 4WD Diode Connector	K7 - Neutral (Run) Relay	S7 - 4WD Reverse Solenoid	U1 - Glowplug Module
F1 - 5 Amp (Spare Fuse-Not Shown)	K8 - Neutral (Cruise) Relay	S8 - Center Mow Solenoid 2	U2 - Seat Time Delay Relay
F2 - 5 Amp (Spare Fuse-Not Shown)	K9 - Left Mow Relay	SW1 - Ignition Switch	U3 - Hour Meter
F3 - 15 Amp (Spare Fuse-Not Shown)	K10 - Center Mow Relay	SW2 - Seat Switch	U4 - Fuel Sender
F4 - 15 Amp (Spare Fuse-Not Shown)	K11 - Right Mow Relay	SW3 - PTO Switch	U5 - Light Gauge
F5 - 5 Amp (Ignition Switch)	K12 - Cruise Control Relay	SW4 - Left Wing Limit Switch	U5.2 - Glow Plug Light
F6 - 5 Amp (Gauges)	K13 - 4WD Relay	SW5 - Cruise Control Switch	U6 - Temperature Sender
F7 - 5 Amp (Interlock)	K14 - Starter Solenoid	SW6 - Neutral Switch	U7 - Alternator
F8 - 15 Amp (Air Ride Seat)	K15 - Run Circuit Cutout Relay	SW7 - Brake Switch	U8 - Oil Light
F9 - 5 Amp (Cruise Control)	K16 - Auxiliary Circuit	SW8 - Front Limit Switch	U9 - Fuel Gauge
F10 - 5 Amp (4WD)	K17 - Ignition Circuit	SW9 - Right Wing Limit Switch	U10 - Temperature Gauge
F11 - 15 Amp (Mow)	M1 - Starter Motor	SW10 - Forward Switch	U11 - Alarm
F12 - Not Used	R1 - Glow Plug	SW11 - Hydraulic Level Switch	U12 - Air Ride Seat
K1 - Interlock Relay	S1 - Fuel Solenoid	SW12 - 4WD Reverse Switch	

## 67.2 Electrical Schematic

### Gauges and Warning Lights

Serial No. 70524 1726 and Up  
Serial No. 70525 1778 and Up



### Color Abbreviations

BK - Black  
DG - Dark Green  
LG - Light Green  
TN - Tan

BN - Brown  
GN - Green  
OG - Orange  
VT - Violet

BU - Blue  
GY - Grey  
PK - Pink  
WH - White

DB - Dark Blue  
LB - Light Blue  
RD - Red  
YE - Yellow

### Component Abbreviations




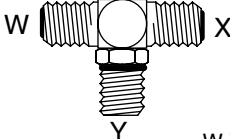
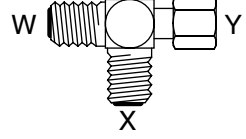
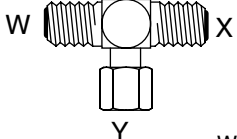
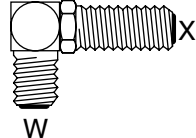
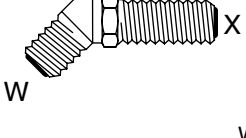
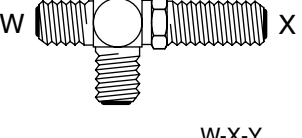

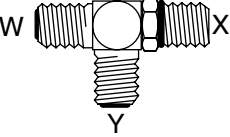

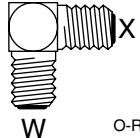
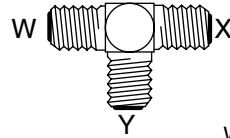
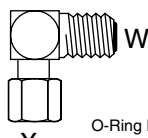
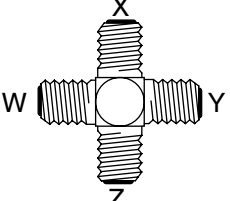

CB1 - 50 Amp Circuit Breaker  
CB2 - 50 Amp Circuit Breaker  
D1 - Inter-Lock Diode Connector  
D2 - Test Diode Connector  
D3 - Alarm Diode Connector  
D4 - 4WD Diode Connector  
F1 - 5 Amp (Spare Fuse-Not Shown)  
F2 - 5 Amp (Spare Fuse-Not Shown)  
F3 - 15 Amp (Spare Fuse-Not Shown)  
F4 - 15 Amp (Spare Fuse-Not Shown)  
F5 - 5 Amp (Ignition Switch)  
F6 - 5 Amp (Gauges)  
F7 - 5 Amp (Interlock)  
F8 - 15 Amp (Air Ride Seat)  
F9 - 5 Amp (Cruise Control)  
F10 - 5 Amp (4WD)  
F11 - 15 Amp (Mow)  
F12 - Not Used  
K1 - Interlock Relay

K2 - Run Circuit Relay  
K3 - Start Circuit Relay  
K4 - Brake (Start) Relay  
K5 - Brake (Run) Relay  
K6 - Neutral (Start) Relay  
K7 - Neutral (Run) Relay  
K8 - Neutral (Cruise) Relay  
K9 - Left Mow Relay  
K10 - Center Mow Relay  
K11 - Right Mow Relay  
K12 - Cruise Control Relay  
K13 - 4WD Relay  
K14 - Starter Solenoid  
K15 - Run Circuit Cutout Relay  
K16 - Auxiliary Circuit  
K17 - Ignition Circuit  
M1 - Starter Motor  
R1 - Glow Plug  
S1 - Fuel Solenoid

S2 - Left Mow Solenoid  
S3 - Center Mow Solenoid 1  
S4 - Right Mow Solenoid  
S5 - Cruise Control Solenoid  
S6 - 4WD Solenoid  
S7 - 4WD Reverse Solenoid  
S8 - Center Mow Solenoid 2  
SW1 - Ignition Switch  
SW2 - Seat Switch  
SW3 - PTO Switch  
SW4 - Left Wing Limit Switch  
SW5 - Cruise Control Switch  
SW6 - Neutral Switch  
SW7 - Brake Switch  
SW8 - Front Limit Switch  
SW9 - Right Wing Limit Switch  
SW10 - Forward Switch  
SW11 - Hydraulic Level Switch  
SW12 - 4WD Reverse Switch

SW13 - 4WD Switch  
SW14 - Test Switch  
SW15 - Charge Filter Switch  
SW16 - Engine Oil Switch  
SW17 - High Water Temperature Switch  
U1 - Glowplug Module  
U2 - Seat Time Delay Relay  
U3 - Hour Meter  
U4 - Fuel Sender  
U5 - Light Gauge  
U5.2 - Glow Plug Light  
U6 - Temperature Sender  
U7 - Alternator  
U8 - Oil Light  
U9 - Fuel Gauge  
U10 - Temperature Gauge  
U11 - Alarm  
U12 - Air Ride Seat

## 68.1 O-Ring Chart

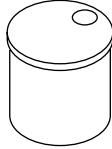

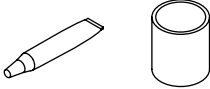
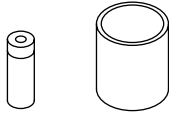


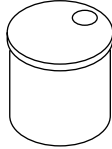
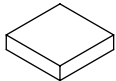
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Boss Dash Size</p>
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Face Seal Size O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Face Seal Size O-Ring Not Needed</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Face Seal Size O-Ring Not Needed</p>
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Face Seal Size O-Ring Face Seal Size</p>
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Boss Dash Size O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Face Seal Size</p>
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y}</math> O-Ring Face Seal Size O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X}</math> O-Ring Not Needed</p>
 <p>O-Ring Face Seal Size <math>\overbrace{\quad\quad}^{W-X-Y-Z}</math> O-Ring Face Seal Size          O-Ring Face Seal Size O-Ring Face Seal Size</p>		

Adapter Part Number.	Dash Size	Adapter Type	(W) O-Ring	(X) O-Ring	(Y) O-Ring	(Z) O-Ring
339972	4-4	Straight Adapter	339908	339896		
339974	4-6	Straight Adapter	339908	339897		
339979	6-6	Straight Adapter	339909	339897		
339984	8-8	Straight Adapter	339910	339898		
339989	10-10	Straight Adapter	339911	339899		
339990	10-12	Straight Adapter	339911	339900		
339994	12-12	Straight Adapter	339912	339900		
339996	12-16	Straight Adapter	339912	339901		
339999	16-16	Straight Adapter	339913	339901		
340026	6-6	45° Adapter	339909	339897		
340027	6-8	45° Adapter	339909	339898		
340029	8-8	45° Adapter	339910	339898		
340055	4-4	90° Adapter	339908	339896		
340061	6-6	90° Adapter	339909	339897		
340062	6-8	90° Adapter	339909	339898		
340065	8-6	90° Adapter	339910	339897		
340069	10-8	90° Adapter	339911	339898		
340070	10-10	90° Adapter	339911	339899		
340074	12-12	90° Adapter	339912	339900		
340075	12-16	90° Adapter	339912	339901		
340077	16-16	90° Adapter	339913	339901		
340078	6-6	90° Adapter	339909	339897		
340095	4-4-4	Straight Thread Branch Tee	339908	339908	339896	
340118	4-4-4	Swivel Run Tee	339908	339908		
340143	6-6-6	Swivel Branch Tee	339909	339909		
340144	8-8-8	Swivel Branch Tee	339910	339910		
340147	16-16-16	Swivel Branch Tee	339913	339913		
340167	6-6	90° Bulkhead Adapter	339909	339909		
340214	4-4-4	Bulkhead Run Tee	339908	339908	339908	
340215	6-6-6	Bulkhead Run Tee	339909	339909	339909	
340217	10-10-10	Bulkhead Run Tee	339911	339911	339911	
340219	16-16-16	Bulkhead Run Tee	339913	339913	339913	
340239	6-6	Union Bulkhead Adapter	339909	339909		
340269	10-12-12	Straight Thread Run Tee	339911	339899	339912	
340377	10-10	90° Swivel Adapter	339911			

SAE Boss O-Rings			ORS Face Seal O-Rings		
Dash Size	Thread Size	O-Ring	Tube Size	Thread Size	O-Ring
4	7/16-20	339896	4	9/16-18	339908
6	9/16-18	339897	6	11/16-16	339909
8	3/4-16	339898	8	13/16-16	339910
10	7/8-14	339899	10	1-14	339911
12	1 1/16-12	339900	12	1 3/16-12	339912
14	1 3/16-12	459296	16	1 7/16-12	339913
16	1 5/16-12	339901	20	1 11/16-12	339914
20	1 5/8-12	339902	24	2-12	339915
24	1 7/8-12	339903			
32	2 1/2-12	339904			

> Change from previous revision

# Fluids and Compounds

<b>Hydraulic Fluid*</b>		
5001405	Two 2-1/2 Gallon Container of ISO VG68 Oil	
5001404	One 5 Gallon Pail of ISO VG68 Oil	
2500548	Two 2-1/2 Gallon Container of 10W30 Oil	
2500546	One 5 Gallon Pail of 10W30 Oil	
503409	Two 2-1/2 Gallon Container of ATF Fluid	
503407	One 5 Gallon Pail of ATF Fluid	
<b>2-Cycle Oil</b>		
554600	Twenty Four 16 Ounce Plastic Container	
554599	Twenty Four 8 Ounce Plastic Container	
<b>Grease</b>		
5000067	One 5 Gallon Pail OO-Grease	
5000068	Twenty Four 8 Ounce Tube OO-Grease	
<b>Paint</b>		
5003469	16 Ounce Gray Aerosol	
554598	Six 12 Ounce Orange Aerosol	
2500789	Twelve 1 Quart Can Orange	
546409	Two 1 Gallon Can Orange	
<b>Lapping Compound</b>		
5002488	One 10 Pound Pail of 80 Grit	
5002490	One 25 Pound Pail of 80 Grit	
5002489	One 10 Pound Pail of 120 Grit	
5002491	One 25 Pound Pail of 120 Grit	
<b>Specialty Compound</b>		
365422	5.3 Ounce Tube of Electrical Insulating Gel	
5001581	14 Ounce Can of Lubriplate Multi Lube A	
<b>Biodegradable Hydraulic Fluid*</b>		
5003102	One 55 Gallon Drum TGTSP GreensCare 68	
5003103	One 5 Gallon Pail TGTSP GreensCare 68	
5003105	One 55 Gallon Drum TGTSP GreensCare 46	
5003104	One 5 Gallon Pail TGTSP GreensCare 46	
4115976	One 55 Gallon Drum TGTSP GreensCare 32	
4115977	One 5 Gallon Pail TGTSP Greens Care 32	
5003106	Twenty Four 14 Ounce Tube Greens Care Grease	
<b>O-Ring Kit</b>		
5002452	SAE O-Ring Boss (3/32 ~ 2" Tube O.D.)	
5002453	Common O-Ring Kit	
5002454	O-Ring Face Seal ORFS (-4 ~ -24 ORS Tube Size)	
<b>Right Start Kit for New Machines</b>		
See your local TGTSP Dealer		
<b>On-Time Maintenance Kit</b>		
See your local TGTSP Dealer		

\* Refer to the Parts & Maintenance manual for the correct hydraulic oil requirements for your machine.

Textron Golf, Turf & Specialty Products offers a High Usage Parts Catalog illustrating commonly used Parts through easy to read line Drawings. See your local TGTSP Dealer for a copy.



# INDEX

1001752.....	69	1003580.....	133	1004308.....	55, 57	3001435.....	33
1001802.....	47	1003583.....	133	1004309.....	55, 57	3002397.....	76
1002679.....	41, 43	1003584.....	133	1004337.....	88, 89	3002502.....	121
1002769.....	95	1003586.....	90	1004417.....	69	3002695.....	49
1002785.....	81	1003587.....	90	1004584.....	47	3003101.....	60
1002800.....	63	1003590.....	101	1004686.....	35	3003475.....	49
1002885.....	85	1003591.....	101	1004691.....	55, 57	3003714 ...	123, 127, 131
1002886.....	85	1003592.....	97	1004797.....	105	3003928.....	110
1002889.....	55, 57	1003593.....	103	1004921.....	105	3003939 ...	123, 127, 131
1002893.....	57	1003594.....	101	1004931.....	105	3004092.....	87
1002895.....	55, 57	1003595.....	103	1004938.....	55, 57	3004113 ...	67, 123, 127, 131, ..... 137
1002896.....	55, 57	1003596.....	103	1004992.....	41, 43	3004287.....	33
1002927.....	79	1003597.....	103	1005016.....	85	3004385.....	49
1002940.....	101	1003598.....	101	1005017.....	85	3004410.....	81
1002952.....	67	1003599.....	101	1005018.....	85	3004894.....	134
1002953.....	65	1003600.....	101	1006812.....	51	3005121.....	41, 43
1002977.....	78	1003601.....	101	116686.6.....	131	3005157.....	47
1003001.....	60	1003602.....	101	123096.....	63	3005603.....	37
1003011.....	67	1003603.....	97	131905.....	61	3005604.....	37
1003100.....	47	1003604.....	97	132647.....	77	3005934.....	63
1003145.....	49	1003605.....	99	162236.....	69, 92	3005981.....	63
1003244.....	49	1003606.....	103	162479.....	65	3006008.....	81
1003245.....	51	1003607.....	91, 129	162716.6.....	85	3006107.....	51
1003247.....	73	1003608.....	97	162723.....	41, 43	3006108.....	53
1003248.....	79	1003610.....	92	163302.....	125	3006204.....	85
1003272.....	87	1003611.....	47	163306.6.....	131	3006238.....	73
1003274.....	81	1003679.....	35	2721505.....	43	3006240.....	73
1003275.....	81	1003794.....	51	2721806.....	75	3006241.....	73
1003277.....	83, 87	1003823.....	87	2809628.....	85	3006249.....	87
1003307.....	95	1003824.....	51	2809630.....	85	3006264.....	76
1003308.....	95	1003825.....	51	2810030 ...	125, 127, 131	3006265.....	77
1003309.....	95	1003838.....	53	2810069 ...	125, 127, 131	3006293.....	87
1003310.....	95	1003860.....	97	2810188.....	97	3006294.....	85
1003311.....	95	1003861.....	97	2810189.....	129	3006295.....	85
1003312.....	95	1003862.....	97	2810190.....	129	3006427.....	65
1003313.....	95	1003863.....	90	2810191.....	129	3006436.....	41, 43
1003321.6.....	123, 131	1003864.....	99	2810192.....	133	3006440.....	41
1003325.6.....	123, 131	1003865.....	99	2810193.....	133	3006446.....	41, 43
1003423.6.....	137	1003866.....	90	2810194.....	133	3006475.....	60
1003424.6.....	125	1003875.....	103	2810195.6.....	125	3006490.....	81
1003425.6.....	125	1003876.....	103	2810269.....	41, 43	3006491.....	81
1003429.....	125	1003878.....	99	2810492.....	65	3006509.....	41, 43
1003430.6.....	123	1003891.....	93	2810633.....	67	3006525.....	71
1003483.....	83	1003900.....	81	2810634.....	67	3006526.....	71
1003484.....	83	1003902.....	137	2810702.....	77	3006566.....	76
1003556.....	129	1003942.....	67	2811020.....	41, 43	3006639.....	75
1003557.....	129	1003988.....	97	2811344.....	69	3006644.....	35
1003558.....	129	1004023.....	134, 137	2811476.....	35	3006656.....	69
1003559.....	129	1004024.....	134	2811547.....	63	3006658.....	78
1003562.....	129	1004028.....	67	2811712.....	90	3006663.....	37
1003570.....	105	1004172.....	67	2811968.....	91	3006664.....	37
1003573.....	97	1004252.....	45	2812396.....	33	3006723.....	37
1003574.....	97	1004266.....	97	2822524.....	75	3006724.....	37
1003575.....	97	1004275.6.....	134	3000359.....	104	3006727.....	85
1003577.....	97	1004276.....	134	3000435.....	33	3006729.....	45
1003579.....	133	1004277.6.....	134	3001307.....	41, 43, 75		

# INDEX

3006730.....	45	3008219.....	75	3009309.....	85	339984.....	79
3006737.....	47	3008327.....	33	3009317.....	121	339989.....	73, 88, 89, 95, 129, ..... 133
3006814.....	55, 57	3008342.....	51	3009318.....	121	339990.....	95
3006815.....	55, 57	3008343.....	51	3009319.....	121	339994.....	95
3006829.....	73, 79	3008344.....	51	3009463.....	69	339996.....	55, 57
3006835.....	73, 79, 97	3008357.....	88	3009496.....	97	339999.....	79
3006847.....	76	3008374.....	85	3009505.....	69	340026.....	47
3006880.....	39	3008388....	125, 127, 131	3009535.....	87	340027.....	47
3006886.....	49	3008423.....	90	3009537.....	65	340029.....	47
3006888.....	49	3008453.....	83	3009544.....	75	340055.....	129
3006889.....	49	3008459.....	101	3009607.....	51	340061.....	47, 81, 87
3006913.....	78	3008461.....	61	3009793.....	35	340062.....	47
3006915.....	37	3008471.....	137	3009979.....	75	340065.....	88, 97
3007011.....	67	3008472.....	83	3009980.....	75	340069.....	99
3007032.....	39	3008474.....	91	3010013.....	39	340070.....	73, 79, 88, 89, 129, ..... 133
3007060.....	92	3008478.....	137	3010014.....	67	340074.....	95
3007061.....	93	3008521.....	33	3010015.....	81	340075.....	55, 57
3007091.....	81	3008548.....	53	3010035.....	55	340077.....	79
3007092.....	81	3008554.....	67	3010074.....	137	340078.....	87
3007099.....	37	3008561.....	67	3010075.....	137	340095.....	129, 133
3007100.....	37	3008562.....	67	3010082.....	47	340118.....	97
3007129.....	33	3008563.....	67	3010182.....	69	340143.....	97, 101
3007220.....	49	3008625.....	65	3010199.....	118	340144.....	97
3007228.....	49	3008626.....	65	3010291.....	61	340147.....	95
3007230.....	49	3008673.....	97	3010292.....	61	340167.....	101
3007297.....	83	3008738.....	45	3010305.....	49, 51	340214.....	129
3007305.....	45	3008754.....	33	3010340.....	69	340215.....	97
3007368.6.....	125	3008792.....	98	3010346.....	61	340217.....	99
3007369.6.....	125	3008793.....	98	3010651.....	63	340219.....	95
3007374.6.....	125	3008808.....	75	3010789.....	39	340239.....	103
3007376.6.....	127	3008820....	61, 77, 88, 93	3010811.....	85	340269.....	79
3007392....	49, 53, 81, 87	3008821.....	71	3010812.....	85	340377.....	99
3007442.....	137	3008840.....	123	3010825.....	85	340481.....	75
3007468.....	81	3008874.....	53	303962.....	45	340795.....	35
3007505.....	33	3008885.....	65	304569.....	85	342033.....	81
3007514.....	33	3008901.....	45	319755.....	83	342675.....	137
3007671.....	71	3008907.....	51	323943.....	71	346294.....	85
3007674.....	67	3009026.....	49, 87	326112.....	92	346802.....	83
3007678.....	123	3009055.....	33	326799.....	65	346883.....	135
3007679.....	137	3009073.....	33	332351.....	85	350800.....	85
3007680.....	81	3009095.....	67	333542.....	49	351122.....	115
3007683.....	60, 95	3009162.....	85	339237.....	33	351491.....	67
3007704.....	37	3009163.....	85	339897.....	118, 119	351956.....	45
3007712.....	83	3009175.....	123	339899.....	90, 97	352435.....	83
3007719.....	45	3009193.....	53, 81	339904.....	76	352604.....	37
3007731.....	65	3009197.....	55, 57	339909.....	97, 101, 103	352936.....	83, 125
3007764....	125, 127, 131	3009203.....	75	339910.....	97	354081.....	53, 83, 87
3007767.....	97	3009217.....	33	339911.....	97	358794.....	67
3007775.....	92	3009236.....	75	339960.....	129	359615.....	69, 92, 93
3007778.....	92	3009266.....	33	339961.....	97, 101, 103	359860.....	133
3007779.....	92	3009267.....	33	339963.....	90, 99	360053.....	33
3007896.....	85	3009268.....	33	339965.....	95	360111.....	60, 135
3007897.....	85	3009269.....	81	339966.....	97	360885.....	45
3007919.....	55, 57	3009270.....	69	339972.....	97, 133	360970.....	65
3007920.....	55, 57	3009271.....	69	339974.....	97		
3008015.....	37	3009272.....	69, 77	339979.....	63, 81, 103, 107		

# INDEX

361001.....	104	366974.....	49	5003216.....	65	5003566.....	116
361005.....	39	366978.....	85	5003219.....	107	5003578.....	119
361117.....	77	367176.....	45	5003272.....	55, 57	5003579.....	118
361500.....	104	367631.....	47	5003278.....	41, 43	5003582.....	119
361619.....	71, 73	4102420.....	45, 69	5003281.....	41, 43	5003583.....	119
361648.....	134	4103000.....	45	5003342.....	119	5003590.....	112
361723.....	35, 67, 83, 85, 125,.....	4103860.....	41	5003344.....	119	5003591.....	112
	131	4108680.....	71	5003346.....	119	5003592.....	35
361833.....	47	4113811.....	69	5003348.....	119	5003617.....	39
362008.....	67	4114637.....	69	5003350.....	119	5003622.....	61
362464.....	85	4114707.....	69	5003353.....	119	5003625.....	39
362524.....	69	4114711.....	71	5003355.....	65	5003626.....	39
362534.....	104	4116908.....	33	5003370.....	69	5003627.....	109
362540.....	71	4116910.....	43	5003371.....	87	5003628.....	109
362615.....	69, 75	5000318.....	112	5003372.....	69	5003629.....	109
362743.....	79	5001599.....	115	5003373.....	69	5003630.....	109
363030.....	88, 89	5001603.....	115	5003413.....	117	5003631.....	109
363233.....	95	5001612.....	115	5003414.....	116	5003632.....	109
363385.....	71, 73, 104	5001613.....	115	5003415.....	116	5003633.....	109
363514.....	129	5001614.....	115	5003419.....	60	5003634.....	110
363539.....	134	5001615.....	115	5003420.....	60	5003635.....	110
363562.....	131	5001616.....	115	5003421.....	95	5003636.....	110
363568.....	131	5001617.....	115	5003422.....	95	5003637.....	110
363572.....	85	5002110.....	112	5003425.....	45	5003641.....	95
363574.....	131	5002693.....	67	5003427.....	113	5003642.....	95
363704.....	33	5002911.....	118	5003428.....	113	5003643.....	95
363746.....	85	5002912.....	118	5003432.....	79	5003651.....	95
363766.....	60	5002913.....	118	5003433.....	79	5003662.....	113
363994.....	33	5002918.....	63	5003457.....	39	5003689.....	73
363995.....	33	5002919.....	63	5003506.....	119	5003690.....	110
364016.....	41, 43, 75	5002952.....	33	5003507.....	118	5003691.....	55, 57
364154.....	51	5003034.....	79	5003508.....	119	5003763 ...	125, 127, 131
364190.....	104	5003091.....	41, 43	5003515.....	59	5003767.....	69
364774.....	104	5003163.....	73	5003518.....	59	5003768.....	41
364830.....	81	5003164.....	73	5003519.....	59	5003769.....	110
364945.....	88	5003165.....	79	5003520.....	59	500736.....	115
365466.....	89	5003166.....	79	5003521.....	59	500745.....	115
365566.....	98, 104	5003187.....	127	5003522.....	59	500750.....	115
365660.....	91, 97	5003188.....	125	5003523.....	59	502924.....	107
365772.....	134	5003189.....	131	5003524.....	59	502925.....	107
365826.....	83	5003190.....	131	5003526.....	59	503387.....	107
365943.....	41, 43	5003196.....	135	5003527.....	59	503398.....	107
365956.....	33	5003197.....	135	5003528.....	59	545234.....	53
366114.....	98	5003198.....	135	5003529.....	59	545237.....	53
366133.....	47	5003199.....	135	5003530.....	59	545914.....	115
366283.....	41, 43	5003200.....	135	5003531.....	59	545921.....	115
366424.....	98	5003201.....	135	5003538.....	47	545925.....	115
366473.....	127	5003202.....	135	5003539.....	47	545926.....	115
366526.....	65, 77	5003207.....	73	5003540.....	59	545927.....	115
366593.....	134	5003208.....	73	5003541.....	59	546112.....	115
366609.....	121	5003209.....	73	5003542.....	59, 111	550346.....	135
366613.....	127	5003210.....	73	5003543.....	59, 111	551105.....	107
366670.....	75	5003211.....	73	5003544.....	79	551651.....	63, 67
366751.....	41, 43	5003212.....	73	5003548.....	107	552824.....	125
366768.....	45	5003213.....	73	5003554.....	118	554390.....	110
366822.....	63	5003214.....	73	5003562.....	59	554748.....	65, 77

# INDEX

---

554854.....	107
554855.....	107
554856.....	107
554857.....	107
555846.....	41, 43
555867.....	65
556417.....	55, 57
556419.....	55, 57, 67
557623.....	112
557624.....	112
557629.....	112
557631.....	112
557632.....	112
557633.....	112
557634.....	112
557635.....	112
557636.....	112
557637.....	112
557639.....	112
557640.....	112
557641.....	112
557642.....	112
557650.....	112
557733.....	107
557738.....	107
557844.....	33
558004.....	115
558005.....	115
558007.....	115
558008.....	115
558010.....	115
558011.....	115
558012.....	45
558020.....	45
558021.....	45
558063.....	112
558064.....	112
558066.....	112

# *INDEX*

---

