



4179103-Rev B



Parts & Maintenance Manual

Lightweight Fairway Mower

67963 – LF 4677™ Turbo, Kubota V1505-TE, 7 Gang, 4WD

WARNING

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



When Performance Matters.™

GB

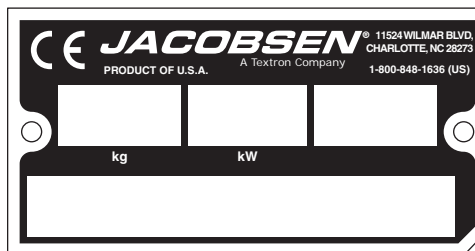
FOREWORD

This manual contains adjustment, maintenance, troubleshooting instructions and parts list for your new Jacobsen machine. This manual should be stored with the equipment for reference during operation.

Before you operate your machine, you and each operator you employ should read the manual carefully in its entirety. By following the safety, operating and maintenance instructions, you will prolong the life of your equipment and maintain its maximum efficiency.

If additional information is needed, contact your Jacobsen Dealer.

The serial plate is located on the left rear frame rail. Jacobsen recommends you record these numbers below for easy reference.



Suggested Stocking Guide

To Keep your Equipment fully operational and productive, Jacobsen 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 Jacobsen Dealer.

Service Parts

Qty.	Part No.	Description	Qty.	Part No.	Description
	4177262	Engine Oil Filter		556418	Charge Filter
	5000919	Element, Engine Air Filter		557772	Return Filter
	2500809	Element, Engine Fuel Filter		2811020	Ignition Key
	5002785	Engine Fan Belt		5000527	Headlight Bulb

Service Support Material

Qty.	Part No.	Description
	4179102	Safety & Operation Manual
	4179103	Parts & Maintenance
	4100120	Video, Operator Training
	4179104	Diesel Engine Parts Manual

Qty.	Part No.	Description
	4171662	Service Manual

Proposition 65 Warning

This product contains or emits chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

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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 operators 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, and attachments/accessories instruction sheets). If the operator cannot 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. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Jacobsen.
7. Stay alert for holes in the terrain and other hidden hazards.
8. 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.
9. 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.
10. Do not carry passengers. Keep bystanders and pets a safe distance away.
11. 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.
12. Never disconnect or bypass any switch.
13. Do not change the engine governor setting or overspeed the engine.
14. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation or in an enclosed area.
15. Fuel is highly flammable; handle with care.
16. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
17. 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.
18. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads. Watch out for traffic when crossing or operating on or near roads.
19. Local regulations may restrict the age of the operator.
20. Operate the machine up and down the face of slopes (vertically), not across the face (horizontally).
21. To prevent tipping or loss of control, do not start or stop suddenly on slopes. Reduce speed when making sharp turns. Use caution when changing directions.
22. Always use the seat belt when operating mowers equipped with a Roll Over Protective Structure (ROPS).
Never use a seat belt when operating mowers without a ROPS.
Accessory operator protective structures will continue to be offered for all equipment currently covered. This allows for the outfitting of any machines without previous ROPS installations or replacement of damaged structures.
23. Keep legs, arms, and body inside the seating compartment while the vehicle is in motion.
24. Disconnect battery and controller electrical connectors before performing any welding on this mower.

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.

NOTICE - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in 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 Interlock System on this mower prevents the mower from starting unless the brake lever is engaged, reel 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 reel switch off.

NEVER operate mower unless the Interlock 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.

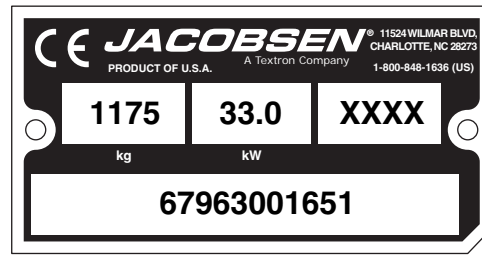
By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact your Authorized Jacobsen Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service.

2 SPECIFICATIONS

2.1 PRODUCT IDENTIFICATION

67963 LF 4677 Turbo, 4WD with ROPS, uses 7 in. (178 mm) diameter reel
 Serial Number An identification plate, like the one shown, listing the serial number, is attached to the frame of the mower and is located on 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	Vibration M/S ²	
		Arms	Body
67963	102	2.54	0.05

2.2 V1505-TE ENGINE

Make Kubota
 Model V-1505T-E3B diesel, 4 cycle, liquid cooled
 Horsepower 44.2 Hp (33.0 Kw) @ 3000 rpm
 Displacement 91.4 in.³ (1498 cm³)
 Torque 93 ft. lbs. (1357 Nm)
 Fuel:
 Type #2, low or ultra-low sulfur, diesel
 Rating Min. cetane rating 45
 Capacity 17 U.S. gal. (64.3 liters)

Governor Setting:
 High Idle 3150 rpm
 Low Idle 1200 rpm
 Lubrication:
 Capacity 5 U.S. qts. (4.7 liter)
 Type SAE 10W30
 API Classification CD/CE
 Air Filter Donaldson, dry type with evacuator valve and service indicator.
 Alternator 40 Amp

2.3 MOWER

Tires:
 Front 26.5 x 14 - 12: (4 ply)
 Rear 20 x 10 - 8: (2 ply)
 Pressure 10-12 psi (69 - 83 kPa)
 Battery:
 Type 12V, 600 Cold Cranking Amps
 Group BCI 24
 Brakes:
 Service Dynamic braking through traction circuit.
 Parking 9.25 in. (235 mm) front disc

Speed:
 Mow 0 - 7 mph (0 - 11 kph)
 Transport - 2 WD 0 - 12 mph (0 -19 kph)
 Reverse 0 - 5 mph (0 - 8 kph)
 Production 5.7 acres/hr. @ 7 mph
Hydraulic System:
 Capacity 14 U.S. gal. (37.85 liter)
 Fluid Type 10W30 or Greens Care 68
 Cooling Oil Cooler
 Charge Filter 10 micron
 Return Line Filter 10 micron
 Steering Hydrostatic power steering

2.4 WEIGHTS AND DIMENSIONS

Dimensions:	Inches	(mm)	Weights (4 WD mower):	Lbs.	(kg)
Length - With grass catchers OFF	108	(2740)	LF 4677 (less operator).....	3530	(1601)
Height - Top of Steering Wheel	58.7	(1491)			
Width - Mow	155	(3930)			
Width - Transport.....	87	(2209)			

2.5 CUTTING UNITS

Overall cutting Width:	Number of Blades/Reel... 9 or 11
5 Gang..... 100 in. (2.54 m)	Height of Cut 3/8 to 1-1/8 in. (9.5 to 29 mm)
7 Gang..... 139 in. (3.53 m)	Frequency of Cut :
Number of reels:	9 Blade Reel 0.079 in. / 1 mph
5 Gang..... Five - three front, two rear.	(2.02 mm / 1 kph)
7 Gang..... Seven - three front, four rear	11 Blade Reel 0.065 in. / 1 mph
Reel Diameter 7 in. (178 mm)	(1.65 mm / 1 kph)
Reel Width..... 22 in. (559 mm)	

2.6 ACCESSORIES

Refer to the Parts Catalog and contact your area Jacobsen Dealer for a complete listing of accessories and attachments.



Use of other than Jacobsen authorized parts and accessories may cause personal injury or damage to the equipment.

MOWER

Orange Touch-up Paint (12 oz. spray).....	554598
2-Post ROPS with Seat Belt.....	67844
Canopy / Sunshade.....	68127
Transport Lock Bars	2812147
Hood Locking Latch.....	1004049
Cruise Control	67846
Grass Catcher	67891
LED Light Kit	4238642
High Height of Cut Kit.....	4113920
Premium Seat.....	4238742
LF 4675-4677 Brake Update Kit.....	4118908
(Brake Update Kit required before installing Cab)	

REELS

9 Blade, 7 in. Diameter Reel	67987
11 Blade, 7 in. Diameter Reel	67988
7 Blade, 7 in. Diameter Reel	67990
Vertical Mower Assembly, 7 in. Diameter	67854
Grooved Front Roller.....	123268
Front Grooved Roller Scrapers	67831
20" x 2-1/2" Rear Roller ..	5003687
22" x 2-1/2" Rear Roller ..	1003728
24" x 2-1/2" Rear Roller ..	1002446
Powered Rear Roller Cleaning Brush	62821
Heavy Duty Rear Roller Scraper (Requires 62821) ..	4239802
RH Catcher Mounting Hardware.....	67919
LH Catcher Mounting Hooks.....	67920

2.7 SUPPORT LITERATURE

Contact your Jacobsen Dealer for a complete listing of literature.

Safety & Operation Manual	4179102
Parts & Maintenance	4179103
Engine Parts Catalog	4179104
Operator Training Video ..	4100120
Service & Repair Manual	4171662

2 SPECIFICATIONS

2.8 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY • ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ • PROHLÁŠENÍ O SHODĚ • OVERENSSTEMMELSESERKLÆRING • CONFORMITEITSVERKLARING • VASTAVUSDEKLARATSIOON • VAATIMUSTENMUKAISUUSVAKUUTUS • DECLARATION DE CONFORMITE • KONFORMITÄTSEERKLÄRUNG • ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ • MEGFELELŐSÉGI NYILATKOZAT • DICHIARAZIONE DI CONFORMITÀ • ATBILSTĪBAS DEKLARĀCIJA • ΑΤΙΤΙΚΤΙΕΣ ΔΕΚΛΑΡΑΚΙJA • ΔΙΚJΑΡΑΖΖJONΙ ΤΑΛ-ΚΟΝΦΟΜΙΤĀ • DEKLARACJA ZGODNOŚCI • DECLARAÇÃO DE CONFORMIDADE • DECLARAȚIE DE CONFORMITATE • VYHLÁSENIE O ZHODE • IZJAVA O SKLADNOSTI • DECLARACIÓN DE CONFORMIDAD • DEKLARATION OM ÖVERENSSTÄMMELSE

Business name and full address of the manufacturer • Търговско име и пълен адрес на производителя • Obchodní jméno a plná adresa výrobce • Producentens firmanavn og fulde adresse • Bedrijfsnaam en volledige adres van de fabrikant • Tootja ärinimi ja täielik address • Valmistajan toiminimi ja täydellinen osoite • Nom commercial et adresse complète du fabricant • Firmenname und vollständige Adresse des Herstellers • Επωνυμία και ταχυδρομική διεύθυνση κατασκευαστή • A gyártó üzleti neve és teljes címe • Ragione sociale e indirizzo completo del fabbricante • Uzņēmuma nosaukums un pilna ražotāja adrese • Verslo pavadinimas ir pilnas gamintojo adresas • Isem kummerçjali u indirizz sħih tal-fabrikant • Nazwa firmy i pełny adres producenta • Nome da empresa e endereço completo do fabricante • Denumirea comercială și adresa completă a producătorului • Obchodný názov a úplná adresa výrobcu • Naziv podjetja in polni nastov proizvajalca • Nombre de la empresa y dirección completa del fabricante • Tillverkarens företagsnamn och kompletta adress	Jacobsen, A Textron Company 11524 Wilmar Blvd. Charlotte, NC 28273, USA
Product Code • Код на продукта • Kód výrobku • Produktkode • Productcode • Toote kood • Tuotekoodi • Code produit • Produktcode • Κωδικός προϊόντος • Termékkód • Codice prodotto • Produkta kods • Produktu kodas • Kodići tal-Prodott • Kod produktu • Código do Produto • Cod produs • Kód výrobku • Označka proizvoda • Código de producto • Produktkod	67963
Machine Name • Наименование на машината • Název stroje • Maskinnavn • Machinenam • Masina nimi • Laitteen nimi • Nom de la machine • Maschinenbezeichnung • Ονομασία μηχανήματος • Gèrnen • Denominazione della macchina • Iekārtas nosaukums • Mašinos pavadinimas • Isem tal-Magna • Nazwa urządzenia • Nome da Máquina • Numele echipamentului • Názov stroja • Naziv stroja • Nombre de la máquina • Maskinens namn	LF 4677 4WD
Designation • Предназначение • Označení • Betegnelse • Benaming • Nimetus • Tuupimerkintä • Pažymėjimas • Bezeichnung • Χαρακτηρισμός • Megnevezés • Funzione • Apzīmējums • Lithuanian • Denominazzjoni • Oznaczenie • Designação • Specificație • Označenje • Namen stroja • Descripción • Beteckning	Lawnmower, Article 12, Item 32
Serial Number • Сериен номер • Sériové číslo • Seriennummer • Seriennummer • Seerianumber • Valmistusnumero • Numéro de série • Seriennummer • Σειριακός αριθμός • Sorozatszám • Numero di serie • Serijas numurs • Serijos numeris • Numru Serjali • Numer seryjny • Número de Série • Număr de serie • Sériové číslo • Serijska številka • Número de serie • Serienummer	6796301651-6796302500
Engine • Двигател • Motor • Motor • Motor • Mootor • Moottori • Moteur • Motor • Μηχανή • Modulnėv • Motore • Dzinējs • Variklis • Saħħa Netta Installata • Silnik • Motor • Motor • Motor • Motor • Motor • Motor	Kubota V1505-T-E3B Diesel
Net Installed Power • Нетна инсталирана мощност • Čistý instalovaný výkon • Installeret nettoeffekt • Netto geïnstalleerd vermogen • Installeeritud netovõimsus • Asennettu nettoteho • Puissance nominale nette • Installierte Nettoleistung • Καθαρή εγκατεστημένη ισχύς • Nettó beépített teljesítmény • Potenza netta installata • Paredzētā tīkla jauda • Grynoji galia • Wisa' tal-Qtugh • Moc zainstalowana netto • Potência instalada • Puterea instalată netă • Čistý inštalovaný výkon • Neto vgrajena moč • Nettoeffekt	33 kW @ 3000 RPM
Cutting Width • Широчина на рязане • Šifka řezu • Skærebredde • Maasbreedte • Löikelaius • Leikkuuleveys • Largeur de coupe • Schnittbreite • Μήκος ισιώνιζός • Vágási szélesség • Larghezza di taglio • Griešanas platumis • Pjovimo plotis • Tikkonforma mad-Direttivi • Szerokosc cęcia • Largura de Corte • Lățimea de tăiere • Širka záberu • Širina reza • Anchura de corte • Klippbredd	353 cm
Largura de Directives • В съответствие с директивите • Spiluje podmiňky směrníc • Er i overensstemmelse med direktiver • Voldoet aan de richtlijnen • Vastab direktiividele • Direktiivien mukainen • Conforme aux directives • Entspricht Richtlinien • Ακολουθήστε πιστά τις Οδηγίες • Megfelel az irányelveknek • Conforme alle Direttive • Atbilst direktīvām • Atitinka direktīvų reikalavimus • Valutazzjoni tal-Konformità • Dyrektywy związane • Cumpre as Directivas • Respectă Directivile • Je v súlade so smernicami • Skladnost z direktivami • Cumple con las Directivas • Uppfyller direktiv	2004/108/EC 2006/42/EC 2000/14/EC, 2005/88/EC 2006/66/EC
Conformity Assessment • Оценка за съответствие • Hodnocení plnění podmínek • Overensstemmelsesvurdering • Conformiteitsbeoordeling • Vastavushindamine • Vaatimustenmukaisuuden arviointi • Evaluation de conformité • Konformitätsbeurteilung • Διαπίστωση Συμμόρφωσης • Megfelelőség-értékelés • Valutazione della conformità • Atbilstības novērtējums • Atitikties įvertinimas • Livell tal-Qawwa tal-Foss Imkejjel • Ocena zgodności • Avaliação de Conformidade • Evaluarea conformității • Vyhodnotenie zhodnosti • Ocena skladnosti • Evaluación de conformidad • Bedömnng av överensstämmelse	2006/42/EC Annex VIII
Measured Sound Power Level • Измерено ниво на звукова мощност • Naměřený akustický výkon • Målte lydstyrkeniveau • Gemeten geluidsniveau • Mõõdetud helivõimsuse tase • Mitattu ääniteho • Niveau de puissance sonore mesuré • Gemessener Schalldruckpegel • Στραμωμένο επίπεδο ηχητικής ισχύος • Mért hangteljesítményszint • Livello di potenza sonora misurato • Izmērtais skaņas jaudas līmenis • Išmatotas garso stiprumo lygis • Livell tal-Qawwa tal-Foss Iggarantit • Moc akustyczna mierzona • Nivel sonoro medido • Nivelul măsurat al puterii acustice • Nameraná hladina akustického výkonu • Izmerjena raven zvočne moči • Nivel de potencia sonora medido • Uppmätt ljudeffektsnivå	100 dB(A) LWA
Guaranteed Sound Power Level • Гарантирано ниво на звукова мощност • Garantovaný akustický výkon • Garanteret lydstyrkeniveau • Geargardeerd geluidsniveau • Garanteeritud helivõimsuse tase • Garantatut ääniteho • Niveau de puissance sonore garanti • Garantierter Schalldruckpegel • Εγγυημένο επίπεδο ηχητικής ισχύος • Szavatolt hangteljesítményszint • Livello di potenza sonora garantito • Garantētais skaņas jaudas līmenis • Garantuotas garso stiprumo lygis • Livell tal-Qawwa tal-Foss Iggarantit • Moc akustyczna gwarantowana • Nivel sonoro garantido • Nivelul garantat al puterii acustice • Garantovaná hladina akustického výkonu • Zajamčena raven zvočne moči • Nivel de potencia sonora garantizado • Garanterad ljudeffektsnivå	102 dB(A) LWA
Conformity Assessment Procedure (Noise) • Оценка за съответствие на процедурата (Шум) • Postup hodnocení plnění podmínek (hluk) • Procedure for overensstemmelsesvurdering (Støj) • Procedure van de conformiteitsbeoordeling (geluid) • Vastavushindamismenetlus (múra) • Vaatimustenmukaisuuden arviointimenetely (Melu) • Procédure d'évaluation de conformité (bruit) • Konformitätsbeurteilungsverfahren (Geräusch) • Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) • Megfelelőség-értékelési eljárás (Zaj) • Procedura de valutate della conformità (rumore) • Atbilstības novērtējuma procedūra (troksnis) • Atitikties įvertinimo procedūra (garsas) • Procedura tal-Valutazzjoni tal-Konformità (Foss) • Procedura oceny zgodności (poziom hałas) • Processo de avaliação de conformidade (nível sonoro) • Procedura de evaluare a conformității (zgomot) • Postup vyhodnocovania zhodnosti (hluk) • Postopek za ugotavljanje skladnosti (hrup) • Procedimiento de evaluación de conformidad (ruido) • Procedur för bedömnng av överensstämmelse (buller)	2000/14/EC Annex VI, Part 1
UK Notified Body for 2000/14/EC • Нотифициран орган в Обединеното кралство за 2000/14/EO • Úřad certifikovaný podle směrnice č. 2000/14/EC • Det britiske bemyndigede organ for 2001/14/EF • Engels adviesorgaan voor 2000/14/EG • Uhendkuningniigi teavitatud asutus direktiivi 2000/14/EÜ mõistes • Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isossa-Britanniassa • Organisme notifié concernant la directive 2000/14/CE • Britische benannte Stelle für 2000/14/EG • Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/EK • 2000/14/EK – egyesült királyságbeli bejelentett szervzet • Organismo Notificato in GB per 2000/14/CE • 2000/14/EK AK reģistrētā organizācija • JK notifikuotais istaigas 2000/14/EC • Korp Notifikat tar-Renju Unit għal 2000/14/KE • Dopuszczalna jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE • Entidade notificada no Reino Unido para 2000/14/CE • Organism notificat în Marea Britanie pentru 2000/14/CE • Notifikovaný orgán Spojeného královstva pre smernicu 2000/14/ES • Britanski priglašeni organ za 2000/14/ES • Cuerpo notificado en el Reino Unido para 2000/14/CE • Anmält organ för 2000/14/EG i Storbritannien	Number: 1088 Sound Research Laboratories Limited Holbrook House, Little Walsingham Sudbury, Suffolk CO10 0TH
Operator Ear Noise Level • Оператор на нивото на доловим от ухото шум • Hladina hluku v oblasti uší operátora • Støjniveau i førers ørehøjde • Geluidsniveau oor bestuurder • Múratase operatoori kõrvas • Melutaso käyttäjän korvan kohdalla • Niveau de bruit à hauteur des oreilles de l'opérateur • Schallpegel am Bedienerohr • Επίπεδο θορύβου σε λειτουργία • A kezelő füleinél mért zajszint • Livello di potenza sonora all'orecchio dell'operatore • Trokšņa līmenis pie operatora auss • Dirbančiojo su mašina patiriamas triukšmo lygis • Livell tal-Foss fil-Widna tal-Operatur • Dopuszczalny poziom hałasu dla operatora • Nivel sonoro nos ouvidos do operador • Nivelul zgomotului la urechea operatorului • Hladina hluku pôsobiaci na sluch operátora • Raven hrupa pri užesu upravljavca • Nivel sonoro en el oído del operador • Ljudnivå vid förarens öra	82 dB(a) Leq (2006/42/EC)

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

If only the front or rear of the mower 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 Jacobsen Dealer.

3.2 BEDKNIFE-TO-REEL (Pre-adjustment Check)

1. Check the reel bearings for end play or radial play.
2. Inspect the reel blades and bedknife to insure good sharp edges without bends or nicks.
 - a. The leading edge of the reel blades must be sharp, free of burrs, and show no signs of rounding off.
 - b. The bedknife and bedknife backing must be securely tightened. The bedknife must be straight and sharp.
 - c. A flat surface of at least 1/16 in. (1.5 mm) minimum must be maintained on the front face of the bedknife. Use a standard flat file to dress the bedknife.
3. If wear or damage is beyond the point where the reel or bedknife can be corrected by the lapping process, they must be reground.
4. Proper reel-to-bedknife adjustment is critical. A gap of 0.001 in. to 0.003 in. (0.025 to 0.076 mm) must be maintained across the entire length of the reel and bedknife.
5. The reel must be parallel to the bedknife. An improperly adjusted reel will lose its sharp edges prematurely and may result in serious damage to the reel and bedknife.
6. Grass conditions will also affect the adjustment.
 - a. Dry, sparse conditions will require a wider gap to prevent heat buildup and damage to the reel and bedknife.
 - b. High quality grass with a good moisture content

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.

requires a closer gap (near zero).

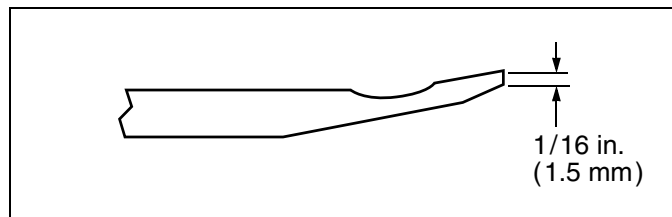


Figure 3A

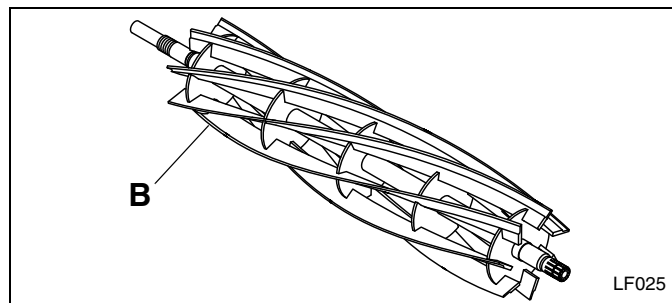



Figure 3B

3.3 BEDKNIFE ADJUSTMENT

Read Section 3.2 before making the adjustment.

 CAUTION
<p>To prevent personal injury and damage to the cutting edges, handle the reel with extreme care</p>

Start adjustment at leading end of reel, followed by the trailing end. The leading end of the reel blade is that end which passes over the bedknife first during normal reel rotation. (**B**-Figure 3B)

1. Set leading edge of reel. Use adjuster (**A**), to set the bedknife-to-reel gap. Screw adjuster down (clockwise) to reduce gap.
2. Slide a feeler gauge or shim stock - 0.001 in. to 0.003 in. (0.025 to 0.076 mm) - between the reel blade and the bedknife (**B**). Do not turn the reel.
3. Adjust the trailing end of the reel in the same manner then recheck the adjustment at the leading end.

4. When the reel is properly adjusted to the bedknife, the reel will spin freely and you should be able to cut a piece of newspaper, along the full length of the reel, when the paper is held at 90° to the bedknife.

Note: Avoid excessive tightening or damage may occur to bedknife and reel blades. Reels must turn freely.

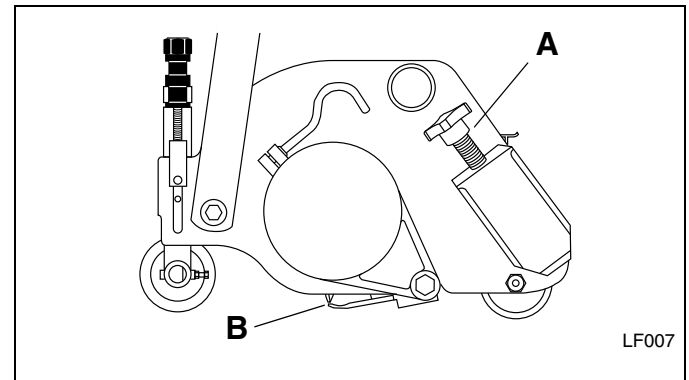


Figure 3C

3.4 CUTTING HEIGHT

Note: Always make the reel-to-bedknife adjustment before adjusting height of cut, Section 3.2 and 3.3.

1. Raise mowers to transport position, engage the parking brake, stop engine, and remove key from ignition switch.
2. Set desired cutting height on the gauge (**I**).
 - a. Measure distance between underside of screw head and gauge block surface (**J**).
 - b. Adjust screw (**F**) to obtain desired height then tighten the wing nut.
3. Loosen the hardware on the front roller brackets (**E**) just enough to allow the adjuster to raise or lower the roller.
4. Place gauge (**I**) across bottom of front and rear rollers near one end of roller.
5. Slide the head of gauge screw over the bedknife (**G**) and adjust the hand knob (**H**) to close the gap between the screwhead and bedknife.

Tighten locknut (**E**). Repeat Steps 4 and 5 on opposite end. Complete adjustment to one end before adjusting opposite end.
6. Tighten hardware and recheck each end.

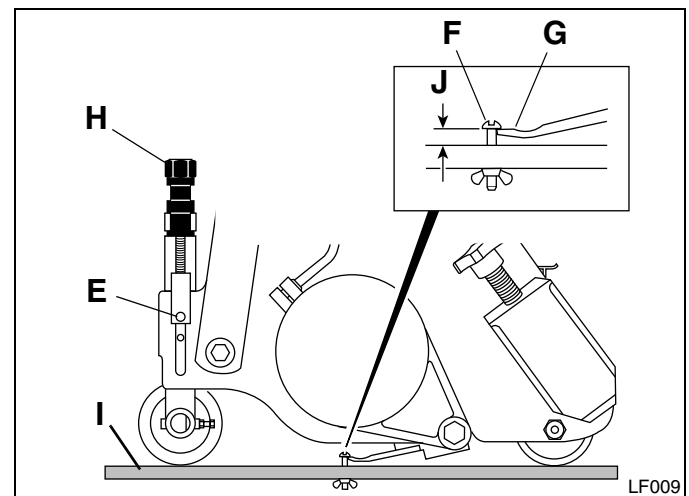


Figure 3D

3 ADJUSTMENTS

3.5 FLASH ATTACH

Installing Cutting units

1. Place each cutting unit in front of its respective lift arm. Raise lift arm and position cutting unit so that yoke (**T**) is in line with swivel housing (**S**). Carefully lower arm onto yoke. Insert pin (**K**) through hole in yoke, fasten retaining clip (**L**), and install cap (**M**).
2. Assemble motors (**N**), with hoses attached, to the cutting units. Clean motor splines and coupling. Apply Moly 2 EP grease to the female spline on reel. Thoroughly clean the motor mounting surface. Slide motor into bearing housing. Hand tighten key (**P**) on bearing housing.
3. Raise reels and install down pressure spring pins (**V**, Figure 3F). If cutting height has not changed, set pins in same position they were in when reels were removed.

Removing Cutting Units

1. Lower reels to the ground and remove down pressure spring pins (**V**, Figure 3F). Make note of where springs are set.
2. Loosen key (**P**) on motor housing. Pull motor straight out from cutting unit.
3. Carefully place motor and its hoses away from the cutting unit. To prevent contamination and damage to

internal components cover or cap off bearing housing cavity (**R**).

4. Remove cap (**M**) on lift arm. Unfasten retaining clip (**L**) from pin (**K**) and remove pin.
5. Carefully raise arm until cutting unit can be removed.

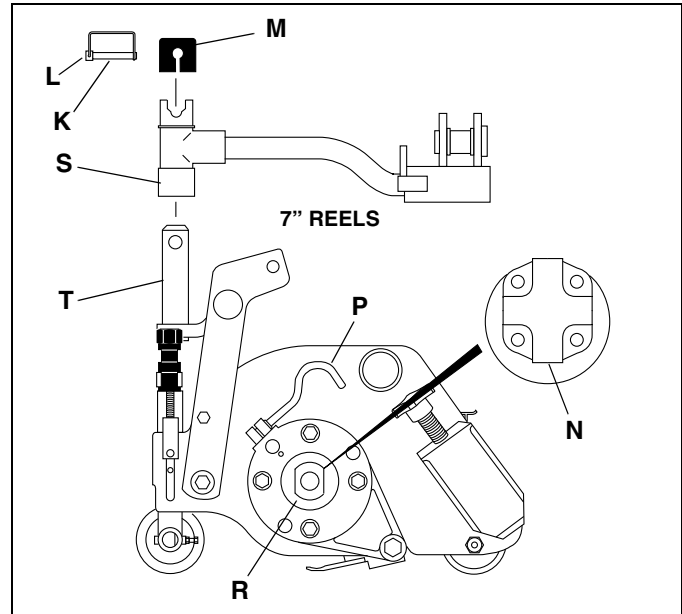


Figure 3E

3.6 DOWN PRESSURE

Each reel is equipped with a down pressure spring. Down pressure improves cutting quality by ensuring constant contact between the reel and ground. Check and adjust down pressure any time cutting height has been changed or to optimize the cut for best performance.

1. With reels raised, place pin (**V**) in 4th hole from balljoint. Lower reels onto a flat surface before measuring down pressure.
2. Initially set distance between ball joint center and rod cross pin center to 8-15/16 in. \pm 1/16 in. (227 mm \pm 2 mm). To adjust length, loosen lock nut (**W**) and turn rod (**U**) in or out of balljoint.
3. Measure length of spring as shown on all 5 reels. Record the shortest spring dimension and set the other springs by adjusting rods (**U**) to that dimension \pm 1/16 in. (2 mm). The rod cross pin must be horizontal, then tighten locknut (**W**).
4. To adjust down pressure, move pin one hole towards spring to increase pressure, or one hole away from spring to decrease pressure on rear roller.

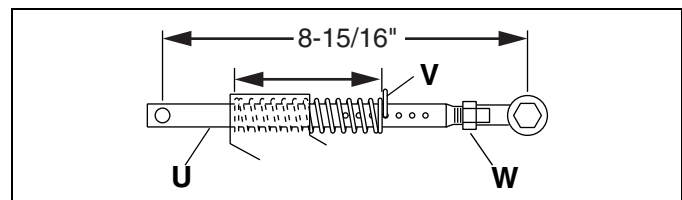


Figure 3F

3.7 MOW SPEED

Cutting quality is better at speeds well below the transport speed of the mower. An initial mow speed of five to six mph is set at the factory and should be satisfactory for most cutting conditions. Local turf conditions however may respond better to a different speed.

To set mow speed, loosen jam nut **(A)**, and adjust stop screw up to reduce speed, down to increase speed. Tighten nut to hold adjustment in place.

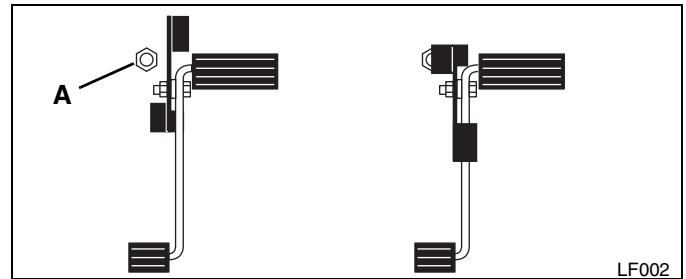


Figure 3G

3.8 BELT

Inspect and adjust new belt after first ten hours of operation. Adjust every 100 hours thereafter.

Adjust alternator pulley so belt deflects 1/4 in. to 5/16 in. (6 - 8 mm) with a 20 lb. push at midpoint between pulleys. See engine manual.

If tension is incorrect, loosen alternator mounting bolts **(B)** and adjust alternator until proper belt tension is achieved.

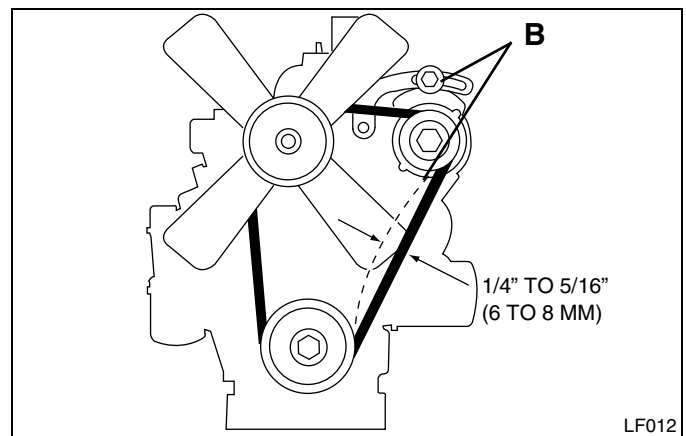


Figure 3H

3.9 BRAKES

Adjust brakes after replacing or servicing brake assembly, or if pedal travel becomes excessive.

1. When installing new brake pads, burnish pads by driving mower at mowing speed while applying a slight pressure on brake pedal for about 5 seconds. Release and repeat five times before making the final adjustment.
2. Fully loosen adjusting nut **(E)**.
3. Disconnect brake return spring (See Item 14, Illustration 7.1) at caliper.
4. By hand, pull cable behind adjusting nut **(C)** away from pedal until brake pads just contact brake disk. Thread adjusting nut **(C)** up until it contacts the mounting plate. Tighten nut **(E)** to lock adjustment in place. Torque nut **(E)** to 20 ft lb (27 Nm). Do not overtorque or turn cable.
5. Connect brake return spring. Repeat for second cable.
6. If brakes wear beyond point where they can be adjusted by the cable, move brake bracket into second set of holes provided **(D)**, and complete adjustment procedure.

7. Start mower and check operation of brakes. Park mower on an incline (approx. 16.7° slope) and engage parking brake. Brake must prevent mower from rolling. Adjust nut **(C)** as required.

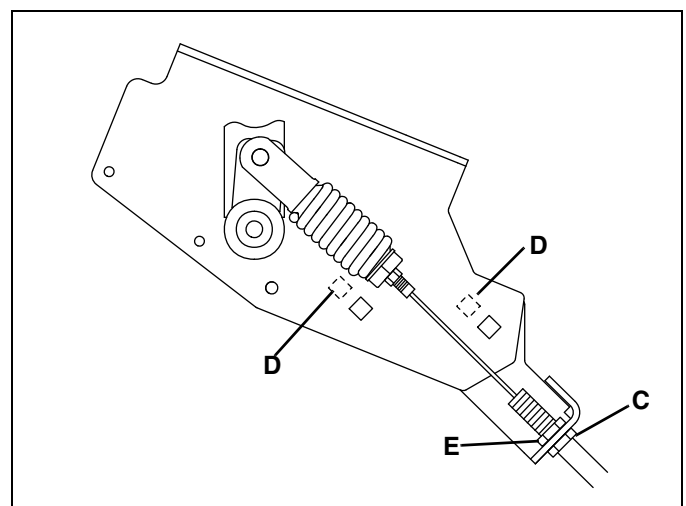


Figure 3I

3 ADJUSTMENTS

3.10 NEUTRAL ADJUSTMENT

Neutral adjustment can only be made at the drive pump.

The neutral adjustment is preset at the factory on all new mowers and replacement pumps. Further adjustment is not required unless the pump has been disassembled for repair or service.

To adjust neutral:

1. Disconnect traction pedal linkage from pump.
2. Place mower securely on jack stands so **All** wheels are raised off ground.
3. Check that tow valve (**H**) is closed
4. Engage parking brake and set mow switch to neutral. Make sure neutral switch at traction pedal is closed. (Figure 3K - **M**). Distance between the switch and metal pointer "M" must be between 1/16 in. and 1/8 in. (1.5 and 3 mm).
5. Loosen screws (**G**) holding pump lever bracket just enough so it can be moved. Start engine and observe wheels. Adjust bracket (**F**) in slotted holes until wheels do not turn. Turn off engine and tighten bracket in place.

6. Connect traction linkage. When connecting linkage at traction pedal, make sure pointer on traction pedal bracket is centered over neutral switch (**M** -Figure 3K).
7. Start engine and check operation of traction pedal. Wheels must not turn when pedal returns to neutral and lamp 5 on controller should light, see Section 5.2.

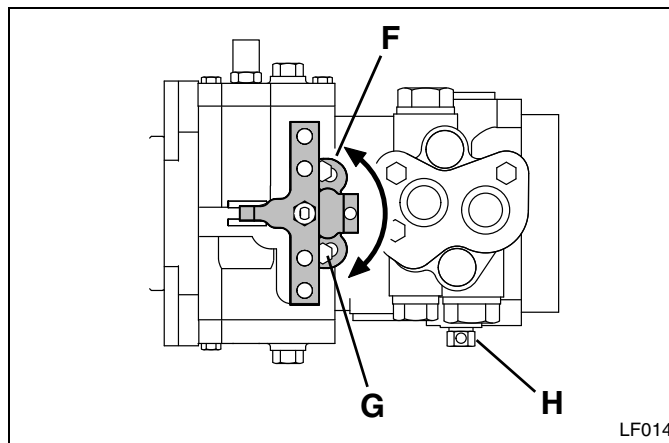


Figure 3J

3.11 FORWARD / REVERSE SPEED

Forward and reverse speeds are adjusted at the traction pedal. Set forward speed before adjusting reverse.

To adjust forward speed:

1. Make sure drive pump has been set to neutral and engine throttle is adjusted correctly.
2. Start engine and check forward travel speed with engine at full throttle and mower in two wheel drive (2WD). Forward transport speed should measure 12 mph (19 kph)
3. Stop engine. To adjust speed, disconnect eye bolt (**K**) from pedal and loosen jam nut. Turn eye bolt in to reduce speed, out to increase speed. Tighten jam nut to hold adjustment in place and connect eye bolt.
4. With traction pedal in neutral, check position of neutral switch (**J**). Adjust switch up or down so pointer (**M**) on traction pedal bracket is centered over it. When adjusted correctly lamp 5 on controller will light when ignition switch is turned on.
5. Start engine and check speed. Repeat procedure until 12 mph (19 kph) forward transport speed is attained.

To adjust reverse speed:

1. Set forward speed.

2. Start engine and check reverse travel speed with engine at full throttle. Reverse speed should measure 4-5 mph (6-8 kph)
3. Stop engine. To adjust speed, loosen nut on reverse travel stop bolt (**L**). Slide bolt forward in slotted hole to increase speed, back to reduce speed. Tighten nut to hold adjustment in place.
4. Start engine and check speed. Repeat procedure until 4-5 mph (6-8 kph) reverse speed is attained.

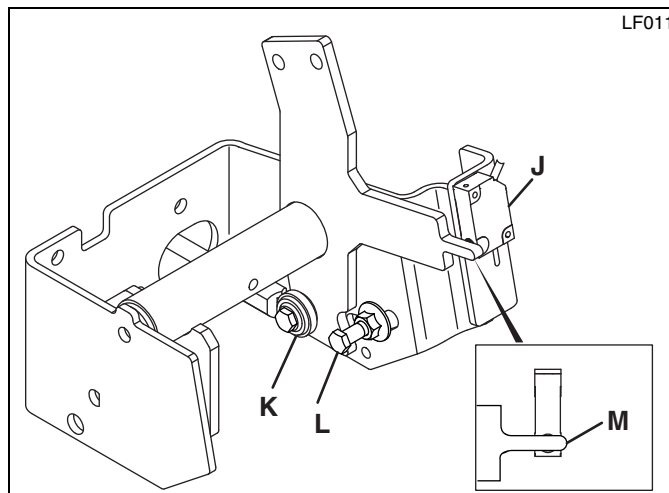


Figure 3K

3.12 FRONT REEL LIMIT SWITCH

The front left and right lift arms are equipped with proximity switches, which signal the controller to turn off the reels. The switches are mounted to the mower frame directly behind the lift arms. If reels continue to run when lifted, or do not run when lowered, inspect switch. Adjust or replace switch as needed.

To adjust switch:

1. Park mower on a flat, level surface.
2. Remove reel from lift arm.
3. Turn ignition key to the RUN position to activate controller. Do not run reels or start engine.
4. Adjust switch as required to obtain air gap between switch and arm of 1/8 in. to 3/16 in. (3 to 5 mm).
5. Lift arm manually until it is at an angle of 17°.
6. With lift arm at 17°, adjust switch (I) up or down, until switch contacts close. Secure switch in this position.
7. Repeat procedure for lift arm on opposite side.

8. Start engine and check that reels turn off when raised.

NOTICE

The reed switches set the point where the reels turn off, not how high they will raise. The reels will actually raise to a position slightly above 17°.

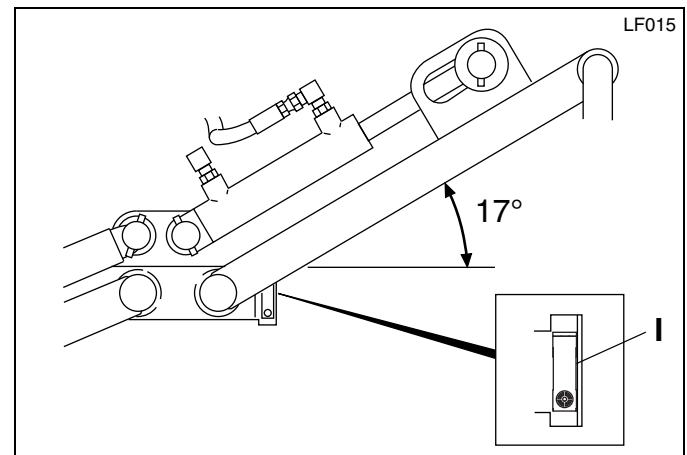


Figure 3L

3.13 WING REEL LIMIT SWITCH

The left and right wing lift arms are equipped with reed switches which signal the controller to turn off the corresponding reel. The switches are mounted to the wing lift arm mounts near the lift arms. If reels continue to run when lifted, or do not run when lowered, inspect switch. Adjust or replace switch as needed.

To adjust switch:

1. Park mower on a flat, level surface.
2. Remove reel from wing lift arms.
3. Turn ignition key to the RUN position to activate controller. Do not run reels or start engine.
4. Add or remove shims as required to obtain air gap between switch and arm of 0.090 in. to 0.120 in. (2 to 3 mm).
5. Lift left wing arm manually until it is at an angle of 15°.
6. With lift arm at 15°, adjust switch (I) up or down, until corresponding lamp on controller goes out (#16 for L.H., #19 for R.H.). Secure switch in this position.
7. Repeat procedure for right wing lift arm.

8. Start engine and check that reels turn off when raised.

Note: The reed switches set the point where the reels turn off, not how high they will raise. The reels will raise to a position above 15°.

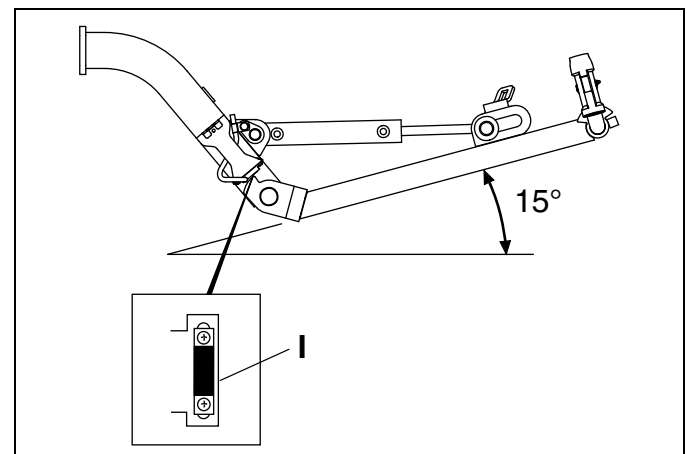


Figure 3M

3 ADJUSTMENTS

3.14 STEERING TOE-IN

1. Turn wheels to straight ahead position.
2. Loosen jam nuts (**J**) on both sides of tie rod (**M**).
3. Turn tie rod (**M**) to provide proper toe-in. Toe-in must not exceed +1/16 in. (1.5 mm) (**K**). Retighten jam nuts.
4. After adjusting tie rod, adjust steering cylinder by threading the rod (**N**) in or out of ball joint so spindle arm (**L**) clears the stop on the axle by 1/32 in. to 3/32 in. (0.8 to 2 mm) (**O**) when cylinder is fully extended.

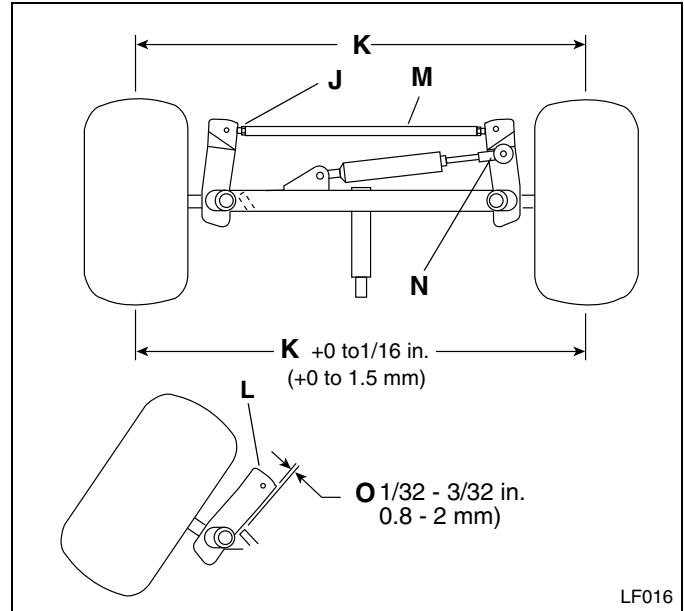






Figure 3N





3.15 TORQUE SPECIFICATION

NOTICE

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Jacobsen 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.**

Jacobsen 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				
		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
		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 mower is parked on a solid and level surface. Never work on a mower 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 Jacobsen 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 Catalog 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 ENGINE

IMPORTANT: A separate Engine Manual, prepared by the engine manufacturer, is supplied with this mower. 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, Jacobsen 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 6.2 and Engine Manual for specific maintenance intervals.

If the injection pump, injectors, or the fuel system require service, contact an authorized Jacobsen Dealer.

NOTICE

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

4.3 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.

Perform initial oil change after first 50 hours of operation and every 100 hours thereafter. See Engine Manual.

Use only engine oils with API classification CD/CE.

Above 77°F (25°C)	SAE 30W or SAE10W30/10W40
32 to 77°F (0 to 25°C)	SAE 20W or SAE 10W30/10W40
Below 32° (0°C)	SAE10W or SAE 10W30/10W40

4.4 AIR FILTER

Check the service indicator daily. If red band appears in the window **(B)** replace the element.

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, 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 **(A)**.

4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator must be facing down.
5. Check all hoses and air ducts. Tighten hose clamps.

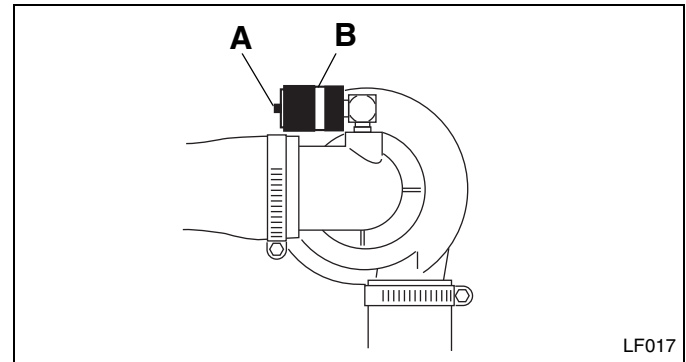



Figure 4A

4.5 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.

 WARNING
<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>Do not spill fuel and clean spilled fuel 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>

- Fill the fuel tank to within 1 in. (25 mm) below the filler neck.
- Use clean, fresh, #2, low or ultra-low sulfur diesel fuel. Minimum Cetane Rating 45. Refer to Engine Manual for additional information.
- Check fuel lines and clamps every 50 hours. 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.

4.6 FUEL SYSTEM

Refer to Section 6.2 for specific maintenance intervals.

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. See Engine Manual.

To change fuel filter:

1. Close fuel valve on tank and 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.

4 MAINTENANCE

4.7 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

Check the electrolyte level every 100 hours. Keep the cable ends, battery and battery posts clean.

Disconnect battery cables and controller connections before performing welding operations on mower.

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.**

4.8 JUMP STARTING

Before attempting to "jump start" the mower, check the condition of the discharged battery. Section 4.7



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 mower 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 mower with discharged battery.

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

4.9 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.

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.

1. Refer to Section 4.7. Read the Battery and Charger's manual for specific instructions.
2. Whenever possible, remove the battery from the mower before charging. If battery is not sealed, check that the electrolyte covers the plates in all the cells.

4.10 MUFFLER AND EXHAUST


 WARNING
<p>Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.</p> <p>NEVER operate an engine without proper ventilation.</p>

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.

4.11 HYDRAULIC HOSES

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

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.

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, or ties to a new location.
4. Thoroughly inspect all tubes, hoses, and connections every 250 hours.

- 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.

4.12 HYDRAULIC OIL

Refer to Section 6.2 for specific maintenance intervals.

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

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 Jacobsen Hydraulic oil.
4. Purge air from system.
 - a. To prevent reels from overheating, disconnect motors from reels.
 - b. Operate all mower 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.
 - c. 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 MAINTENANCE

4.13 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 both filters as soon as possible after light comes on.

NOTICE

During cold weather the warning light may come on until oil has warmed up to operating temperature. Wait until oil has warmed up and light goes out before operating mower.

To replace hydraulic filters:

1. Remove the old filters.
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.

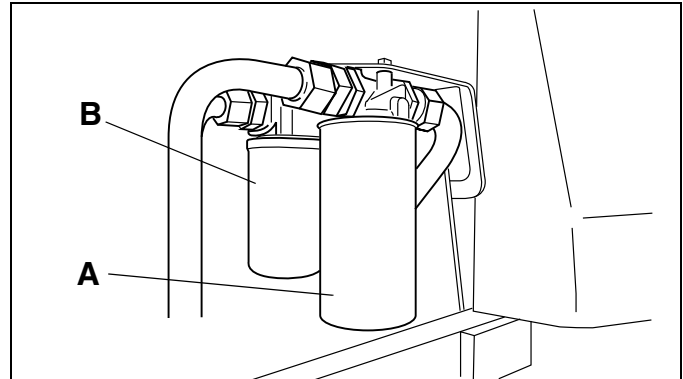


Figure 4B

4.14 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.

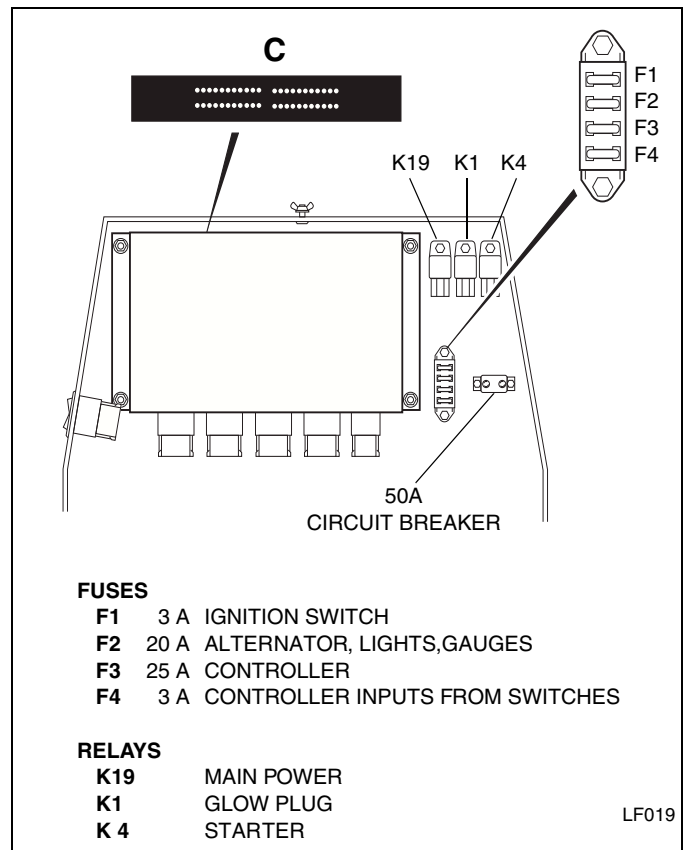
1. Make certain all terminals and connections are clean and properly secured.
2. Check the interlock system, fuses, and circuit breakers regularly.

If the interlock does not function properly and the problem cannot be corrected, contact an authorized Jacobsen 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.

The electrical system is monitored and controlled by the electronic controller (**C**) located behind the operator's area. The controller is equipped with four banks of LED's which can be used when troubleshooting the electrical system, see Section 5.2

Circuits are protected by a circuit breaker, fuses, and relays mounted next to the controller.



FUSES

- F1 3 A IGNITION SWITCH
- F2 20 A ALTERNATOR, LIGHTS, GAUGES
- F3 25 A CONTROLLER
- F4 3 A CONTROLLER INPUTS FROM SWITCHES

RELAYS

- K19 MAIN POWER
- K1 GLOW PLUG
- K4 STARTER

LF019

Figure 4C

4.15 RADIATOR

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.

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

To clean radiator:

1. Turn out thumb screws **(A)** securing hydraulic oil cooler to the radiator, and tip cooler away from radiator as shown.

2. Use a blow gun to clean the radiator and oil cooler fins.

Note: A sliding panel located under the frame can be loosened and pulled back to allow dirt and debris to fall through frame.

3. Fasten oil cooler to radiator.
4. Check and tighten the fan belt. Replace clamps and hoses every two years.
5. If you have to add coolant more than once a month, or add more than one quart at a time, have a Jacobsen Dealer check the cooling system.

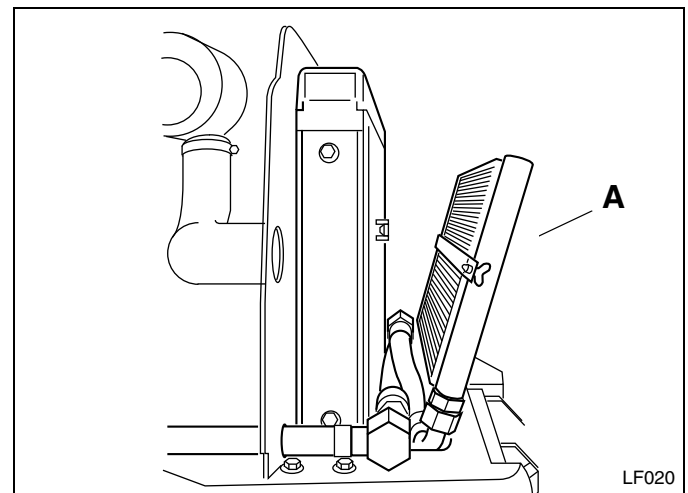


Figure 4D

4.16 ROLL OVER PROTECTIVE STRUCTURE (ROPS)

A Roll Over Protective Structure (ROPS), designed for this mower, is available as an optional accessory. If your mower is equipped with this device, inspect it periodically and follow operating procedures described in the **Safety & 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 Parts Catalog.

4 MAINTENANCE

4.17 TIRES

1. Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.
2. Check pressure every 50 hours or once a month. Use an accurate, low pressure tire gauge.
3. Keep tires inflated to 10-12 psi (69 -87 kPa).



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.

4.18 WHEEL MOUNTING PROCEDURE



WARNING

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

If only the front or rear of the mower 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 criss-cross order; always tighten nuts in the top position.
4. Check and retorque daily until torque is maintained, 85-95 ft.lbs. (115-128 Nm)

4.19 CARE AND CLEANING

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

NOTICE

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.
2. Use only fresh water for cleaning your equipment.

NOTICE

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, any other electrical components, or at bearing housings and seals.

4. Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.
5. To maintain the original high luster of the fiberglass, periodically wax with a good grade of One-Step cleaner wax.

Repair damaged metal surfaces and use Jacobsen 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.

4.20 REEL BACKLAPPING

WARNING

To prevent severe injury, keep hands, feet, and clothing away from rotating reels.

Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation

Check the reel and bedknife to determine if backlapping or grinding will restore the cutting edge.

If wear or damage is beyond the point where the cutting edges can be corrected by the lapping process, they must be reground.

To backlap:

1. Lower the reels to the ground, disengage all drives, engage parking brake, and stop engine.
2. Loosen locknut **(D)** at valve stem.
3. Start the engine and set throttle to low idle speed.
4. Open hood and place back-lap switch **(B)** to ON. **Reels will begin rotating immediately.**
5. Both the front and rear reel valves contain an adjustable valve **(C)** to control the speed of the reels. The front valve controls the front three reels. The back valve controls the two rear reels. Turn valve counter-clockwise to reduce reel speed. Repeat for both valves.
6. After the desired speed is set, turn backlap switch **(B)** to OFF and stop engine. Tighten nut **(D)** to lock adjustment in place. Start engine and set backlap switch to ON to begin backlapping.
7. Apply lapping compound, with a long handled brush, along the entire length of the reel.
8. When the blades have been evenly honed, carefully, and thoroughly wash off the remaining mixture.
9. Repeat the entire process on the other reels.
10. After backlapping set backlap switch **(B)** to OFF.

Important: The speed control valves limit reverse speed only. Once the desired backlapping speed has been set the valves can remain in this position for normal mowing. If full reverse speed is needed, for instance during operation of vertical mowers, the valve can be fully closed (turn clockwise).

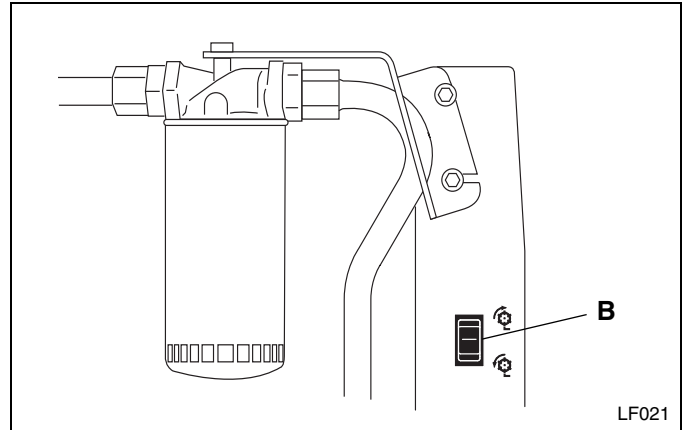


Figure 4E

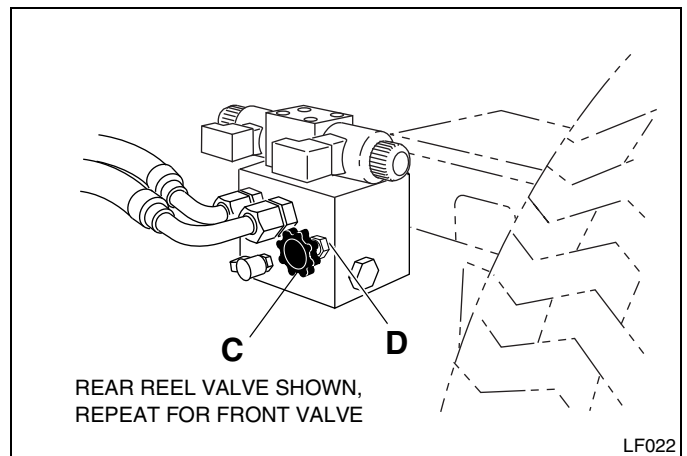


Figure 4F

4 MAINTENANCE

4.21 STORAGE

General

1. Wash the mower thoroughly and lubricate. Repair and paint damaged or exposed metal.
2. Inspect the mower, tighten all hardware, and replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the mower so the load is off the tires. If mower 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 the 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. Backlap the reels then back the reel away from the bedknife. Apply a light coat of rust preventative oil to the sharpened edges of the reel and bedknife.

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 reels and bedknife. Adjust bedknife and 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.



CAUTION

To prevent personal injury and damage to the cutting edges, handle the reel with extreme care

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 Jacobsen Dealer.

Symptoms	Possible Causes	Action
Engine will not start.	<ol style="list-style-type: none"> 1. Parking brake disengaged, traction pedal not in Neutral or mow switch ON. 2. Glow plug has not timed out. 3. Battery low on charge or defective. 4. Fuel tank empty or dirty. 5. Fuse blown. 6. Relay defective. 7. Neutral switch on traction pedal out of adjustment or defective. 	<ol style="list-style-type: none"> 1. Check interlock system and start-up procedure. 2. Reset ignition switch and allow glow plug to time out before cranking engine. 3. Inspect condition of battery and battery connections. 4. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. 5. Replace fuse. 6. Test and replace relay. 7. Adjust or replace switch.
Engine hard to start or runs poorly.	<ol style="list-style-type: none"> 1. Fuel level low, fuel or fuel filter dirty. 2. Air cleaner dirty. 3. Injectors, fuel pump. 4. Engine problem. 	<ol style="list-style-type: none"> 1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. 2. Inspect and replace air filter. 3. Consult engine manual. 4. Consult engine manual.
Engine stops.	<ol style="list-style-type: none"> 1. Fuel tank empty. 2. Interlocks not set before leaving operator's seat. 	<ol style="list-style-type: none"> 1. Fill with fresh fuel and bleed fuel lines. 2. Engage parking brake and set mow switch to "OFF".
Engine overheating.	<ol style="list-style-type: none"> 1. Coolant level low. 2. Air intake restricted. 3. Water pump belt broken or loose. 	<ol style="list-style-type: none"> 1. Inspect and add coolant. 2. Clean air intake at radiator. 3. Tighten or replace belt.
Battery not holding charge. Battery light on.	<ol style="list-style-type: none"> 1. Loose or corroded battery terminals. 2. Low electrolyte. 3. Alternator belt loose or broken. 4. Charging system defective. 	<ol style="list-style-type: none"> 1. Inspect and clean terminals. 2. Refill to correct level. 3. Tighten or replace belt. 4. See engine manual.
Reels cut unevenly.	<ol style="list-style-type: none"> 1. Bedknife-to-reel not adjusted correctly. 2. Engine speed too low. 3. Mow speed not adjusted for turf conditions. 4. Mow switch set in Reverse. 5. Not enough rear roller pressure. 6. Front roller not following undulations adequately. 	<p>Inspect bedknife-to-reel adjustment.</p> <p>Check engine speed. Run engine at full throttle. Adjust mow speed for best cut.</p> <p>Set for Forward rotation.</p> <p>Move down pressure spring one hole towards spring.</p> <p>Move down pressure spring one hole away from spring.</p>

5 TROUBLESHOOTING

5.2 CONTROLLER LAMPS

The controller is a solid state device that monitors and controls electrical functions. The controller receives input signals from various switches and sensors throughout the machine, and transmits output signals to operate relays, solenoids, and warning lights. It controls and resets timers and contains built in logic to control certain machine functions.

Each input and output signal is displayed through lamps located on top of the controller. A closed input switch indicates an active circuit and will turn an input lamp on, an open switch,

an inactive circuit, and will turn a lamp off. Outputs are active when their lights are on.

It is important to note that in some cases a lamp or group of lamps must be on or off for a condition to be true. For example, to start the mower, the Mow Switch must be "OFF" (lamps 25, 28, 38 Off) while the Neutral Start Switch (lamp 5), Brake Switch (lamp 6) and Fuel Valve Hold coil (lamp 34) must be On.

Controller Functions by Lamp Number

Lamp On - Circuit is active

Lamp Off - Circuit is inactive

INPUTS		OUTPUTS	
Lamp	Circuit	Lamp	Circuit
1	Program active (5 Gang Only)	31	Glow Plug Relay & Indicator - Glow Plug On
2, 3	Program active - indicates controller has power	32	Light Test
4	Key Switch "Start" Post	33	Start Relay and Indicator
5	Neutral Start Switch - Traction Pedal in Neutral	34	Fuel Valve Hold Coil
6	Brake Switch - Brake On	35	Warning Horn
7	Seat Switch - Operator Seated	36	Hydraulic Oil Level Light
8	Backlap Service Switch - Set to backlap	37	Left Wing Mow Switch - Active Signal (7 Gang Only)
9	Cruise Control Switch - OFF - Pin 1 (Option)	38	Center Mow Switch - Active signal
10	Cruise Control Switch - On - Pin 2 (Option)	39	Right Wing Mow Switch - Active Signal (7 Gang Only)
11	Hydraulic Oil Level Float Switch	40	Cruise Control Valve / Light (Option)
12	Hydraulic Oil Level Alarm Switch	42	Lift Valve - Center Rear Mowers (7 Gang Only)
13	Engine Oil Pressure Switch	43	Lift Valve - Lower
16	Lift Limit Switch - Left Wing (7 Gang Only)	44	Lift Valve - Raise
17	Lift Limit Switch - Left Front	45	Lift Valve - Left Wing Mower (7 Gang Only)
18	Lift Limit Switch - Right Front	46	Lift Valve - Front Mowers (7 Gang Only)
19	Lift Limit Switch - Right Wing (7 Gang Only)	47	Lift Valve - Right Wing Mower (7 Gang Only)
20	Joystick - Left Wing (7 Gang Only)		
21	Joystick - Right Wing (7 Gang Only)		
22	Joystick - Lower		
23	Joystick - Raise		
24	Left Wing Mow Switch - Forward (7 Gang Only)		
25	Center Mow Switch - Forward		
26	Right Wing Mow Switch - Forward (7 Gang Only)		
27	Left Wing Mow Switch - Reverse (7 Gang Only)		
28	Center Mow Switch - Reverse		
29	Right Wing Mow Switch - Reverse (7 Gang Only)		

Inactive lamps 5 Gang- 14, 15, 16, 19, 20, 21, 24, 26, 27, 29, 30, 37, 39, 41, 42, 45, 46, 47, 48 (not used)

Inactive lamps 7 Gang - 1, 14, 15, 30, 41, 48 (not used)

5.3 ELECTRICAL CIRCUITS

When troubleshooting the machine using the controller, always check that Program Active lamps (2 and 3) are on. These indicate that the controller has power and the program is active.

NOTICE

The controller requires a minimum of six volts to operate.

Individual circuits can be tested by operating an input switch, checking for the required input signal, and looking for a corresponding output. Keep in mind that not all switches are located on the instrument panel. The traction pedal, reel lift limit, and brakes are controlled by small reed switches mounted on the frame of the mower.

If an input lamp does not light an inactive condition is indicated. This could be caused by a fuse, faulty switch, or poor connection.

The electrical connections to the solenoids on the hydraulic valves are also equipped with small indicator lamps. When lit these lamps indicate that the output signal has reached the connection. If lamps do not come on, check wires to and from connector.

6 MAINTENANCE & LUBRICATION CHARTS

6.1 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.

1. Always clean grease fittings before and after lubrication.
2. Lubricate with grease that meets or exceeds NLGI Grade 2 LB specifications. Apply grease with a manual grease gun and fill slowly until grease begins to seep out. Do not use compressed air.
3. For smooth operation of pivot points and other friction points, apply several drops of SAE 30 oil every 50 hours or as required.
4. Remove wheels and repack bearings once a year.

6.2 MAINTENANCE CHART

Recommended Service and Lubrication Intervals

	Every 8-10 Hours	Every 50 Hours	Every 100 Hours	Every 250 Hours	Every 400 Hours	Every 500 Hours	Every 1000 Hours	Yearly	See Section	Lubricant Type
Air Cleaner			AR					R	4.4	
Battery Charge			I						4.9	
Belt	I-A*		I-A			R			3.8	
Brake		I-A*		A					3.9	
Cooling System	I-C-A							R	4.15	
Engine Oil	I	R*	R						4.2	III
Engine Oil Filter		R*	R						4.3	
Fuel Lines and Clamps		I								
Fuel Filter					R				4.6	
Grease Fittings - F1		L							6.3	II
Grease Fittings - F2			L						6.3	II
Grease Fittings - F3				L					6.3	II
Hydraulic Hoses and Tubes	I***			I					4.11	
Hydraulic Oil		I-A				R**			4.12	IV
Hydraulic Oil Filters		R*				R-AR			4.13	
Muffler and Exhaust				I					4.10	
Radiator Screens	I-C/AR								4.15	
Tires		I-A							4.17	
Steering System		I*		I-A						
Wheel Bearings								L		I
Wiring		I*		I					4.14	

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

* Indicates initial service for new machines.

** Or Yearly whichever comes first.

*** Inspect visible hoses and tubes for leaks or oil marks.

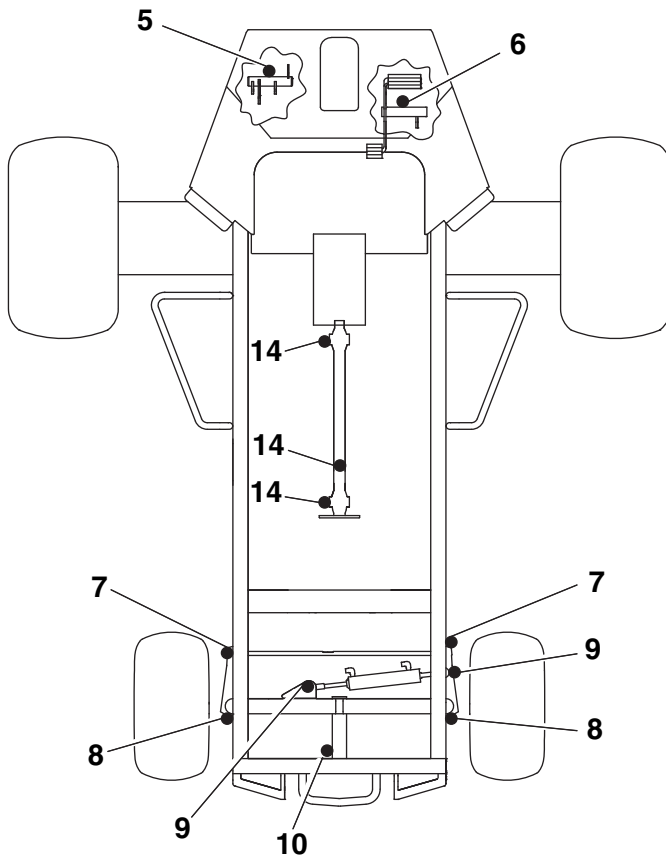
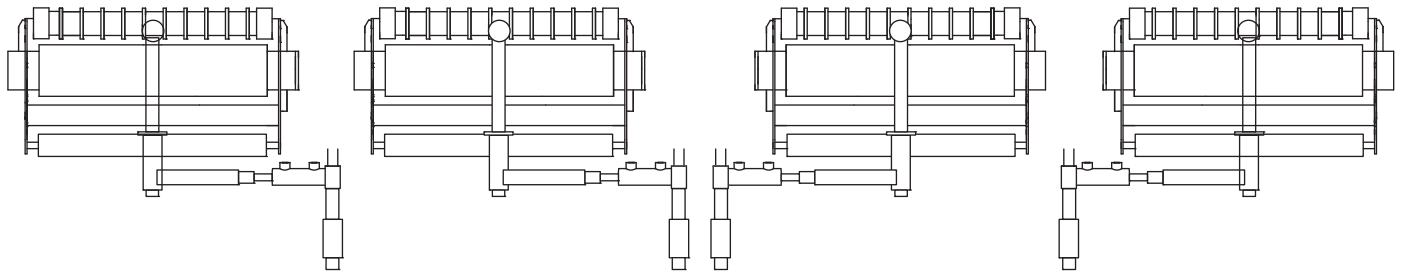
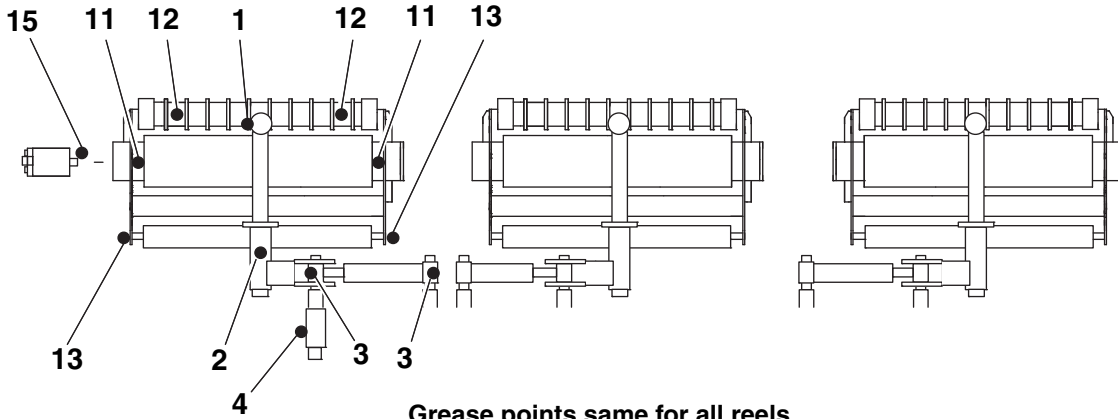
I Pack bearings with NLGI Grade 2 (Service Class GB)

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

III Engine Oil - See Section 4.3

IV Jacobsen Hydraulic Oil - SAE 10W30 or Greens Care 68

6.3 LUBRICATION CHART



Grease Fittings

F1 - 50 Hours (Every Week)

- 1 Swivel Housing
- 2 Lift Arm
- 3 Lift Cylinders
- 4 Lift Arm Pivot
- 5 Brake Pedal Pivot
- 6 Traction Pedal Pivot
- 7 Ball Joint
- 8 Steering Pivot
- 9 Steering Cylinder
- 10 Axle Pivot

F2 - 100 Hours

- 11 Reel Bearing Cavity
- 12 Front Roller
- 13 Rear Roller
- 14 U-joint Driveshaft

F3 - 250 Hours

- 15 Motor Spline

8 PARTS CATALOG

8.1 HOW TO USE THE PARTS CATALOG

Abbreviations

N/S -Not serviced seperately, 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.

Indented Items

Indented items indicate component parts that are included as part of an assembly or another component. These parts can be ordered seperately 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	

8.2 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 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 Jacobsen Distributor.
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 Jacobsen authorized parts will void the warranty.

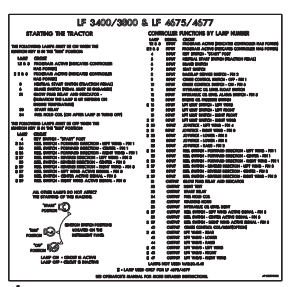
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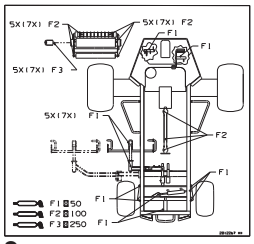
1.1 Decals



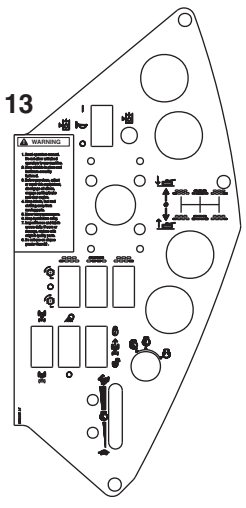
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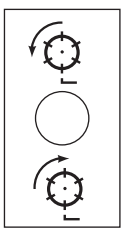
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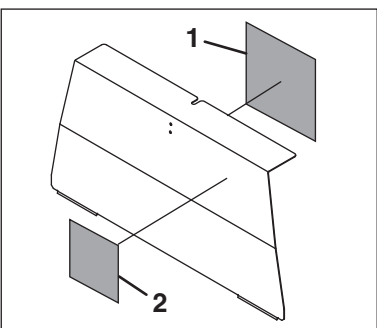
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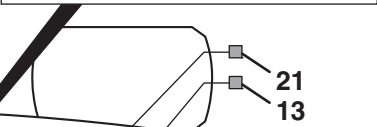
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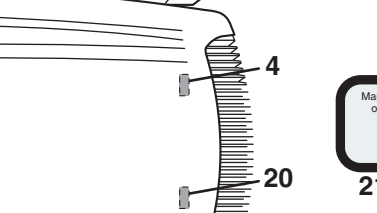
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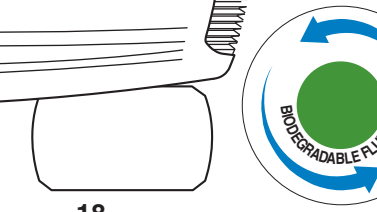
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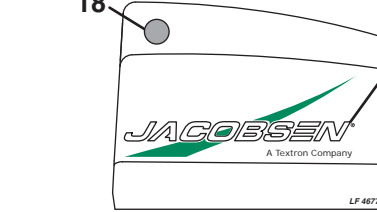
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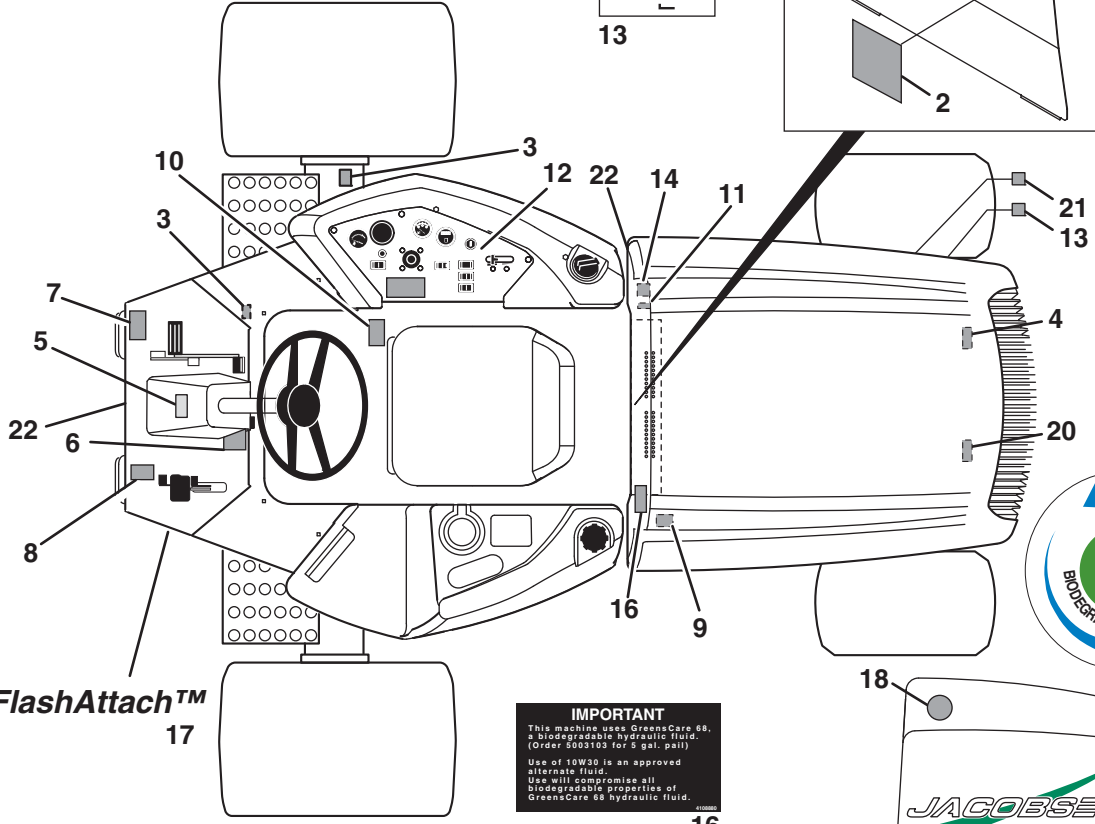
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FlashAttach™

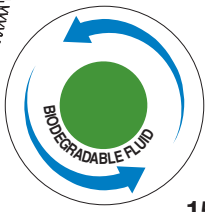
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IMPORTANT

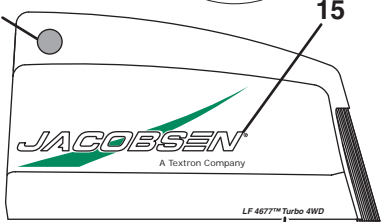
This machine uses GreensCare 68, a biodegradable hydraulic fluid. (Order 5063103 for 5 gal. pail)

Use of 10W30 is an approved alternate fluid. Use will compromise all biodegradable properties of GreensCare 68 hydraulic fluid.

16



BIODEGRADABLE FLUID



15

JACOBSEN

A Textron Company

LF 4677™ Turbo 4WD

19—LF 4677™ Turbo 4WD

Manufactured under one or more of the following U.S. patents:

XXXXXX XXXXXX

XXXXXX XXXXXX

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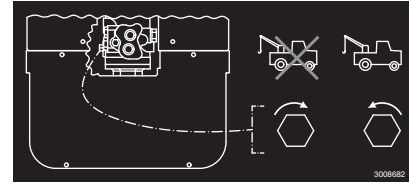
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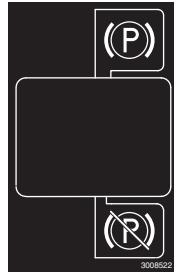
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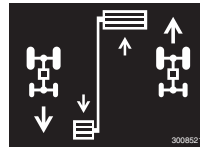
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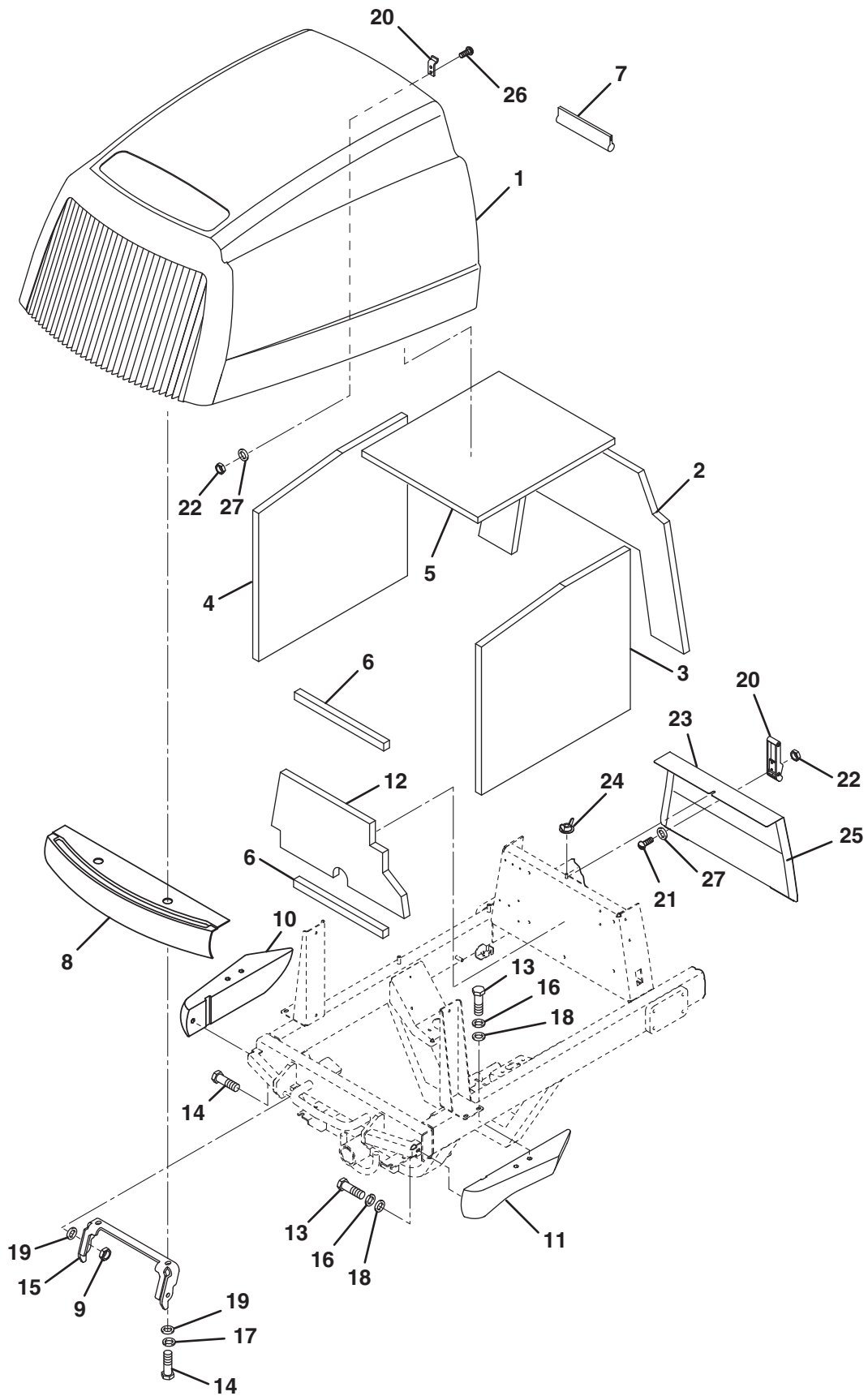


3

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3009718	1	Decal, Controller	
2	2812267	1	Decal, Service	
3	3008683	2	Decal, Backlap	Located on Front Axle
4	4181862	1	Decal, Radiator Warning	Located on top of Radiator
5	4124759	1	Decal, Jacobsen Emblem	
6	4181865	1	Decal, Instruction	
7	3008521	1	Decal, Traction Pedal	
8	3008522	1	Decal, Brake	
9	4181864	1	Decal, Battery Danger	Located on Controller Housing
10	3008682	1	Decal, Tow Valve	
11	4181860	1	Decal, Backlap Instructions	Located on Controller Housing
12	3009528	1	Decal, Instrument Panel	
13	4117468	1	Decal, Noise 105 dB	
14	3002363	1	Decal, Backlap Switch	Located on Controller Housing
15	4187681	2	Decal, Jacobsen	
16	4108880	1	Decal, Hydraulic Fluid	
17	3008930	1	Decal, Flash Attach	
18	4111408	1	Decal, Bio Fluid	
19	4124700	2	Decal, LF 4677	
20	4181861	1	Decal, Start Assist Fluids	
21	4194325	1	Decal, Patent	

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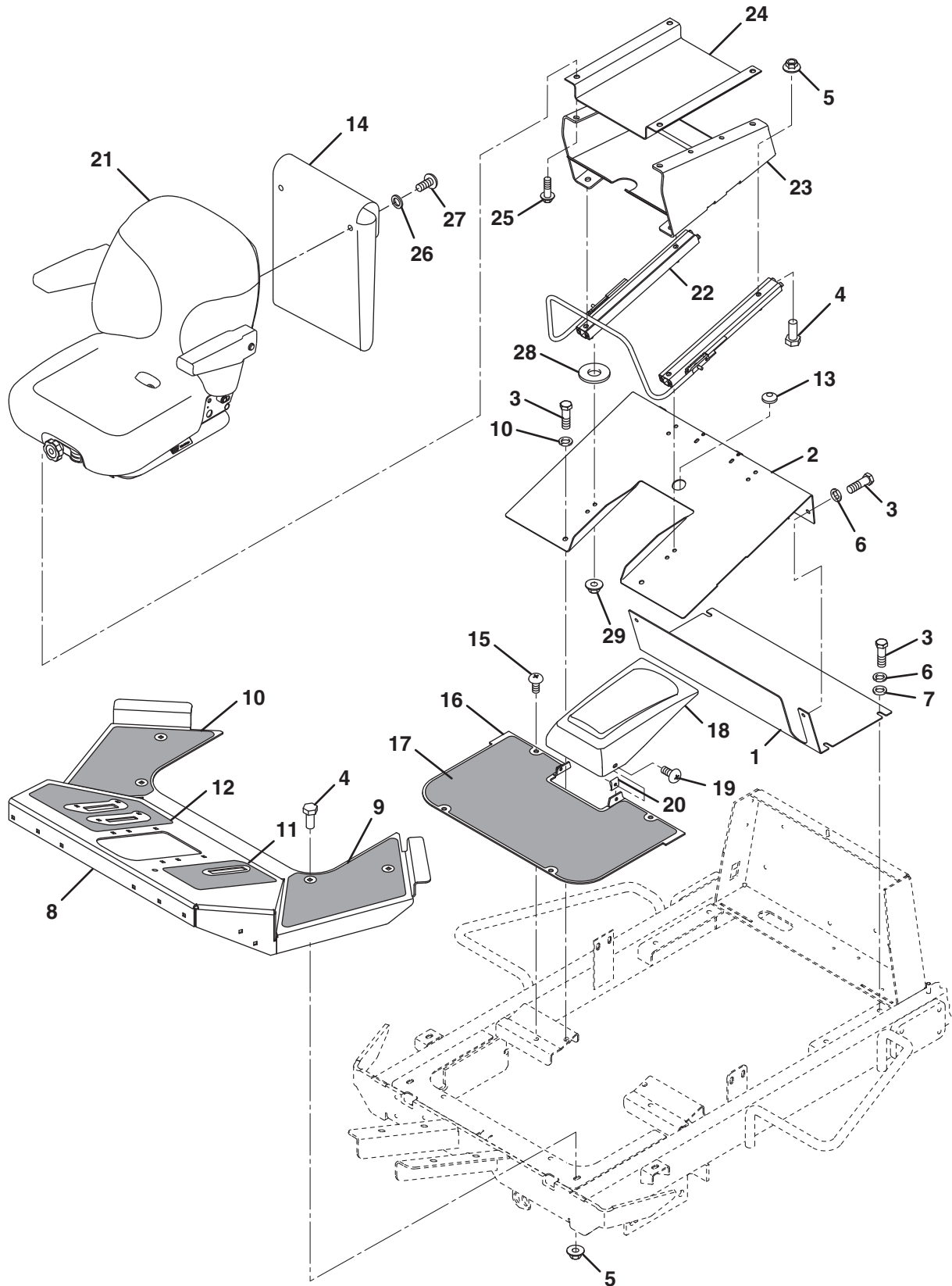
2.1 Hood



Item	Part No.	Qty.	Description	Serial Numbers/Notes
> 1	4256650	1	Hood Assembly	Includes Item 15 on Illustration 1.1
2	3007549		• Foam, Front	
3	3007550		• Foam, Right Side	
4	3007551	1	• Foam, Left Side	
5	3007552	1	• Foam, Top	
6	3007661	2	• Seals, Rear, Top and Bottom	
7	557620	AR	• Molding	
8	3006615	1	Shell, Bumper	
9	3006840	1	Bracket, Hood Hinge	
10	3007315	1	Seal, Left Side Air	
11	3007316	1	Seal, Right Side Air	
12	3007548	1	Foam, Control Module	
13	400182	6	Screw, 5/16-18 x 5/8" Hex Head	
14	400408	4	Screw, 1/2-13 x 1-1/2" Hex Head	
15	444758	2	Locknut, 1/2-13 Center	
16	446136	6	Lockwasher, 5/16 Heavy	
17	446154	2	Lockwasher, 1/2 Heavy	
18	452006	6	Flat Washer, 5/16	
19	453017	6	Flat Washer, 1/2	
20	366883	1	Over Center Latch	
21	402056	2	Screw, #8-32 x 3/8" Slotted Head	
22	444306	4	Nut, #8-32 Hex	
23	2812381	1	Cover, Front Mount	
24	3008195	1	Wing Nut, 1/4-20 Steel	
25	3009210	1	Foam (Cut To Length)	
26	403741	2	Screw, #8-32 x 5/8" Hex Head	
27	446110	4	Lockwasher, #8	

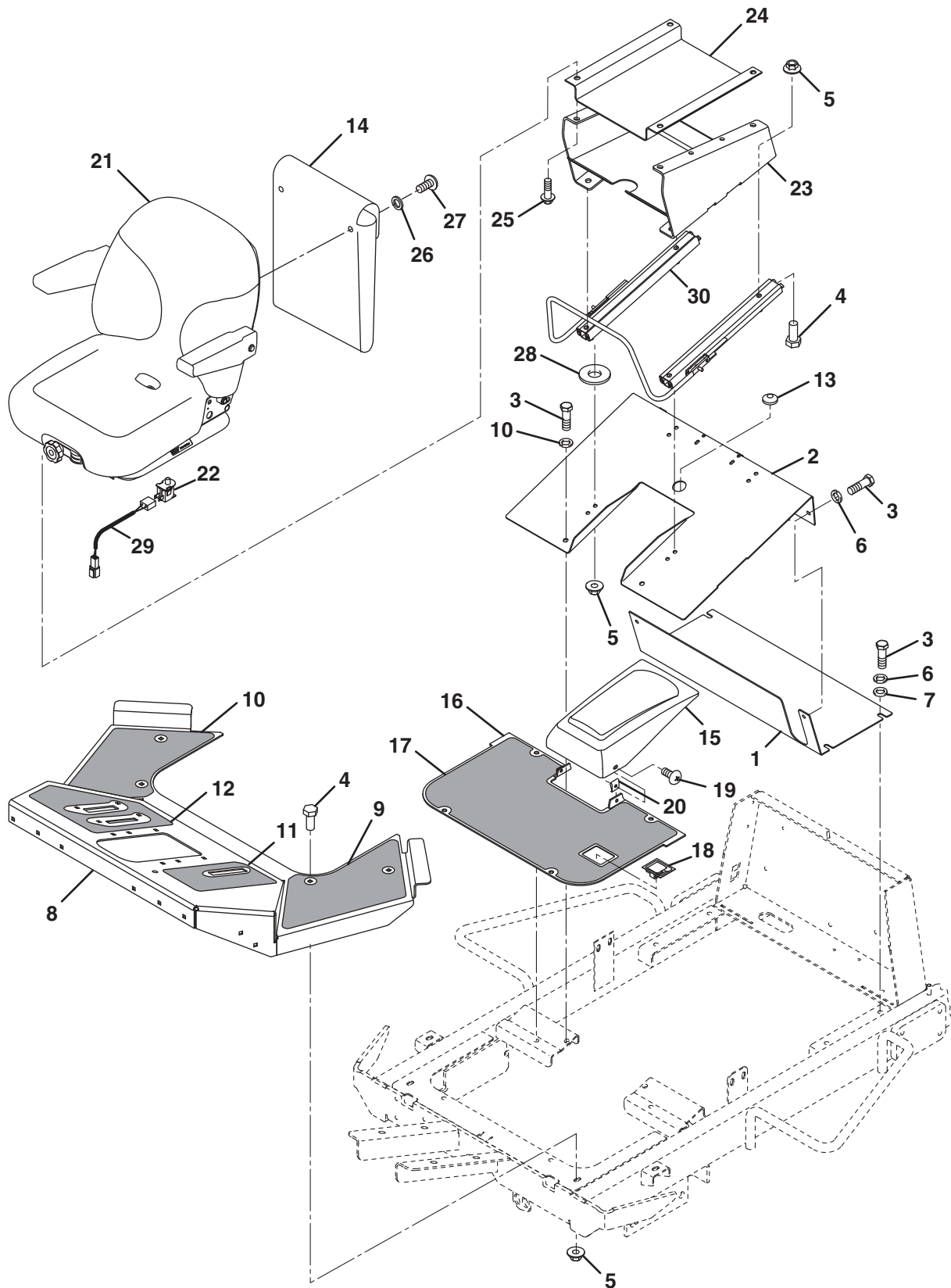
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3.1 Seat Pan



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004279	1	Bottom, Toolbox	
2	3009292	1	Seat Pan	
3	400258	9	Screw, 3/8-16 x 3/4" Hex Head	
4	400184	8	Screw, 3/8-16 Spiralock Flange	
5	445795	8	Nut, 5/16-18 Spiralock Flange	
6	446142	9	Lockwasher, 3/8 Heavy	
7	452008	9	Flat Washer, 3/8	
8	4145565	1	Platform	Includes Items 6 - 8, Illustration 1.1
9	3007609	1	• Pad, Left Floorboard	
10	3007610	1	• Pad, Right Floorboard	
11	3007611	1	• Pad, Left Foot	
12	3007612	1	• Pad, Right Foot	
13	315387	1	Grommet	
14	3003928	1	Pouch, Literature	
15	404118	4	Screw, 3/8-16 x 7/8" Truss Head	
16	5003191	1	Floorboard	
17	3007608	1	• Pad, Center Floorboard	
18	3008218	1	Cover, Hydro	
19	404016	2	Screw, 1/4-20 x 5/8" Truss Head	
20	445245	2	Tinnerman Nut	
21	4139433	1	Seat Assembly Suspension	
	4139436	1	• Arm Rest Kit	
	4139434	1	• • Left Arm Rest Kit	
	4139435	1	• • Right Arm Rest Kit	
	4139450	1	• Switch Seat	
	4139437	1	• Seat Belt Kit	
22	4131137	1	Adjuster Assembly	
23	4139241	1	Bracket Assembly Seat Support	
24	4129237	1	Plate, Cover	
25	409812	4	Screw, 5/16-18 x 3/4 THD Cut	
26	452004	2	Flat washer, 1/4	
27	800943	2	T-Screw #10-16 x 3/4 BS BR Plastic	
28	831053	4	Spacer, Seat	
> 29	64246-02	4	Nut, M8-1.25 Whizlock Flange	

> Change from previous revision

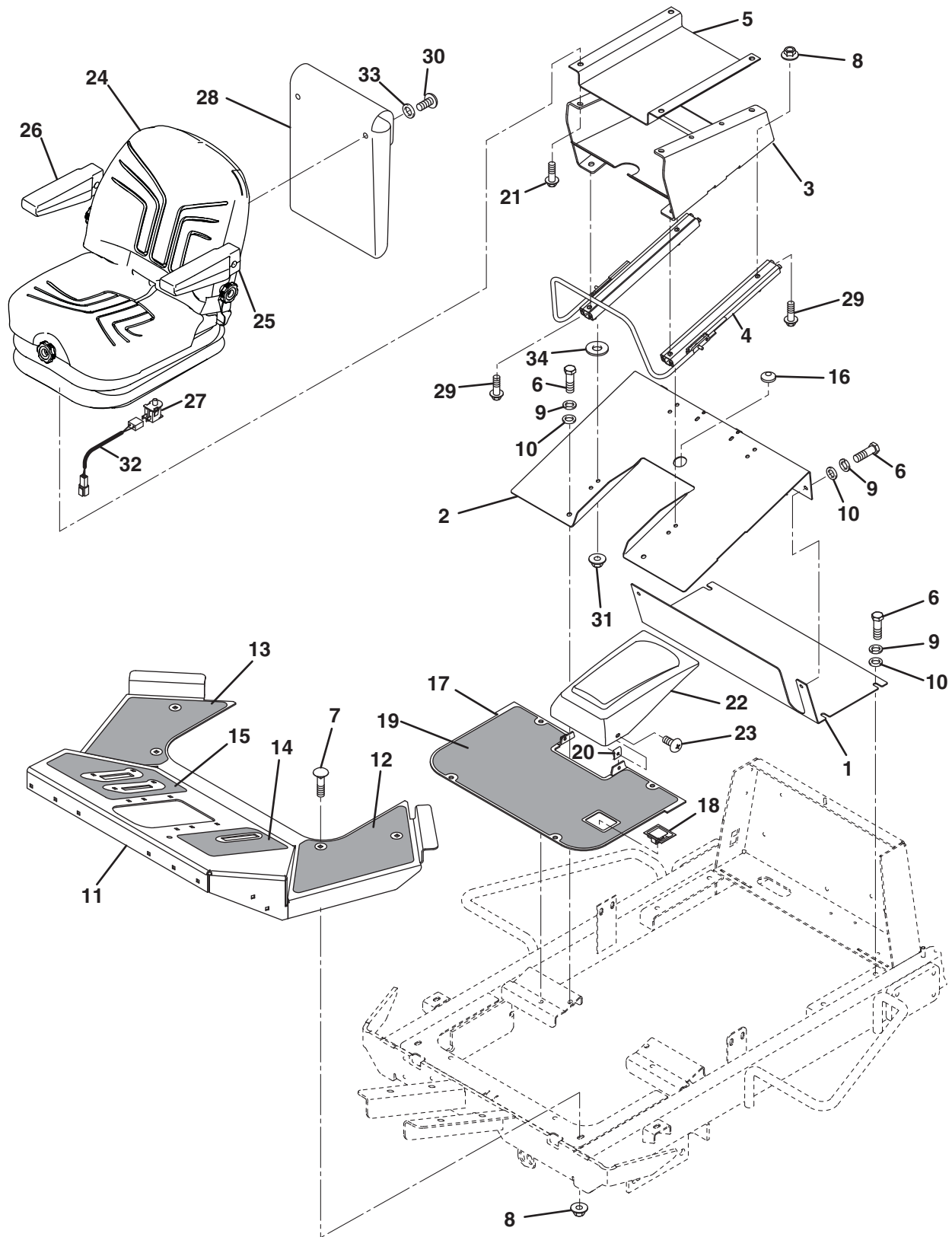


Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	1004279	1	Bottom, Toolbox		
2	3009292	1	Seat Pan		
3	400258	9	Screw, 3/8-16 x 3/4" Hex Head		
4	400184	8	Screw, 3/8-16 Spiralock Flange		
5	445795	8	Nut, 5/16-18 Spiralock Flange		
6	446142	9	Lockwasher, 3/8 Heavy		
7	452008	9	Flat Washer, 3/8		
8	4145565	1	Platform	Includes Items 6 - 8, Illustration 1.1	
9	3007609	1	• Pad, Left Floorboard		
10	3007610	1	• Pad, Right Floorboard		
11	3007611	1	• Pad, Left Foot		
12	3007612	1	• Pad, Right Foot		
13	315387	1	Grommet		
14	3003928	1	Pouch, Literature		
15	3008218	1	Cover, Hydro		
16	4133119	1	Floorboard		
17	4123725	1	• Pad, Center Floorboard		
18	4123723	1	• Latch, Panel		
19	404016	2	Screw, 1/4-20 x 5/8" Truss Head		
20	445245	2	Tinnerman Nut		
21	4139433	1	Seat Assembly Suspension		
	4139436	1	• Arm Rest Kit		
	4139434	1	• • Left Arm Rest Kit		
	4139435	1	• • Right Arm Rest Kit		
	4257812	1	• Seat Belt Kit		
22	4139450	1	• Switch Seat		
23	4139241	1	Bracket Assembly Seat Support		
24	4129237	1	Plate, Cover		
25	409812	4	Screw, 5/16-18 x 3/4 THD Cut		
26	452004	2	Flat washer, 1/4		
27	800943	2	T-Screw #10-16 x 3/4 BS BR Plastic		
28	831053	4	Spacer, Seat		
>	29	5003769	1	Harness, Seat Switch	
>	30	4131137	1	Adjuster Assembly	

> Change from previous revision

3.3 Seat Pan

Harita Seat

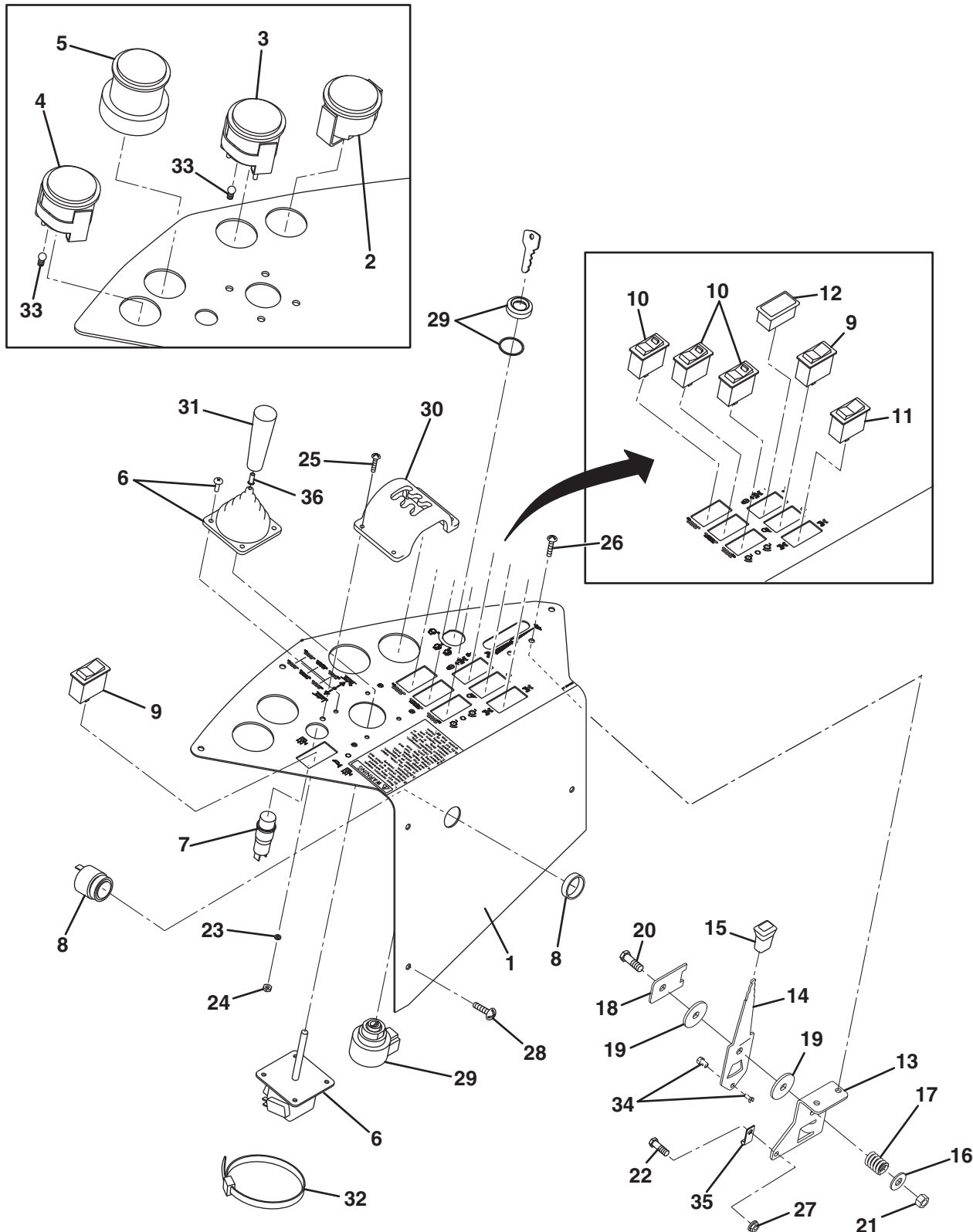


Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	1004279	1	Floor Pan		
2	3009292	1	Seat Pan		
3	4185267	1	Support, Seat		
4	4131137	1	Adjuster, Double Latching		
5	4221081	1	Base, Seat		
6	400258	9	Screw, 3/8-16 x 3/4" Hex Head		
7	441602	4	Carriage Bolt, 5/16-18 x 3/4"		
8	445795	8	Nut, 5/16-18 Spiralock Flange		
9	446142	9	Lockwasher, 3/8 Heavy		
10	452008	4	Flat Washer, 3/8		
11	5003162	1	Platform	Includes Items 6 - 8, Illustration 1.1	
12	3007609	1	• Pad, Left Floorboard		
13	3007610	1	• Pad, Right Floorboard		
14	3007611	1	• Pad, Left Foot		
15	3007612	1	• Pad, Right Foot		
16	315387	1	Grommet		
17	4133119	1	Floorboard		
18	4123723	1	• Latch, Panel		
19	4123725	1	• Pad, Center Floorboard		
20	445245	2	• Tinnerman Nut		
21	452388	4	Screw, M8-1.25 x 20 mm		
22	3008218	1	Cover, Hydro		
23	404016	2	Screw, 1/4-20 x 5/8" Truss Head		
24	4182762	1	Suspension Seat Assembly		
	4210685	1	• Arm Rest Kit		
25	4210682	1	• • Arm Rest, L.H.		
26	4210683	1	• • Arm Rest, R.H.		
	4211101	1	• Seat Bottom		
27	4210500	1	• Switch, Seat		
28	3003928	1	Pouch, Literature		
29	403751	2	Screw, 5/16-18 X 3/4" Serr Washer		
30	800943	2	TScrew, #10-16 x 3/4" Plastic		
31	64246-02	4	Nut, M8-1.25 Whizlock Flange		
>	32	5003769	1	Seat Switch Harness	
	33	452004	2	Flat Washer, 1/4	
	34	831053	4	Spacer, Seat	

> Change from previous revision

4.1 Instrument Panel

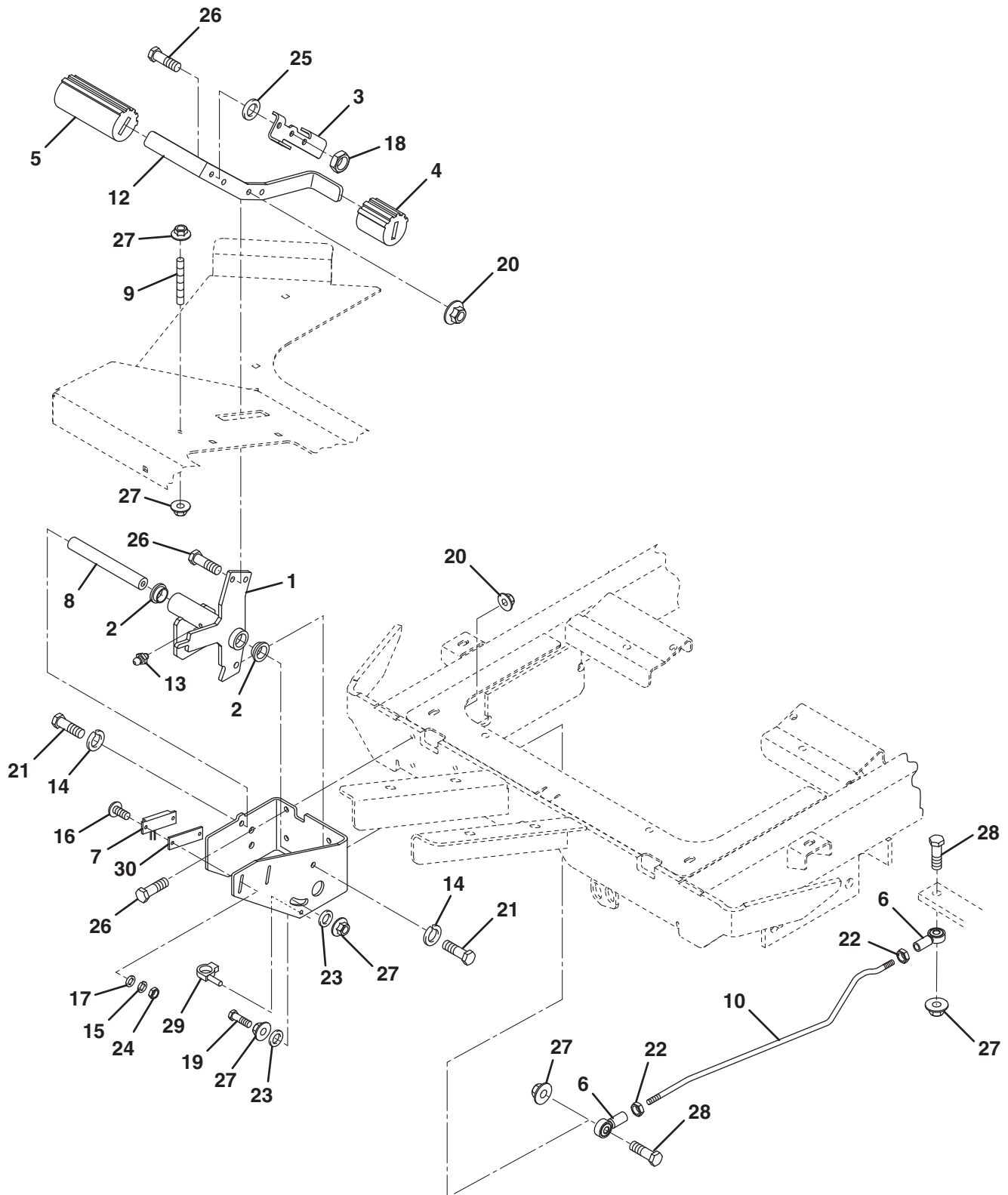
LF 4675 and 4677 Models



Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	2811991	1	Instrument Panel		
2	162723	1	Hour Meter		
	447006	1	• Lockwasher, #10		
	444310	1	• Nut, #10		
3	365943	1	Fuel Gauge		
4	3005121	1	Water Temperature Gauge		
	447002	3	• Lockwasher, #6 External Tooth		
	444302	3	• Nut, #6-32 Hex		
	447206	2	• Lockwasher, #8 Internal Tooth		
	444306	2	• Nut, #8-32 Hex		
5	1002679	1	Light Cluster		
	5003091	4	• Light Bulb and Socket		
6	1002954	1	Joystick, 2 Switch		
7	366751	1	Light, Yellow Indicator		
8	366670	1	Horn		
9	3006434	2	Switch, Rocker		
10	3006449	3	Switch, Rocker		
11	3006436	1	Switch, Rocker		
12	3006509	1	Hole Plug		
13	1002810	1	Bracket, Throttle		
14	3006036	1	Lever, Throttle		
15	366768	1	Knob		
16	452008	1	Flat Washer, 3/8		
17	351956	1	Spring , Compression		
18	3006035	1	Plate, Friction		
19	360885	2	Washer, Friction		
20	400272	1	Screw, 3/8-16 x 2-1/4" Hex Head		
21	444762	1	Locknut, 3/8-16 Center		
22	400108	1	Screw, 1/4-20 x 3/4" Hex Head		
23	446118	4	Lockwasher, #10 Heavy		
24	444310	4	Nut, #10-24 Hex		
25	403912	4	Screw, #10-24 x 5/8" Truss Head		
26	404016	2	Screw, 1/4-20 x 5/8" Truss Head		
27	445794	1	Nut, 1/4-20 Spiralock Flange		
28	403908	6	Screw, #10-24 x 3/8" Truss Head		
29	2810269	1	Switch Assembly, Key (Not Shown)		
	N/S	1	• Nut		
	N/S	1	• Washer		
	2811020	1	• Key		
30	3010546	1	Cover, Joystick		
31	2809790	1	Handle, Joystick		
32	473142	1	Cable Tie		
33	3001376	2	Bulb, Gauge		
34	558020	1	Swivel		
35	558021	1	Clip, Conduit		
>	36	4122606	1	Collar, Sleeve	

> Change from previous revision

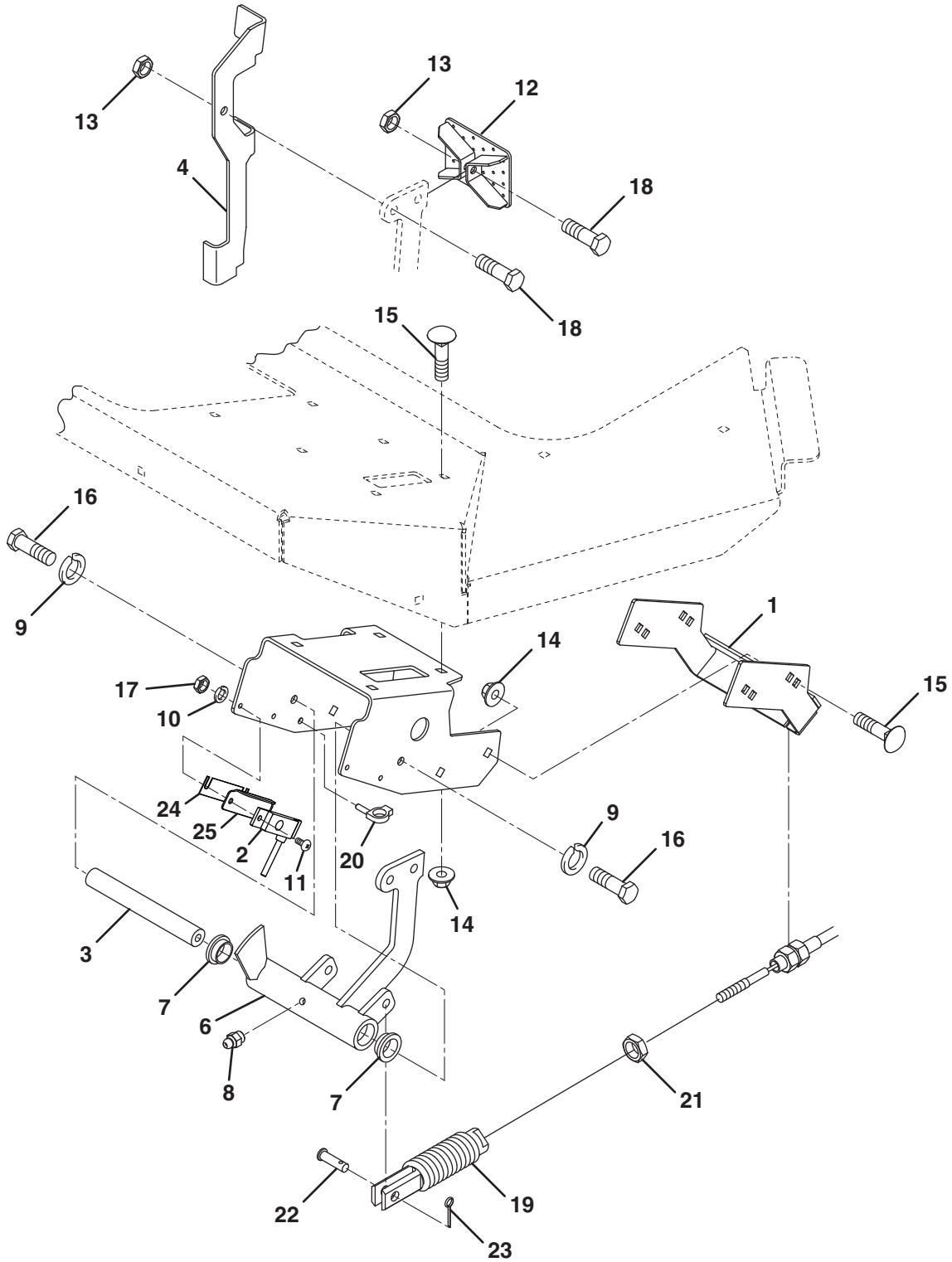
5.1 Traction Pedal Linkage



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003288	1	Treadle Pivot	
2	352726	2	• Bushing	
3	3007230	1	Stop, Mow Speed	
4	3003474	1	Grip, Pedal	
5	3003475	1	Grip, Pedal	
6	366974	2	Rod End	
7	4140149	1	Switch, Proximity	
8	3006327	1	Shaft, Turn Assist	
9	333542	1	Tie Stud	
10	3006998	1	Rod, Hydro	
> 11	3006999.7	1	Bracket, Hydro Mount	
12	3007001	1	Pedal, Hydro	
> 13	471216	1	Fitting, Grease 1/4-28	
14	446136	2	Lockwasher, 5/16 Heavy	
15	446110	2	Lockwasher, #8	
16	403860	2	Screw, #8-32 x 5/8" Truss Head	
17	453004	2	Flat Washer, #8	
18	444718	1	Locknut, 5/16-18 Center	
19	400272	1	Screw, 3/8-16 x 2-1/4" Hex Head	
20	445795	6	Nut, 5/16-18 Spiralock Flange	
21	400182	4	Screw, 5/16-18 x 5/8" Hex Head	
22	443112	2	Nut, 3/8-24 Hex	
23	452008	2	Flat Washer, 3/8	
24	444306	2	Nut, #8-32 Hex	
25	3002695	1	Washer	
26	400188	7	Screw, 5/16-18 x 1" Hex Head	
27	445796	6	Nut, 3/8-16 Spiralock Flange	
28	400264	2	Screw, 3/8-16 x 1-1/4" Hex Head	
29	3008383	1	Clip, Wire Harness	
30	3009193	AR	Shim, Switch	

> Change from previous revision

6.1 Brake Pedal Linkage



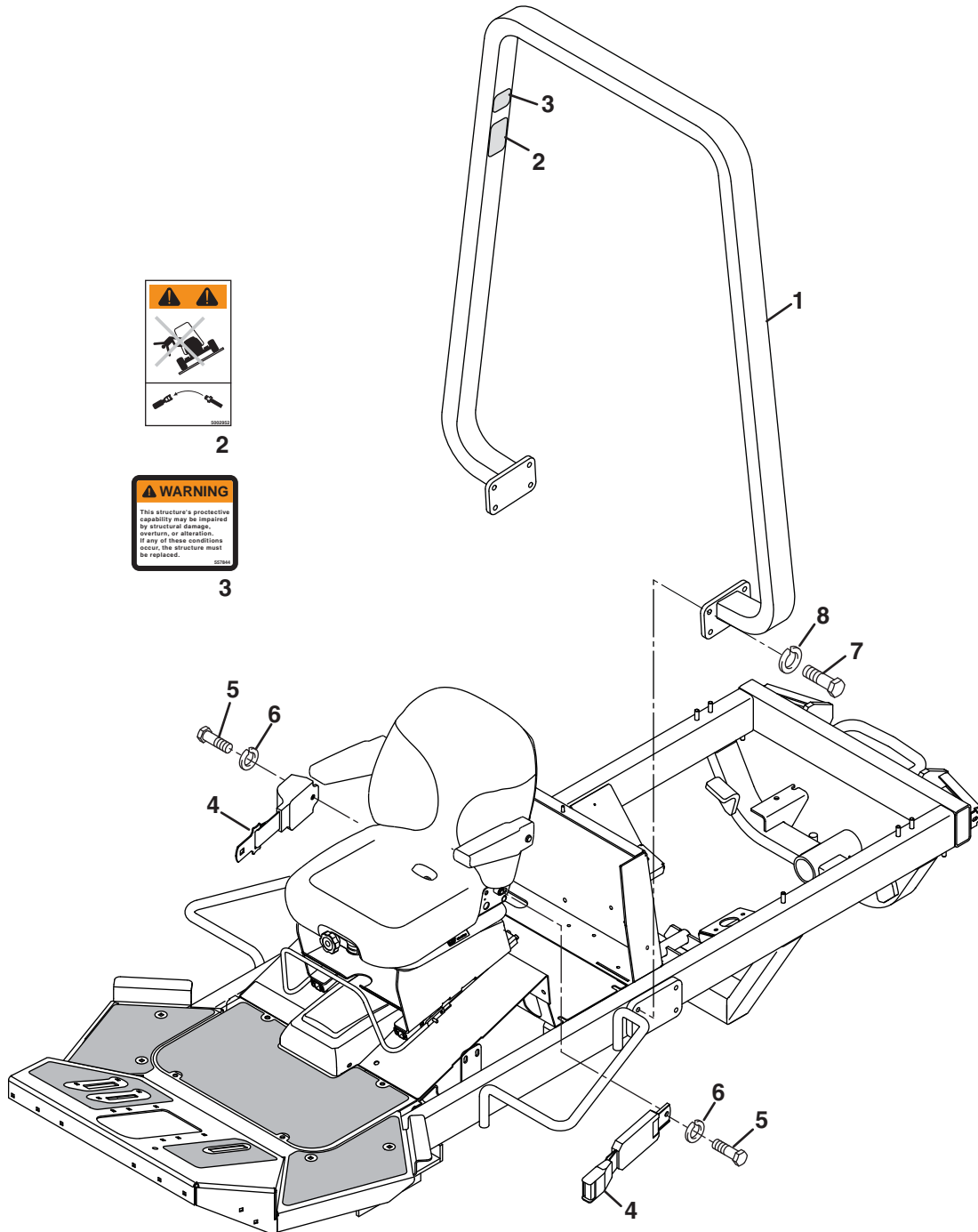
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
>	1	4142455	1	Bracket, Brake	
	2	4140149	1	Switch, Proximity	
	3	3006327	1	Shaft, Turn Assist	
	4	3007606	1	Lever, Parking Brake	
	5	3006997	1	Mount, Brake	
	6	1003616	1	Brake Arm	
	7	352726	2	• Bushing	
>	8	471216	1	Grease Fitting 1/4 - 28	
	9	446136	2	Lockwasher, 5/16 Heavy	
	10	446110	2	Lockwasher, #8	
	11	403860	2	Screw, #8-32 x 5/8" Truss Head	
	12	1003872	1	Pedal	
	13	444718	2	Locknut, 5/16-18 Center	
	14	445795	8	Nut, 5/16-18 Spirallock Flange	
	15	441602	8	Carriage Bolt, 5/16-18 x 3/4"	
	16	400182	2	Screw, 5/16-18 x 5/8" Hex Head	
	17	444306	2	Nut, #8-32 Hex	
	18	400188	2	Screw, 5/16-18 x 1" Hex Head	
	19	4108161	2	Brake Spring Assembly	
	20	3008383	1	Clip, Wire Harness	
	21	443812	2	Nut, 3/8-24 Hex Jam	
	22	461451	2	Clevis Pin, 5/16 x 15/16"	
	23	460014	2	Cotter Pin, 3/32 x 3/4"	
	24	3009193	AR	Shim	
	25	4186100	1	Bracket, Switch Guard	

> Change from previous revision

	Item	Part No.	Qty.	Description	Serial Numbers/Notes
>	1	4236060	2	Tire, 26.5 x 14-12	
>	2	4235020	2	Rim, 12 x 10.5	
	3	360111	2	Valve, Inflation	
>	4	4188160	2	Wheel Motor	See 37.1
	5	557623	2	• Key	
	6	557624	2	• Nut, Hex	
	7	2812246	1	Frame	Includes Four (4) of Item 10
	8	366871	2	• Bushing	
	9	1002853	1	Front Axle	Includes Six (6) of Item 10
	10	366870	10	• Bushing	
	11	-	1	Brake Assembly	See 35.1
	12	-	1	Brake Assembly	See 35.1
	13	2000141	2	Hub, Wheel	
	14	319212	2	Spring, Extension	
	15	340486	2	Disk Brake	
	16	446154	8	Lockwasher, 1/2 Heavy	
	17	400410	8	Screw, 1/2-13 x 1-3/4" Hex Head	
	18	353914	12	Wheel Bolt	
	19	400108	16	Screw, 1/4-20 x 3/4" Hex Head	
	20	4113047	4	Screw, 5/8-18 x 1-1/2" Hex Head	Grade 8 Bolt
	21	409811	1	Screw, 5/16-18 x 5/8" Thread Cutting	
>	22	443128	4	Nut< Hex 5/8-18 UNF	
>	23	452016	8	Flat Washer, 5/8 x 175 x .688	
	24	460093	2	Cotter Pin, 1/8 x 2-1/2"	
	25	1003047	1	Cable, Right Brake	
	26	1003048	1	Cable, Left Brake	
	27	557771	2	• Clip, Brake Cable	
	28	461493	2	Clevis Pin, 5/16 x 3/4"	
	29	460014	2	Cotter Pin, 3/32 x 3/4"	
	30	3007970	2	Seal, Tube	
	31	3008193	2	Retainer, Seal	
	32	409804	6	Screw, 1/4-20 x 5/8" Thread Cutting	
	33	345666	1	Clamp	
	34	445795	5	Nut, 5/16-18 Spiralock Flange	
>	35	441602	4	Bolt, 5/16-18 x 3/4" Carriage	
>	36	4192840	1	Battery Tray	
>	37	4192520	1	Clamp, Battery	
	38	4103061	1	Bracket, Fuel Filter	
	39	400188	1	Screw, 5/16-18 x 1" Hex Head	
	40	400258	1	Screw, 3/8-16 x 3/4" Hex Head	
	41	446142	1	Lockwasher, 3/8 Heavy	
>	42	4140094	6	Washer .688 x 1.313 x .150 HAR	
>	43	446134	1	Lockwasher, 5/16	
>	44	452006	1	Flat Washer, 5/16	

> Change from previous revision

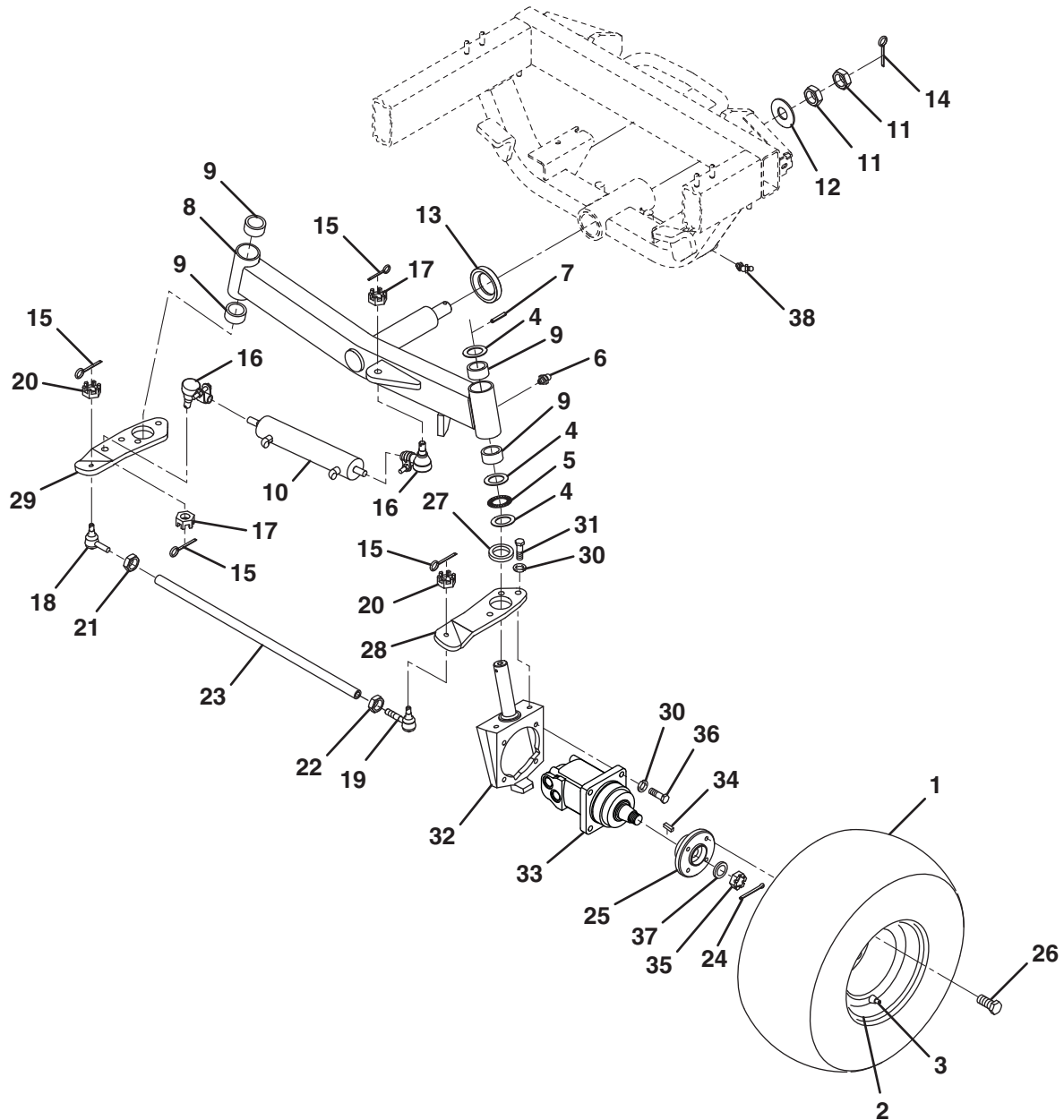
8.1 ROPS



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	67844	1	ROPS	
2	5002952	1	• Decal, Seat Belt Warning	
3	557844	1	• Decal, Warning	
4	4257812	1	• Seat Belt Kit	
5	400370	2	• Screw, 7/16-20 x 1" Hex Head	
6	446148	2	• Lock Washer	
7	5000465	8	• Screw, 1/2-13 x 1-1/4" Hex GR 8	
8	446154	8	• Lockwasher, 1/2 Heavy	

> Change from previous revision

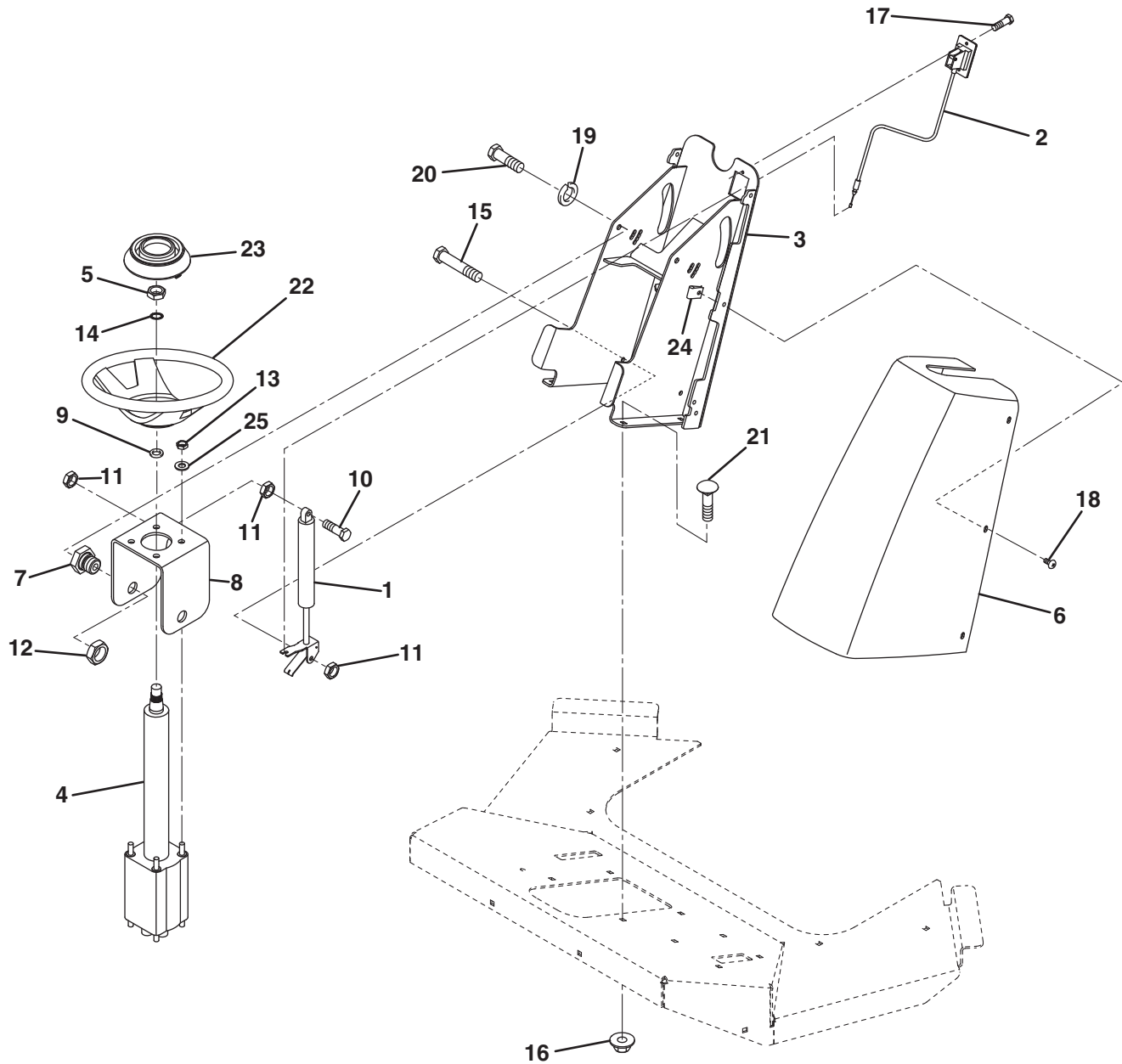
9.1 4WD Steering



Item	Part No.	Qty.	Description	Serial Numbers/Notes	
	1	4236061	2	Tire, 20 x 10-8 4 Ply	
	2	4236021	2	Rim, 8 x 7"	
	3	360111	2	Inflation Valve	
	4	361648	6	Washer, Thrust	
	5	361647	2	Bearing, Thrust	
>	6	471214	2	Fitting, Grease 1/4-28	
	7	461393	2	Pin, Spring 1/4 x 2"	
	8	117139	1	Steering Axle	
	9	363562	4	• Bushing	
>	10	4137137	1	Cylinder, Steering	
		4137139	1	• Seal Kit	
		339908	2	• O-Ring, -4 ORFS	
	11	443840	2	Nut, 1-12 Hex Jam	
	12	452022	1	Flat Washer, 1	
	13	366789	1	Spacer, Axle	
	14	460064	1	Cotter Pin, 1/4 x 1-1/2"	
	15	460026	4	Cotter Pin, 1/8 x 3/4"	
	16	153234	2	Ball Joint	
		400194	2	• Screw, 5/16-18 x 1-3/4"	
		444718	2	• Locknut, 5/16-18 Hex	
	17	445666	2	• Nut, 1/2-20 Slotted Hex	
	18	1002032	1	Ball Joint, Right Hand Thread	
	19	1002031	1	Ball Joint, Left Hand Thread	
		471214	4	• Grease Fitting	
	20	445647	2	• Nut, 3/8-24 Slotted Hex	
	21	443120	1	Nut, 1/2-20 Hex Right Hand Thread	
	22	445664	1	Nut, 1/2-20 Hex Left Hand Thread	
	23	3009378	1	Tie Rod	
	24	460032	2	Cotter Pin, 1/8 x 1-1/2"	
	25	2000012	2	Hub, Wheel	
	26	353914	8	Wheel Bolt	
	27	367350	2	Washer, Thrust	
	28	2812202	1	Arm, Left Steering	
	29	2812201	1	Arm, Right Steering	
	30	446154	14	Lockwasher, 1/2 Heavy	
	31	400406	6	Screw, 1/2-13 x 1-1/4" Hex Head	
	32	2000057	2	Motor Mount	
	33	4181920	2	Wheel Motor, 2000 Series	See 38.1
	34	554780	2	• Key	
	35	554779	2	• Nut	
	36	400410	8	Screw, 1/2-13 x 1-3/4" Hex Head	
	37	361451	2	Washer, Thrust	
	38	471227	1	45° Grease Fitting	

> Change from previous revision

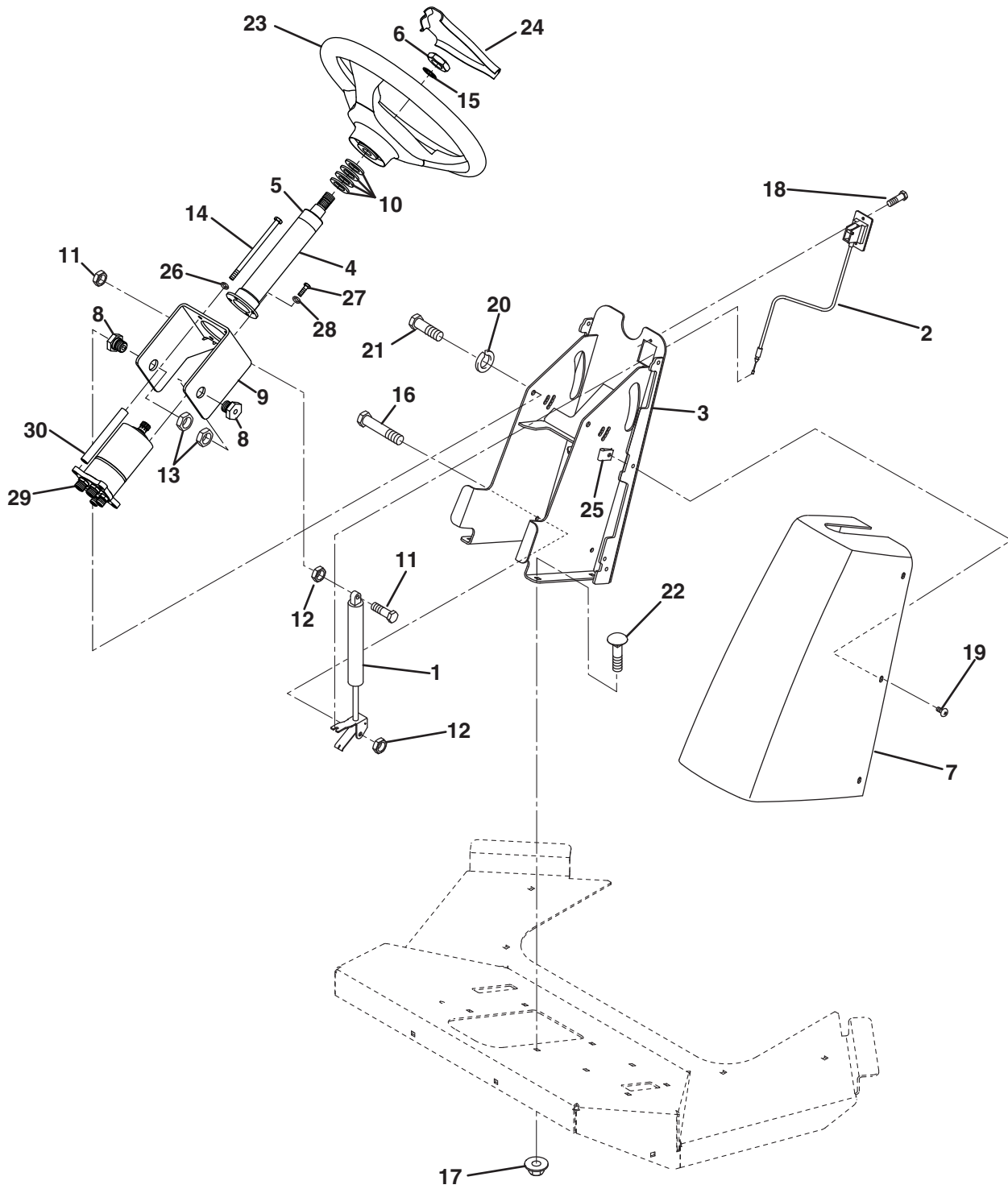
10.1 Tilt Steering



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	4146775	1	Valve, Steering	See 42.1
	339979	3	• Adapter, Straight	
	339974	2	• Adapter, Straight	
5	443828	1	• Nut, 5/8-18 Hex Jam	
6	3010651	1	Cover, Steering Tower	
7	3005934	2	Bolt, Shoulder	
8	3005981	1	Bracket, Steering Pump	
9	2811547	1	Washer	
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	445795	4	Nut, 5/16-18 Spiralock Flange	
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	441614	4	Carriage Bolt, 5/16-18 x 1"	
22	2811364	1	Steering Wheel	
23	2811365	1	• Cap, Steering Wheel	
24	445245	6	Tinnerman Nut	
25	453009	4	Washer, Flat	

> Change from previous revision

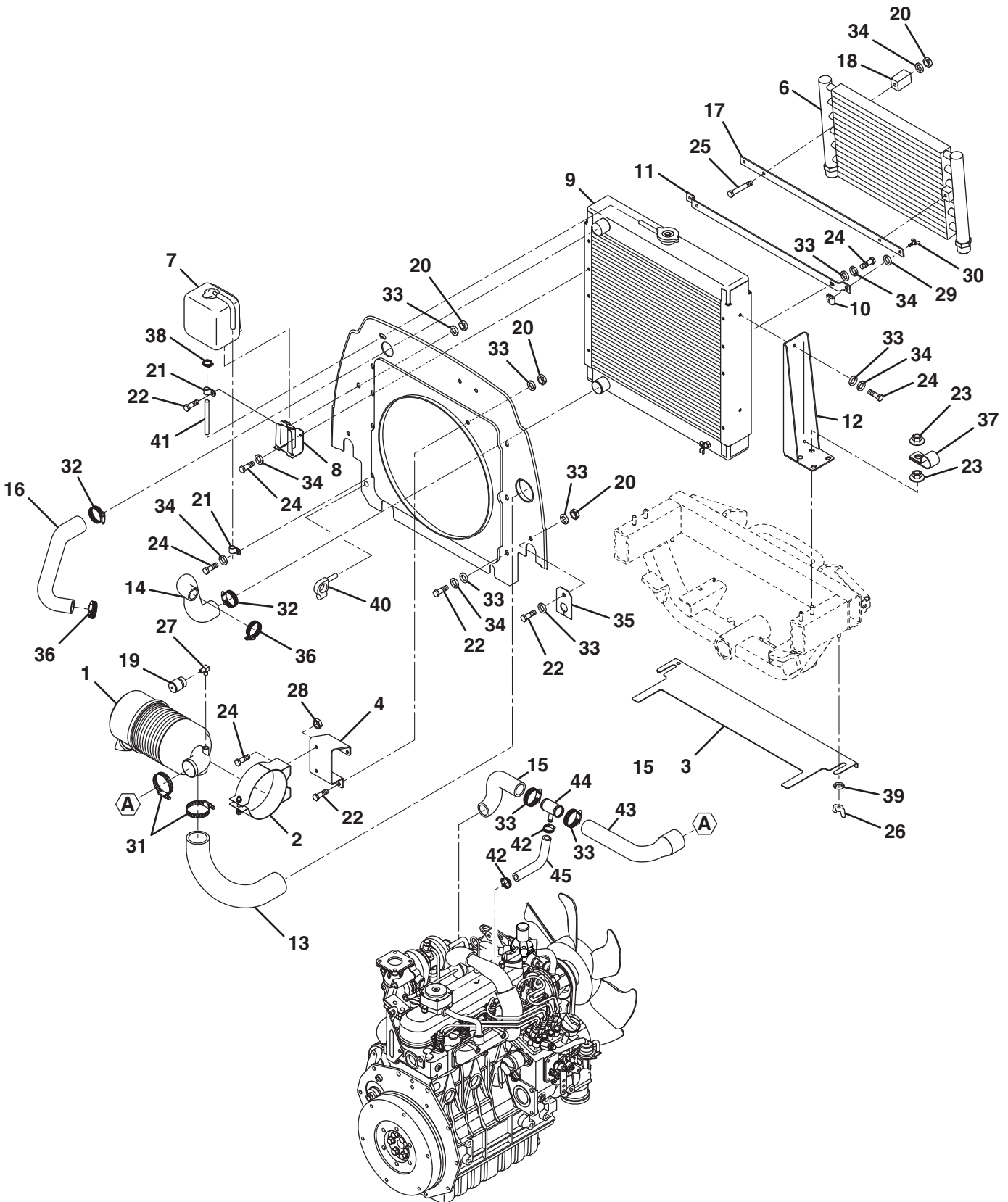
10.2 Tilt Steering



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	4212980	1	Shaft, Steering	
5	4201840	1	• Seal, Steering Shaft	
6	443828	1	• Nut, 5/8-18 Hex Jam	
7	3010651	1	Cover, Steering Tower	
8	3005934	2	Bolt, Shoulder	
9	4211401	1	Bracket, Steering Pump	
10	2811547	4	Washer	
11	400192	1	Screw, 5/16-18 x 1-1/2" Hex Head	
12	444718	3	Locknut, 5/16-18 Center	
13	444849	2	Locknut, 3/4-10 Center Jam	
14	64205-054	4	Screw, M8-1.25 x 130 mm Hex Head	
15	447224	1	Lockwasher, 5/8 Internal	
16	400216	1	Screw, 5/16-18 x 2-3/4" Hex Head	
17	445795	4	Nut, 5/16-18 Spirallock Flange	
18	416911	2	Screw, #10-24 x 1/2" Thread Cutting	
19	404016	6	Screw, 1/4-20 x 5/8" Truss Head	
20	446142	2	Lockwasher, 3/8 Heavy	
21	400258	2	Screw, 3/8-16 x 3/4" Hex Head	
22	441614	4	Carriage Bolt, 5/16-18 x 1"	
23	2811364	1	Steering Wheel	
24	2811365	1	• Cap, Steering Wheel	
25	445245	6	Tinnerman Nut	
26	450411	4	Lockwasher, M8	
27	450168	4	Screw, M6-1 x 12 mm Hex Head	
28	450410	4	Lockwasher, M6 x 9.6 x 1.5	
29	4212981	1	Valve, Steering	
	4197940	1	• Seal Kit	
	339908	2	• O-Ring, -4 ORFS	
	339909	3	• O-Ring, -6 ORFS	
30	4211400	4	Spacer, Steering Cylinder	

> Change from previous revision

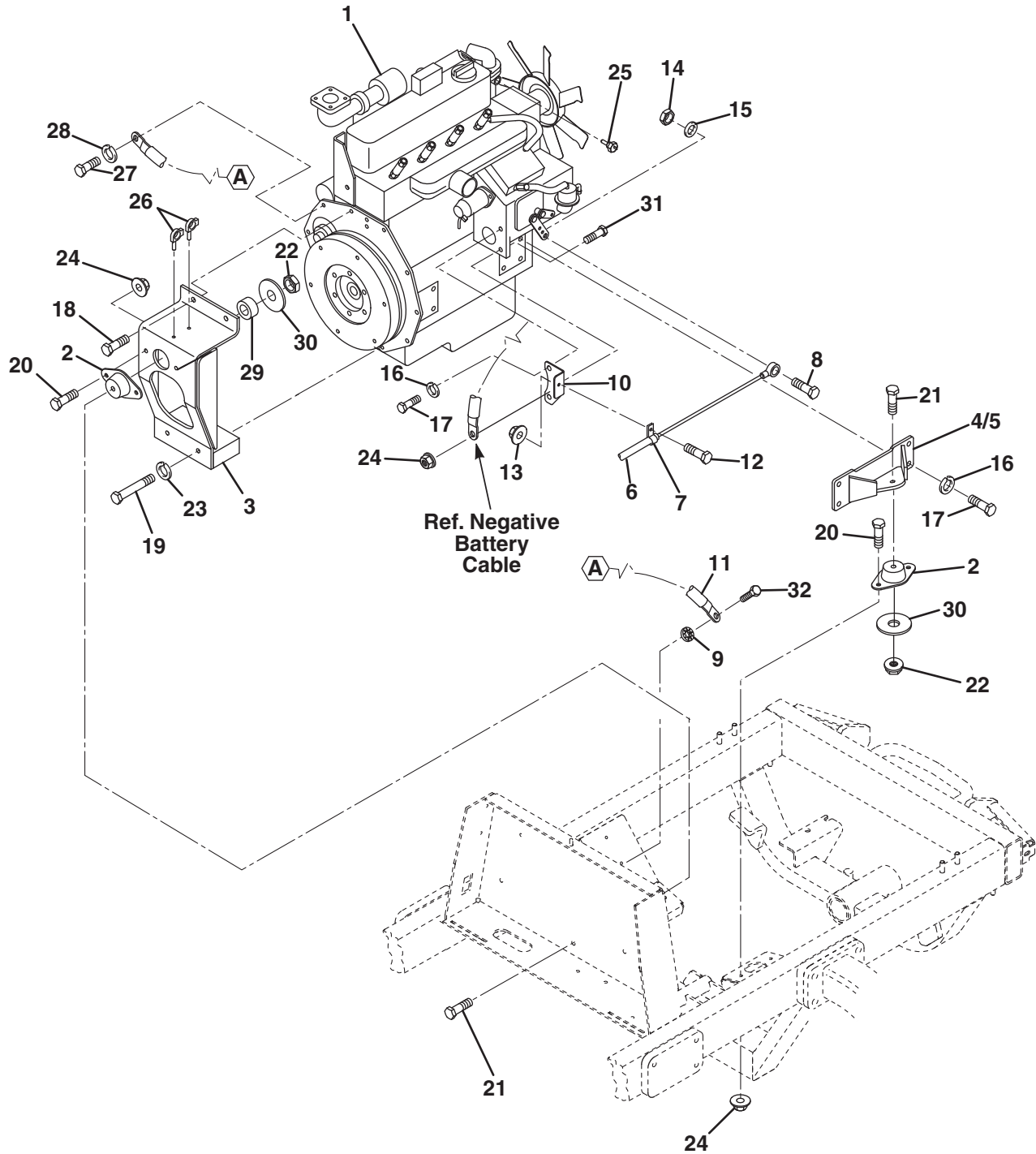
11.1 Radiator and Air Cleaner



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3001965	1	Air Filter	
	5000919	1	• Air Cleaner Element	
	5000920	1	• Cover	
	5000921	1	• Valve	
2	3001388	1	Bracket, Air Filter	
3	3006094	1	Shroud, Rear Frame	
4	3006583	1	Bracket, Air Cleaner Mounting	
5	3006585	1	Shroud, Radiator Fan	
6	3005607	1	Oil Cooler	
7	557367	1	Recovery Tank	
8	557374	1	Tank, Stay	
9	5003077	1	Radiator	Includes Decal
	550863	1	• Radiator Cap	
10	3005604	2	Receptacle, #85 1/4 Turn	
11	3005608	1	Mount, Radiator	
12	3006026	2	Bracket, Radiator	
13	3006584	1	Hose, Air Cleaner Intake	
14	2810158	1	Hose, Radiator Outlet	
15	4169423	1	Hose, Pipe to Turbo Intake	
16	4183402	1	Hose, Radiator Inlet	
17	3005609	1	Mount, Oil Cooler	
18	358971	2	Mounting Block, Rubber	
19	365398	1	Indicator, Air Cleaner	
20	444718	1	Locknut, 5/16-18 Center	
21	345666	2	Clamp	
22	400188	6	Screw, 5/16-18 x 1" Hex Head	
23	445796	6	Nut, 3/8-16 Spirallock Flange	
24	400182	15	Screw, 5/16-18 x 5/8" Hex Head	
25	400200	2	Screw, 5/16-18 x 2-1/2" Hex Head	
26	445640	2	Nut, 3/8-16 Steel Wing	
27	3002195	1	Elbow, 90°	
28	445795	2	Nut, 5/16-18 Spirallock Flange	
29	3005603	2	Retainer	
30	3005605	2	Stud, #85 1/4 Turn	
31	359615	2	Clamp, Hose	
32	326112	4	Clamp, Hose	
33	452006	21	Flat Washer, 5/16	
34	446136	13	Lockwasher, 5/16 Heavy	
35	3008132	2	Seal, Tube	
36	367458	2	Clamp, Hose	
37	3008474	2	Clamp, Tube	
38	366526	1	Clamp, Hose	
39	452008	2	Flat Washer, 3/8	
40	3008383	1	Clip, Harness	
41	5003447	1	Hose, Radiator Overflow, Bulk	
42	830930	2	Clamp, Hose	
43	4169424	1	Hose, Air Cleaner to Pipe	
44	4168440	1	Pipe, Hose Connection	
45	4201661	AR	Hose, 7/16" Fuel	

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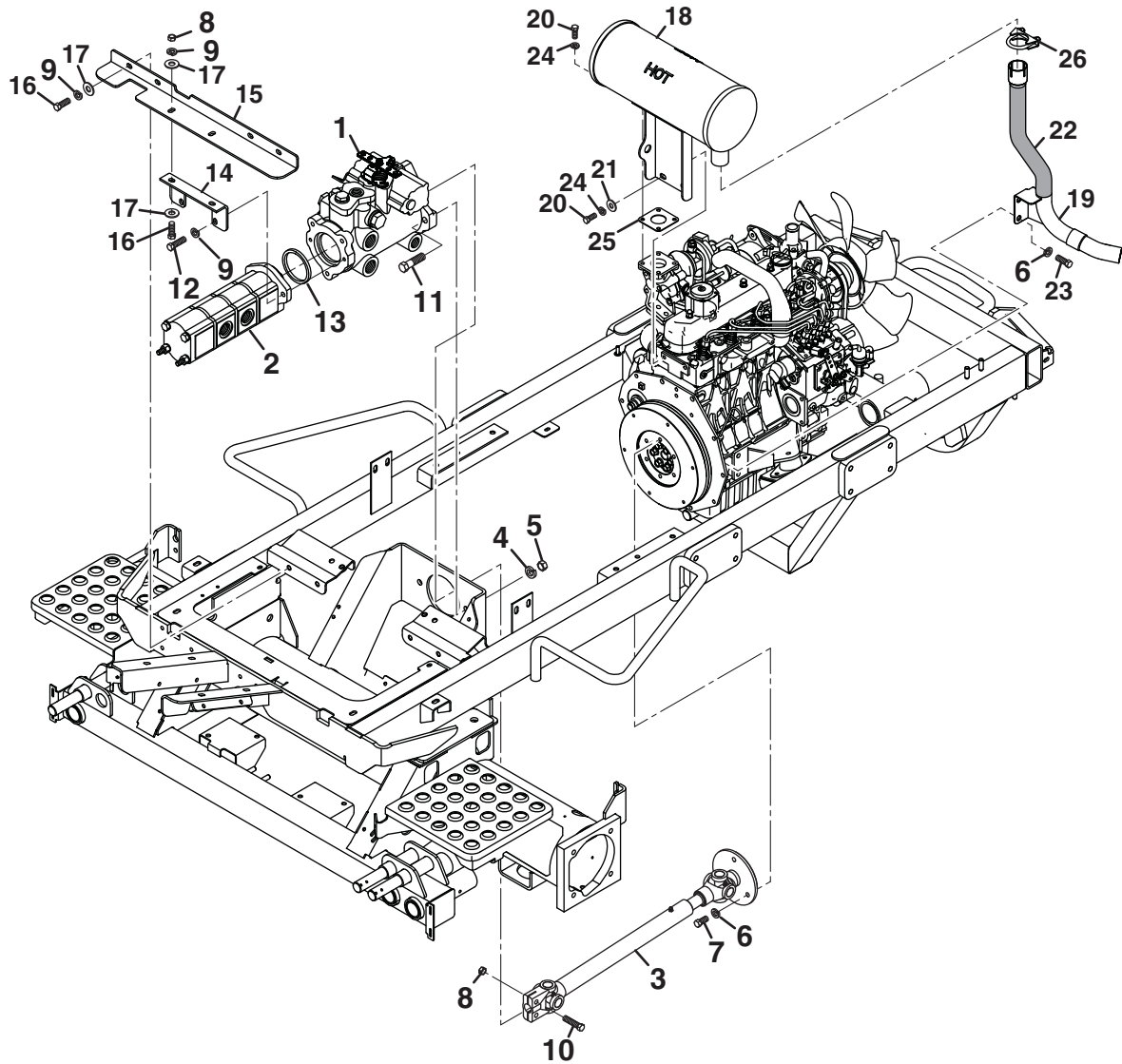
12.1 Engine Assembly and Mounting



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4162421	1	Engine, Kubota V1505-TE	
2	366879	3	Isolator, Engine	
3	1003239	1	Front Engine Mount	
4	1003260	1	Left Side Engine Mount	
5	1003261	1	Right Side Engine Mount	
6	4174241	1	Cable, Throttle	
7	558021	1	• Clip, Cable	
8	400184	1	Screw, 5/16-18 x 3/4" Hex Head	
9	447214	1	Lockwasher, 5/16 Internal Tooth	
10	3006797	1	Bracket, Cable Mounting	
11	2810424	1	Cable, Ground	
12	400108	1	Screw, 1/4-20 x 3/4" Hex Head	
13	445794	1	Nut, 1/4-20 Spiralock Flange	
14	444718	1	Locknut, 5/16-18 Center	
15	452006	3	Flat Washer, 5/16	
16	363485	9	Lockwasher, M10 Heavy	
17	366884	9	Screw, M10-1.25 x 20mm Hex Head	
18	362263	2	Screw, M10-1.25 x 25mm Hex Head	
19	361695	2	Screw, M801.25 x 110mm Hex Head	
20	400188	8	Screw, 5/16-18 x 1" Hex Head	
21	400272	3	Screw, 3/8-16 x 2-1/4" Hex Head	
22	444762	3	Locknut, 3/8-16 Center	
23	446136	2	Lockwasher, 5/16 Heavy	
24	445795	7	Nut, 5/16-18 Spiralock Flange	
25	364501	1	Temperature Sender	
26	3008383	2	Clip, Wire Harness	
27	363586	1	Screw, M8-1.25 x 20 mm Hex Head	Replaces 361898
28	446134	1	Lockwasher, 5/16	
29	3010575	1	Spacer, Isolator	
30	367031	3	Washer, Isolator	
31	400190	1	Screw, 5/16-18 x 1-1/4" Hex Head	
32	409811	1	Screw, 5/16-18 x 3/4" Thread Cutting	

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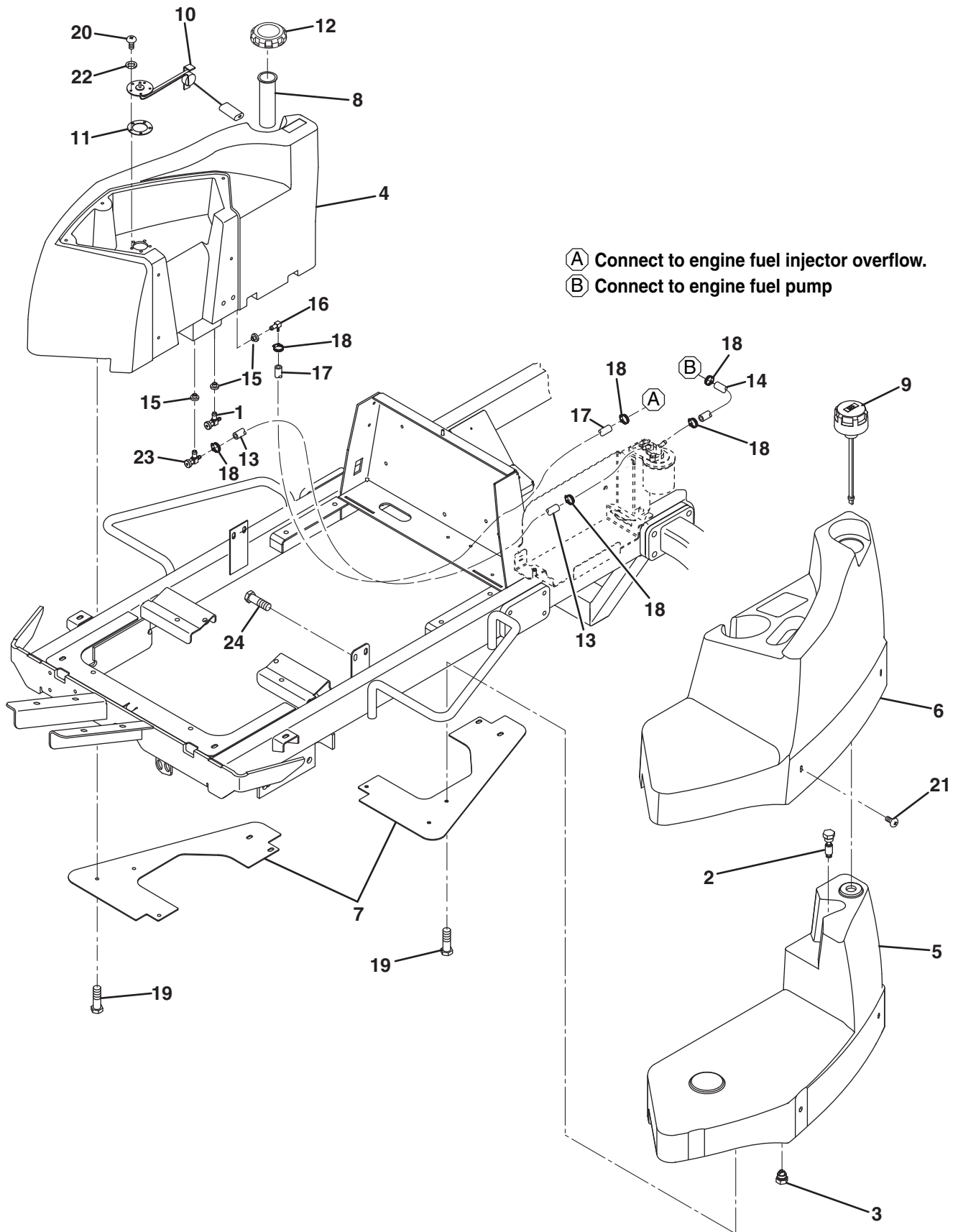
13.1 Engine Exhaust and Pump Mounting



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2810006	1	Pump, Traction	
	5003034	1	• Seal Kit	
	5003432	1	• Control Kit	
	5003433	1	• Shaft Seal Kit	
	5003434	1	• System Relief Kit	
	2810440	1	• Sleeve, Control Arm	
2	1004002	1	Pump, 4 Section Gear	
	5003036	1	• Seal Kit	
3	1002854	1	Driveshaft	
	554663	2	• Cross and Bearing Kit	
4	446154	2	Lockwasher, 1/2 Heavy	
5	443118	2	Nut, 1/2-13 Hex	
6	363485	5	Lockwasher, M10 Heavy	
7	362263	3	Screw, M10-1.25 x 20mm Hex Head	
8	444762	4	Locknut, 3/8-16 Center	
9	446142	2	Lockwasher, 3/8 Heavy	
10	400266	2	Screw, 3/8-16 x 1-1/2" Hex Head	
11	400410	2	Screw, 1/2-13 x 1-3/4" Hex Head	
12	400264	2	Screw, 3/8-16 x 1-1/4" hex Head	
13	362743	1	O-Ring Seal	
14	4196061	1	Bracket, Pump Support	
15	4196060	1	Bracket, Pump to Frame	
16	400262	6	Screw, 3/8-16 x 1" Hex Head	
17	452008	8	Flat Washer, 3/8	
18	4181902	1	Muffler	
19	1004598	1	Tailpipe	
20	363586	6	Screw, M8-1.25 x 20mm Hex Head	
21	452006	2	Flat Washer, 5/16	
22	3007889	1	Sleeve Insulating	
23	366884	2	Bolt, M10-1.25 x 25mm Hex Head	
24	446136	6	Lockwasher, 5/16 Heavy	
25	553020	1	Gasket, Exhaust	
26	348856	1	Clamp, Exhaust	

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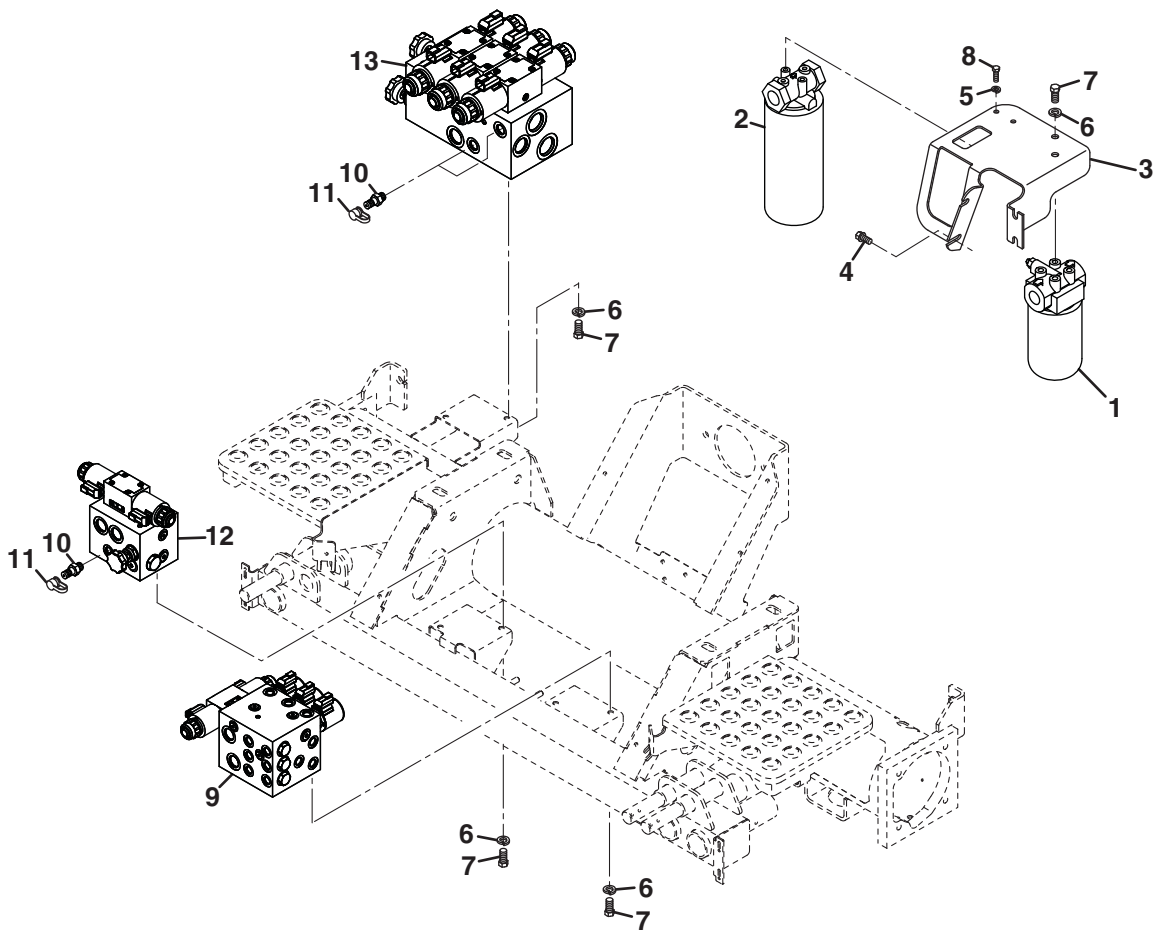
14.1 Fuel and Hydraulic Tanks



Item	Part No.	Qty.	Description	Serial Numbers/Notes	
1	132647	1	Valve, Shut Off		
2	3001279	1	Switch, Float		
3	3002397	1	Plug, Magnetic		
	339899	1	• O-Ring		
4	3009204	1	Fuel Tank		
5	3005871	1	Hydraulic Tank		
6	3005872	1	Shell, Tank Cover		
7	3006243	2	Plate, Tank Mounting		
8	3009347	1	Strainer, Fuel Filler		
9	3006332	1	Breather Filter		
10	3006337	1	Fuel Sender		
11	5003374	1	• Gasket		
12	4177480	1	Cap, Fuel Tank		
13	554748	1	Fuel Line, 5/16" I.D. Cut to 89 Inches		
14	554748	1	Fuel Line, 5/16" I.D. Cut to 18 Inches		
15	361117	3	Bushing, Fuel Tank		
16	361748	1	Valve, Overflow		
17	554752	1	Fuel Line, 3/16 I.D. Cut to 70 Inches		
>	18	48540-01	6	Clamp, Hose	
>	19	403769	14	Screw, 1/4-20 UNC x .500 Hex FL	
	20	403910	5	Screw, #10-24 x 1/2" Truss Head	
	21	404016	5	Screw, 1/4-20 x 5/8" Truss Head	
	22	446118	5	Lockwasher, #10 Heavy	
	23	2810702	1	Valve, Needle	
	24	400108	4	Screw, 1/4-20 x 3/4" Hex Head	
>	25	473142	2	Cable Tie, .19 x 14-16 UV Black	Not Shown
	26	365959	1	Strainer, Tank Mtd.	

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15.1 Hydraulic Valve and Filter Mounting

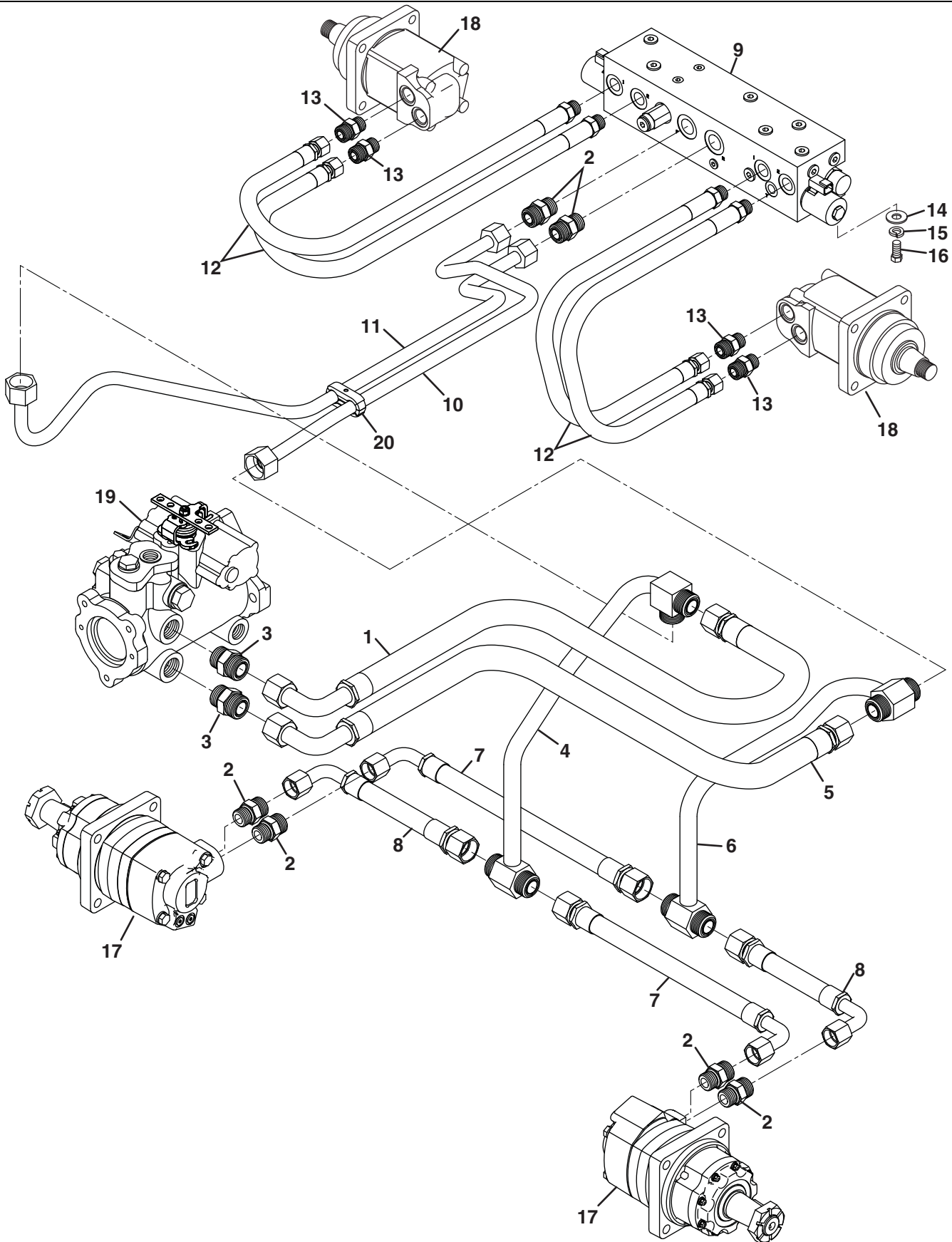


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	123015	1	Charge Filter	
	556417	1	• Head	
	2811255	1	• Oil Filter Cartridge	
	556419	1	• Charge Pressure Switch	
2	132704	1	Return Filter	
	557772	1	• Oil Filter Cartridge	
3	3007290	1	Bracket, Filter	
4	409811	4	Screw, 5/16-18 x 5/8" Thread Cutting	
5	446130	2	Lockwasher, 1/4 Heavy	
6	446142	4	Lockwasher, 3/8 Heavy	
7	400258	8	Screw, 3/8-16 x 3/4" Hex Head	
8	400108	2	Screw, 1/4-20 x 3/4" Hex Head	
9	4195083	1	Valve, Lift	See 39.1
10	365466	3	Fitting, Diagnostic	
11	363030	3	Cover, Dust	
12	4195041	1	Valve, Front Reel	See 36.1
13	4195082	1	Valve, Rear Reel	See 40.1

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16.1 4WD Traction Hydraulics

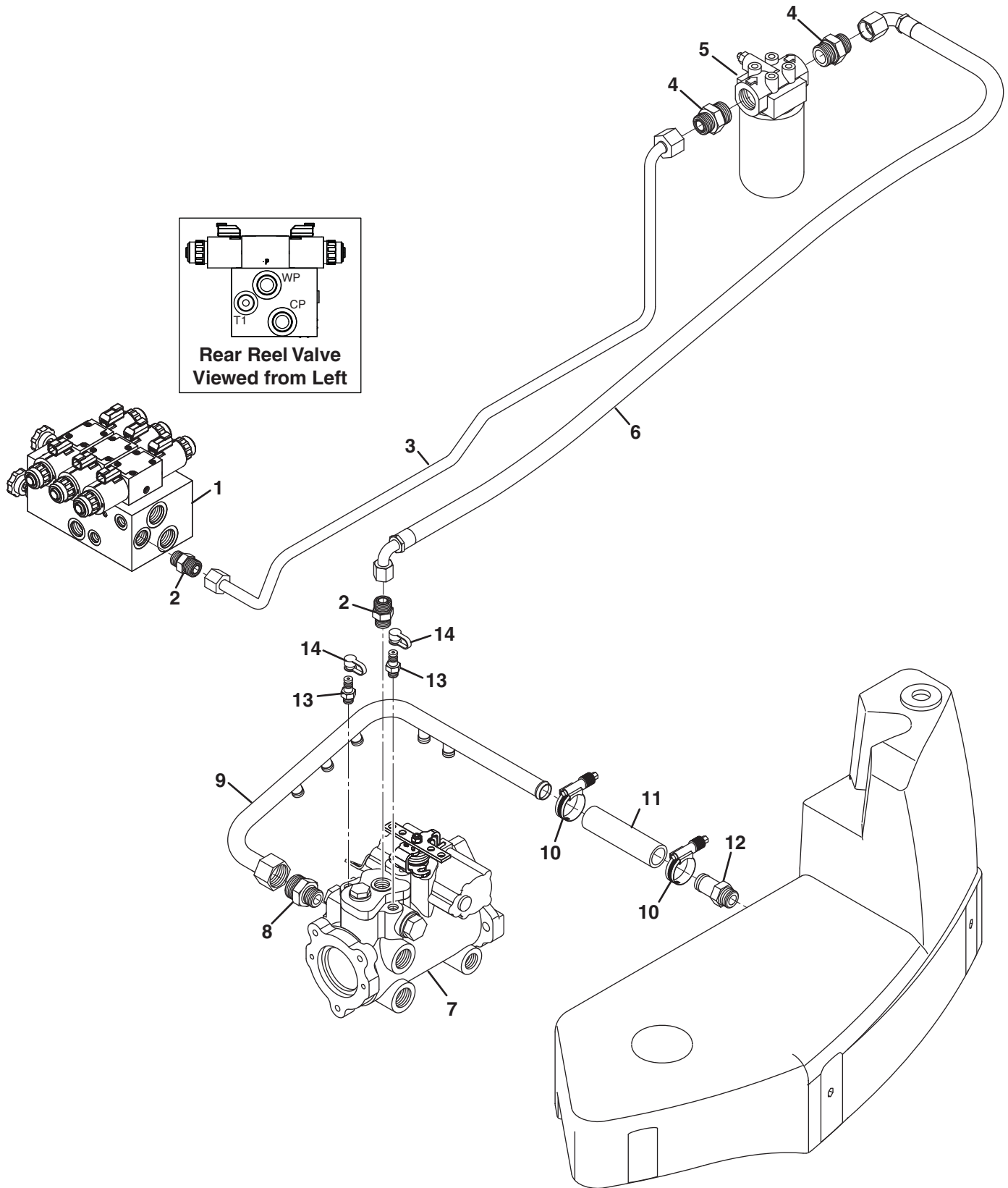
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003440	1	Hose, Pump To Reverse 4WD Tee	
2	339994	6	Fitting, -12 ORFS x -12 ORB Straight	
	339912	1	• O-Ring, -12 ORFS	
	339900	1	• O-Ring, -12 ORB	
3	339999	2	Fitting, -16 ORFS x -16 ORB Straight	
	339913	1	• O-Ring, -16 ORFS	
	339901	1	• O-Ring, -16 ORB	
4	1003457	1	Tube, Reverse 4WD Tee	
	339913	4	• O-Ring, -16 ORFS	
5	1003439	1	Hose, Pump To Forward 4WD Tee	
6	1003456	1	Tube, Forward 4WD Tee	
	339913	4	• O-Ring, -16 ORFS	
7	1003442	2	Hose, Tee To Wheel Motor	
8	1003441	2	Hose, Tee To Wheel Motor	
9	4186580	1	Valve, 4WD	See 43.1
10	1003094	1	Tube, Forward 4WD Tee To Valve	
11	1003095	1	Tube, Reverse 4WD Tee To Valve	
12	1003455	4	Hose, 4WD Valve To Motors	
	339899	1	• O-Ring, -10 ORB	
13	339989	4	Fitting, -10 ORFS x -10 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
14	400258	4	Screw, 3/8-16 x 3/4" Hex Head	
15	446142	4	Lockwasher, 3/8 Heavy	
16	452008	4	Flat Washer, 3/8	
17	4188160	2	Wheel Motor, Front	See 37.1
18	4181920	2	Wheel Motor, Rear	See 38.1
19	2810006	1	Pump, Traction	See 13.1
20	367186	1	Clamp, Double Tube	See 25.1

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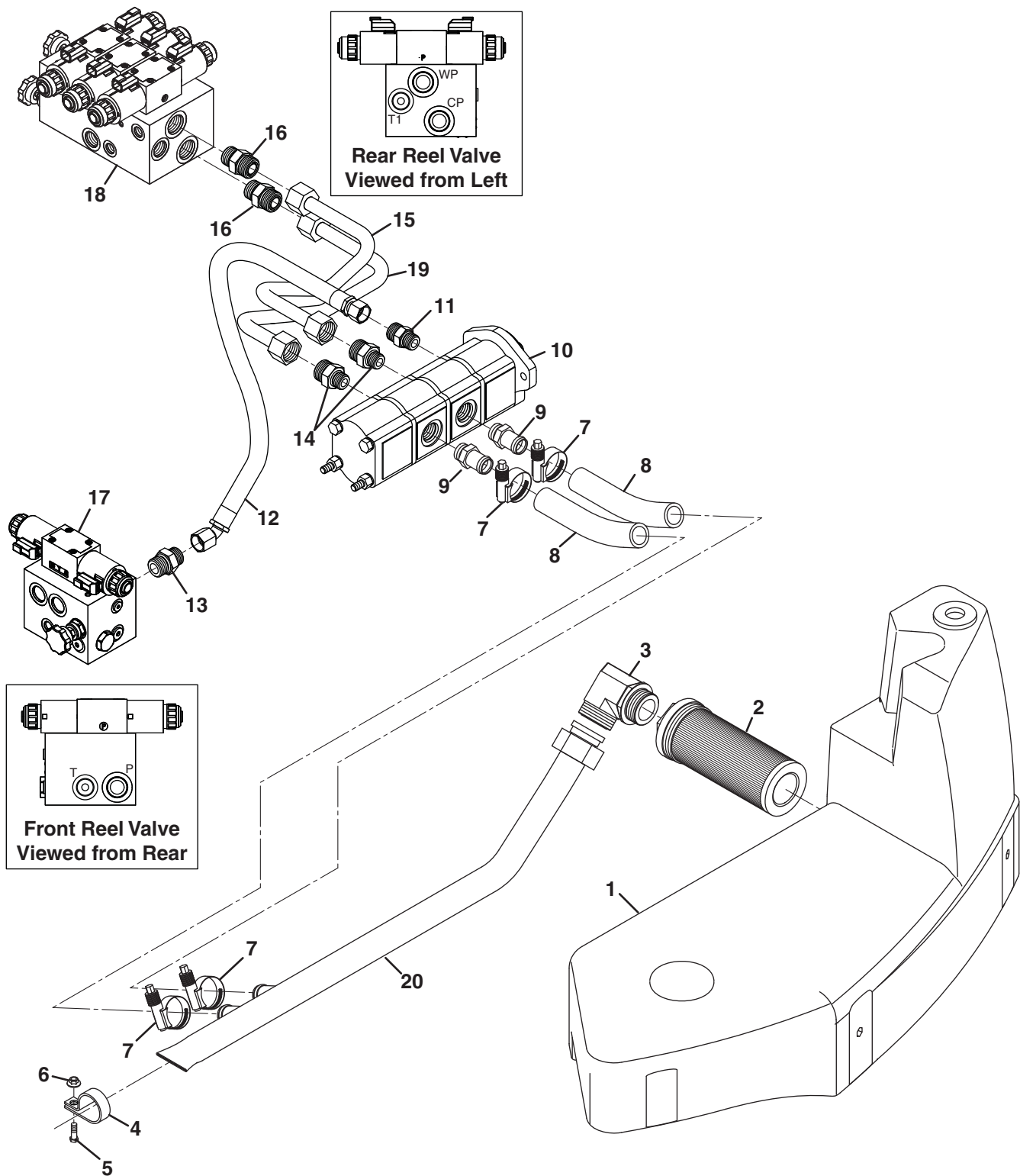
17.1 Charge Pressure Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195082	1	Valve, Rear Reel	See 40.1
2	339989	1	Fitting, -10 ORFs x -10 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
3	2812277	1	Tube, Rear Reel Valve to Filter	Rear Reel Valve Port T1
4	339996	2	Fitting, -12 ORFS x -16 ORB Straight	
	339912	1	• O-Ring, -12 ORFS	
	339901	1	• O-Ring, -16 ORB	
5	123015	1	Charge Filter	See 15.1
	2811255	1	• Oil Filter Cartridge	
6	1003461	1	Hose, Filter to Pump	Charge Filter Inlet
7	2810006	1	Pump, Traction	See 13.1
8	339998	1	Fitting, -16 ORFS x -12 ORB Straight	
	339913	1	• O-Ring, -16 ORFS	
	339900	1	• O-Ring, -12 ORB	
9	4113601	1	Tube, Case Drain	
10	3008673	2	Clamp, Constant Torque	
11	4148857	1	Hose, Tank	
12	3001296	1	Fitting, -12 ORB x 1" Hose	
	339900	1	• O-Ring, -12 ORB	
13	365466	3	Fitting, Diagnostic	
	339897	1	• O-Ring, -6 ORB	
14	363030	3	Cover, Dust	

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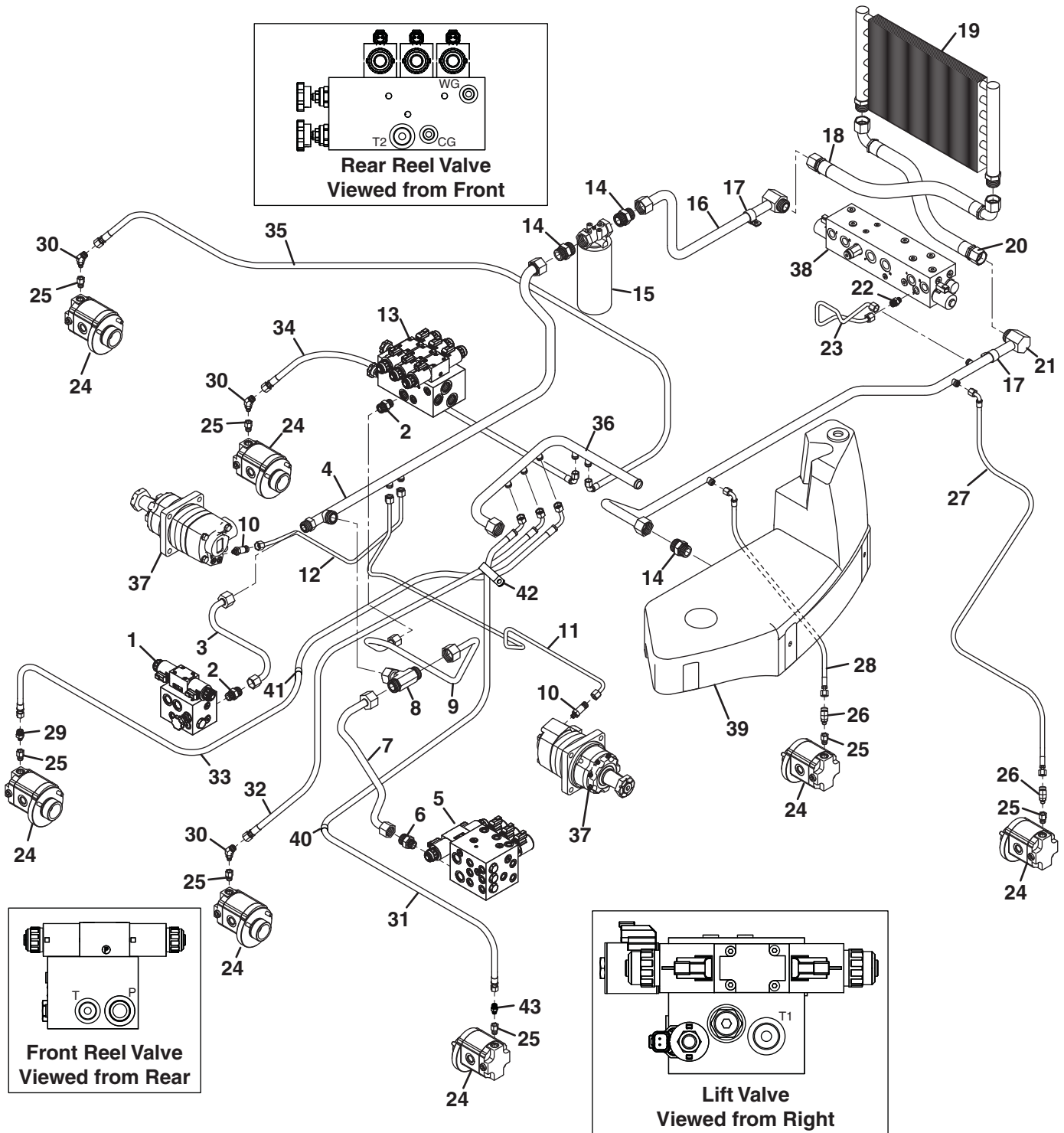
18.1 Gear Pump Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3005871	1	Tank, Hydraulic	See 14.1
2	365959	1	Strainer, Tank	
	2812075	1	• O-Ring	
3	340090	1	Fitting, 24-24 90°	
	339915	1	• O-Ring, -24 ORFS	
	339903	1	• O-Ring, -24 ORB	
4	364190	1	Clamp, 1-1/2 I.D.	
5	400264	1	Screw, 3/8-16 x 1-1/4" Hex Head	
6	445796	1	Nut, 3/8-16 Spiralock Flange	
7	4148857	2	Hose, Tank	
8	1003461	1	Hose, Filter to Pump	
9	3008673	2	Clamp, Constant Torque	
10	1004002	1	Pump, 4 Section Gear	See 13.1
11	339989	1	Fitting, -10 ORFS x -10 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
12	2810256	1	Hose, Pump To Front Reel Valve	Front Reel Valve Port P
13	339990	1	Fitting, -10 ORFS x -12 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339900	1	• O-Ring, -12 ORB	
14	339993	2	Fitting, -12 ORFS x -10 ORB Straight	
	339912	1	• O-Ring, -12 ORFS	
	339899	1	• O-Ring, -10 ORB	
15	1004206	1	Tube, Pump to Rear Reel Valve	Rear Reel Valve Port WP
16	1004207	1	Tube, Pump to Rear Reel Valve	Rear Reel Valve Port CP
17	339994	2	Fitting, -12 ORFS x -12 ORB Straight	
	339912	1	• O-Ring, -12 ORFS	
	339900	1	• O-Ring, -12 ORB	
18	4195041	1	Valve, Front Reel	See 36.1
19	4195082	1	Valve, Rear Reel	See 40.1
20	1003992	1	Tube, Gear Pump Suction	

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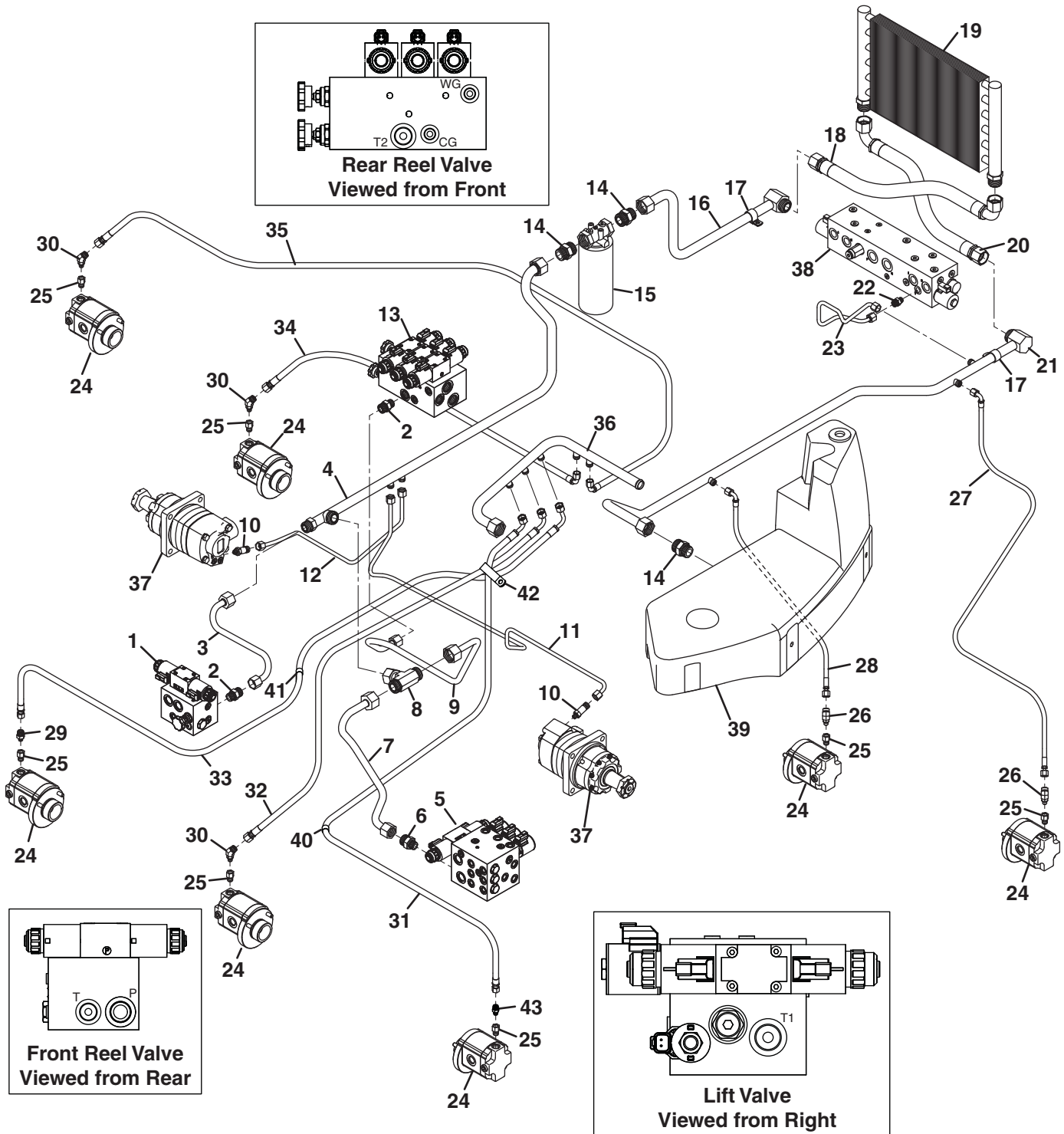
19.1 Return and Drain Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195041	1	Valve, Front Reel	See 36.1
2	339989	4	Fitting, -10 ORFS x -10 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
3	2812275	1	Tube, Left Reel Valve Return	
4	2812271	1	Tube, Drain	
	339913	2	• O-Ring, -16 ORFS	
	339909	2	• O-Ring, -6 ORFS	
5	4195083	1	Valve, Lift	See 39.1
6	339993	1	Fitting, -12 ORFS x -10 ORB Straight	
	339912	1	• O-Ring, -12 ORFS	
	339899	1	• O-Ring, -10 ORB	
7	2812274	1	Tube, Lift Valve Return	Lift Valve Port T1
8	340147	1	Tee, -16 ORFS Swivel Branch	
	339913	2	• O-Ring, -16 ORFS	
9	2812276	1	Tube, Rear Reel Valve Return	Rear Reel Valve Port T2
10	340007	2	Fitting, -6 ORFS x -4 ORB Long	
	339909	1	• O-Ring, -6 ORFS	
	339896	1	• O-Ring, -4 ORB	
11	1004311	1	Tube, Left Front Wheel Motor Drain	
12	1004312	1	Tube, Right Front Wheel Motor Drain	
13	4195082	1	Valve, Rear Reel	See 40.1
14	339999	3	Fitting, -16 ORFS x -16 ORB Straight	
	339913	1	• O-Ring, -16 ORFS	
	339901	1	• O-Ring, -16 ORB	
15	132704	1	Return Filter	See 15.1
	557772	1	• Oil Filter Cartridge	
16	1003389	1	Tube, Filter to Oil Cooler	
17	3008474	2	Clamp, Tube	
18	1003453	1	Hose, Right Tube to Oil Cooler	
19	3005607	1	Oil Cooler	
20	1003454	1	Hose, Oil Cooler to Left Tube	
21	1004218	1	Tube, Return	
22	339979	1	Fitting, -6 ORFS x -6 ORB Straight	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
23	1004018	1	Tube, 4WD Drain	
24	4260372	7	Motor, Reel	See 41.1
25	4256474	7	Adapter, -6 ORB x -4 ORB Female	
26	340022	2	Fitting, -4 ORFS x -4 ORB 45°	
	339908	1	• O-Ring, -4 ORFS	
	339896	1	• O-Ring, -4 ORB	
27	1004224	1	Hose, Left Wing Motor Drain	
Parts List Continued on next page.				

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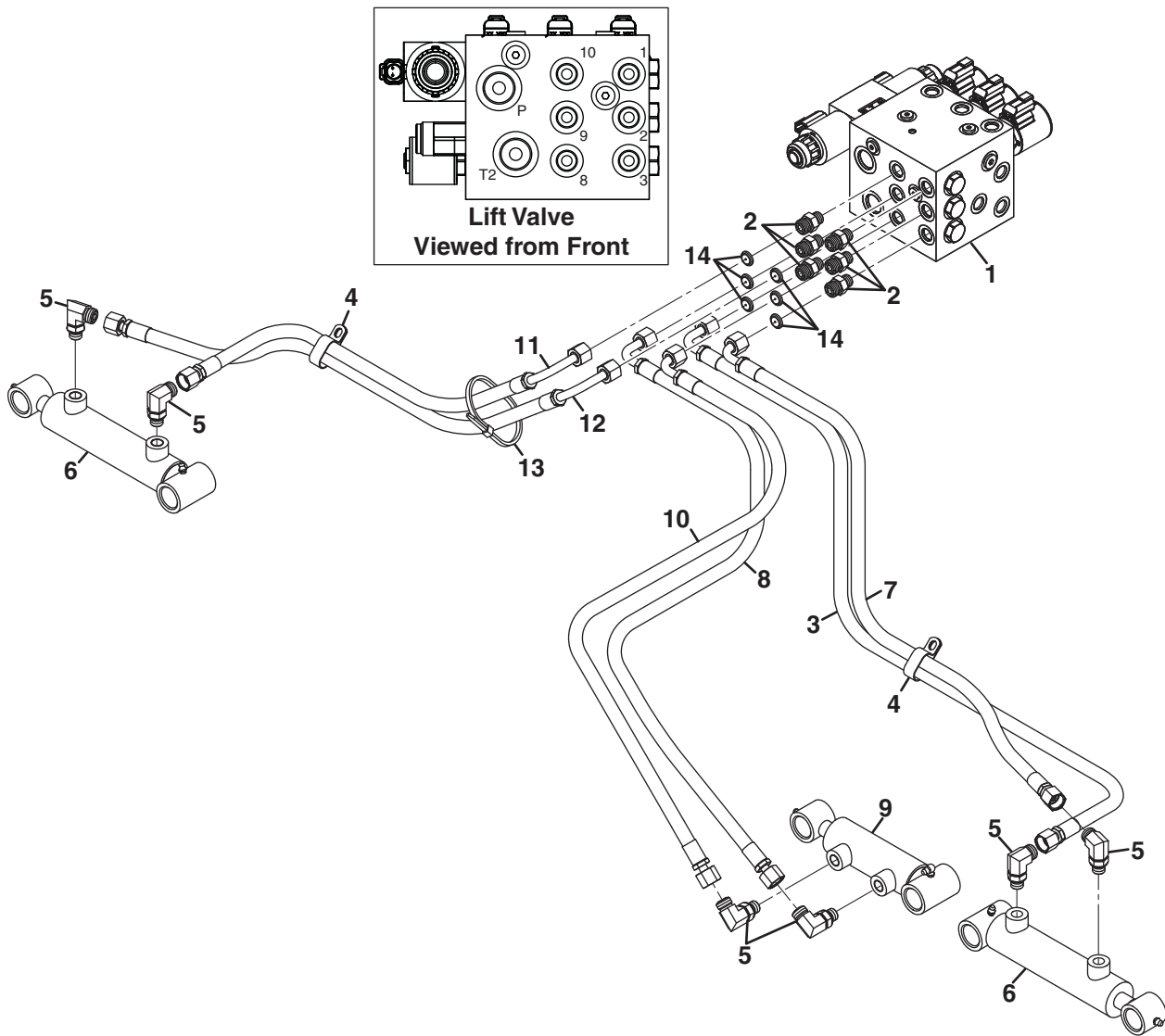
19.1 Return and Drain Hydraulics (Continued)



Item	Part No.	Qty.	Description	Serial Numbers/Notes
14	1004223	1	Hose, Left Rear Motor Drain	
15	339977	1	Fitting, -6 ORFS x -4 ORB Straight	
	339909	1	• O-Ring, -6 ORFS	
	339896	1	• O-Ring, -4 ORB	
16	340025	3	Fitting, -6 ORFS x -4 ORB 45°	
	339909	1	• O-Ring, -6 ORFS	
	339896	1	• O-Ring, -4 ORB	
17	2812242	1	Hose, Left Front Motor Drain	
18	4240602	1	Hose, Center Front Motor Drain	
19	4240604	1	Hose, Right Front Motor Drain	
20	4240026	1	Hose, Right Rear Motor Drain	
21	4240582	1	Hose, Right Ming Motor Drain	
22	4113601	1	Tube, Case Drain	See 17.1
23	4188160	2	Wheel Motor	See 37.1
24	4186580	1	Valve, 4WD	See 43.1
25	3005871	1	Hydraulic Tank	See 14.1
26	360970	1	Clamp, 5/8" Hose	
27	4242022	1	Clamp, 13/16" Hose	
28	365566	1	Clamp, 1-1/4" Hose	
29	339972	1	Fitting, -4 ORFS x -4 ORB Straight	
	339908	1	• O-Ring, -4 ORFS	
	339896	1	• O-Ring, -4 ORB	

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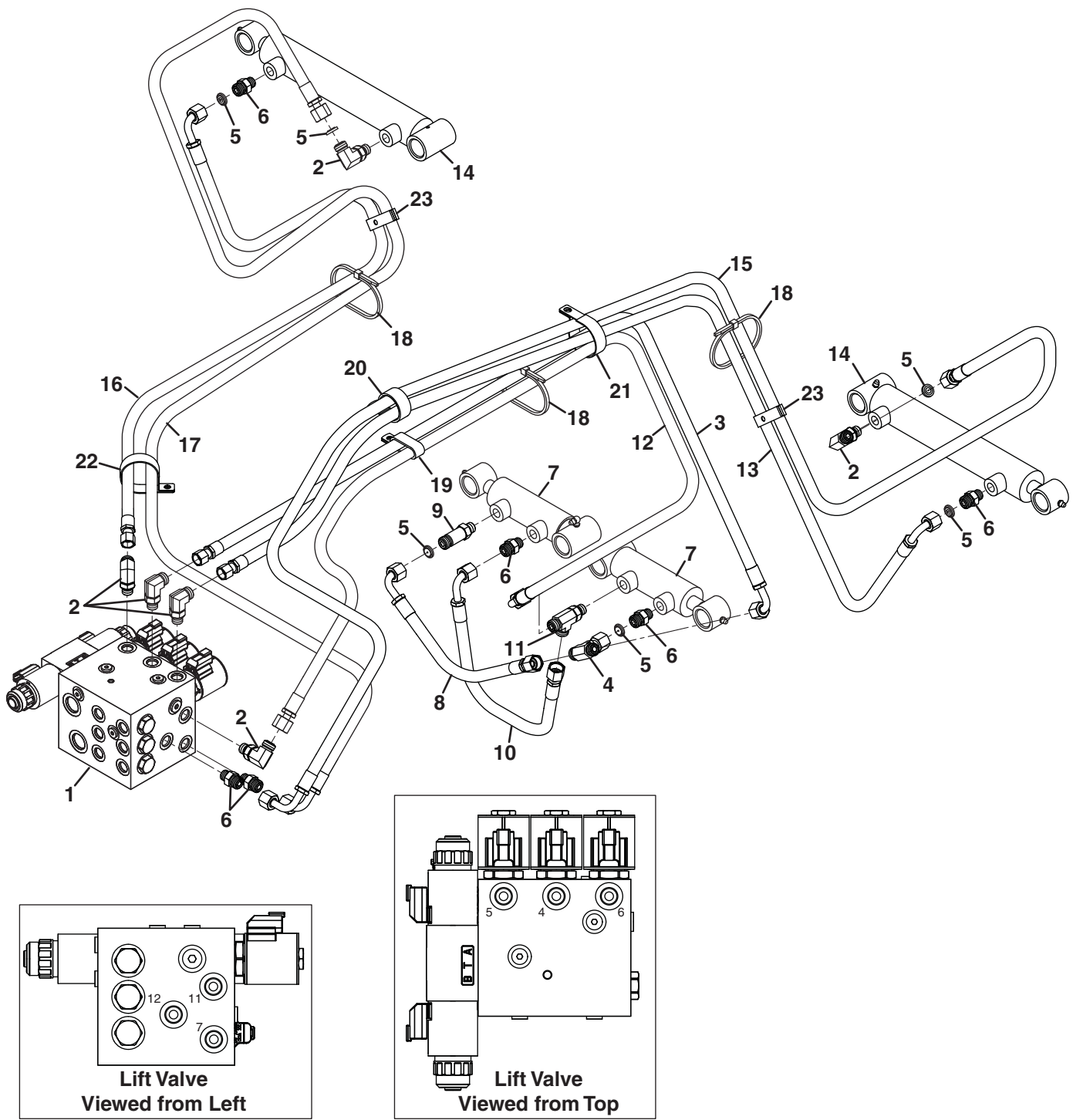
20.1 Front Lift Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195083	1	Valve, Lift	See 39.1
2	339979	1	Fitting, -6 ORFS x -6 ORB Straight	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
3	4240025	1	Hose, Lift Valve to Left Cylinder	Lift Valve Port 8
4	108134-04	2	Clamp, Double Hose	
5	340061	6	Fitting, -6 ORFS x -6 ORB 90°	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
6	4193221	2	Cylinder, Front Left and Right Lift	
	4194460	1	• Seal Kit	
7	4240183	1	Hose, Left Cylinder to Lift Valve	Lift Valve Port 3
8	4240024	1	Hose, Lift Valve to Center Cylinder	Lift Valve Port 9
9	4193220	1	Cylinder Lift	
	4194020	1	• Seal Kit	
10	4240182	1	Hose, Center Cylinder to Lift Valve	Lift Valve Port 2
11	4240023	1	Hose, Lift Valve to Right Cylinder	Lift Valve Port 10
12	4240022	1	Hose, Right Cylinder to Lift Valve	Lift Valve Port 1
13	473142	1	Cable Tie, 3/16 x 14"	
14	3000953	6	Disk, 0.040" Orifice	
	339909	1	• O-Ring, -6 ORFS	

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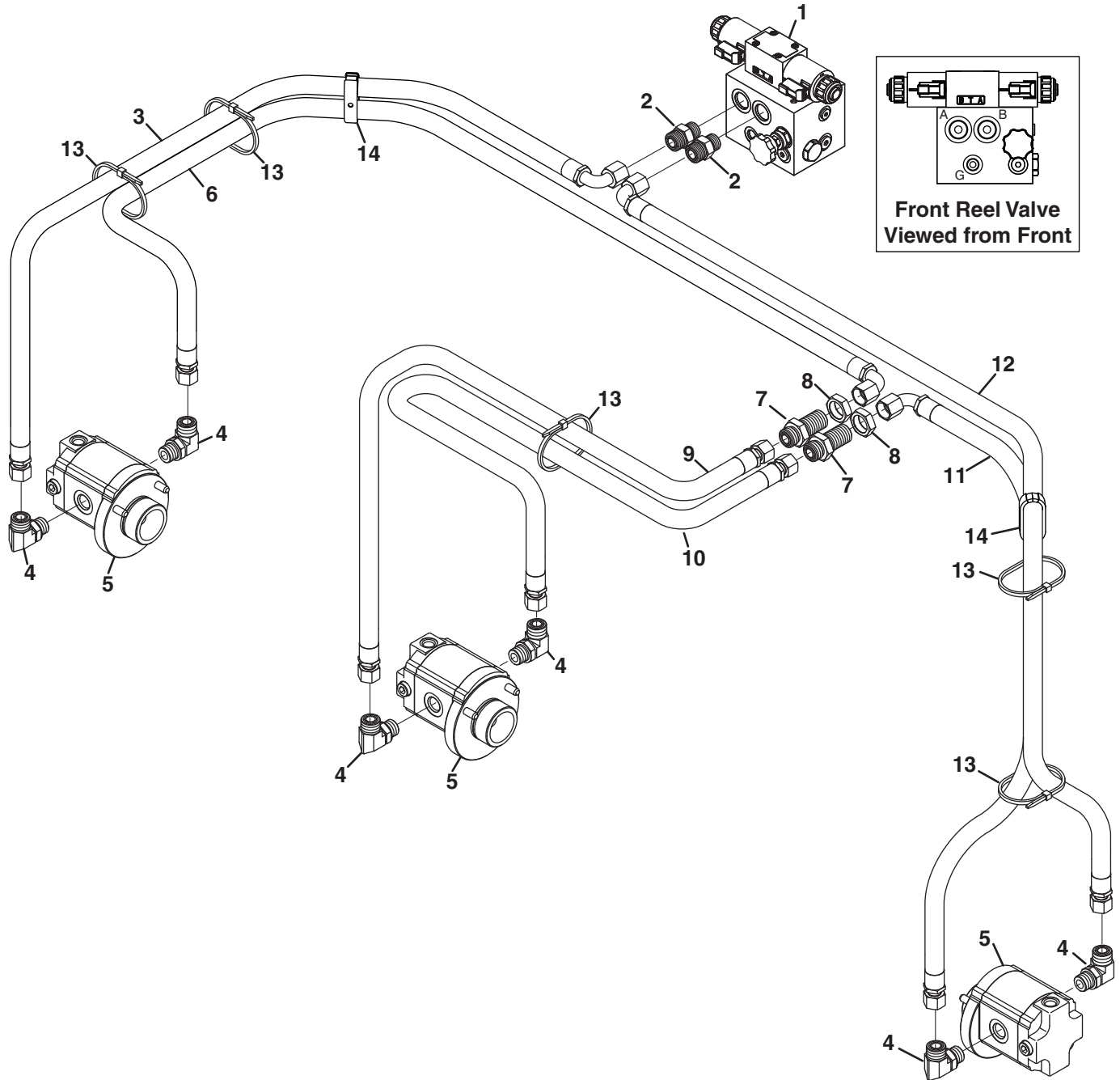
21.1 Rear Lift Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195083	1	Valve, Lift	See 39.1
2	340061	6	Fitting, -6 ORFS x -6 ORB 90°	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
3	1003349	1	Hose, Lift Valve to Rear Cylinder	Lift Valve Port 4
4	340143	1	Tee, -6 ORFS Swivel Branch	
	339909	2	• O-Ring, -6 ORFS	
5	3000953	6	Disk, 0.040" Orifice	
	339909	1	• O-Ring, -6 ORFS	
6	339979	6	Fitting, -6 ORFS x -6 ORB Straight	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
7	4193220	1	Cylinder Lift	
	4194020	1	• Seal Kit	
8	4241202	1	Hose, Left to Right Rear Cylinder	Cylinder Rod Ports
9	340005	1	Fitting, -6 ORFS x -6 ORB Long	
	339909	1	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
10	4120536	1	Hose, Right to Left Rear Cylinder	Cylinder Base Ports
11	340263	1	Tee, -6 ORFS x -6 ORB Straight Run	
	339909	2	• O-Ring, -6 ORFS	
	339897	1	• O-Ring, -6 ORB	
12	1003350	1	Hose, Rear Cylinder to Lift Valve	Lift Valve Port 11
13	1004227	1	Hose, Lift Valve to Left Wing Cylinder	Lift Valve Port 6
14	4138513	2	Cylinder, Wing Lift	
	4137139	1	• Seal Kit	
15	1004228	1	Hose, Left Wing Cylinder to Lift Valve	Lift Valve Port 12
16	1004229	1	Hose, Lift Valve to Right Wing Cylinder	Lift Valve Port 5
17	1004230	1	Hose, Right Wing Cylinder to Lift Valve	Lift Valve Port 7
18	473142	3	Cable Tie, 3/16 x 14"	
19	3007558	1	Clamp, Double Hose	
20	365566	1	Clamp, 1-1/4" Hose	
21	364190	1	Clamp, 1-1/2" Hose	
22	367090	1	Clamp, 2" Hose	
23	3003110	2	Clamp, Double Tube	

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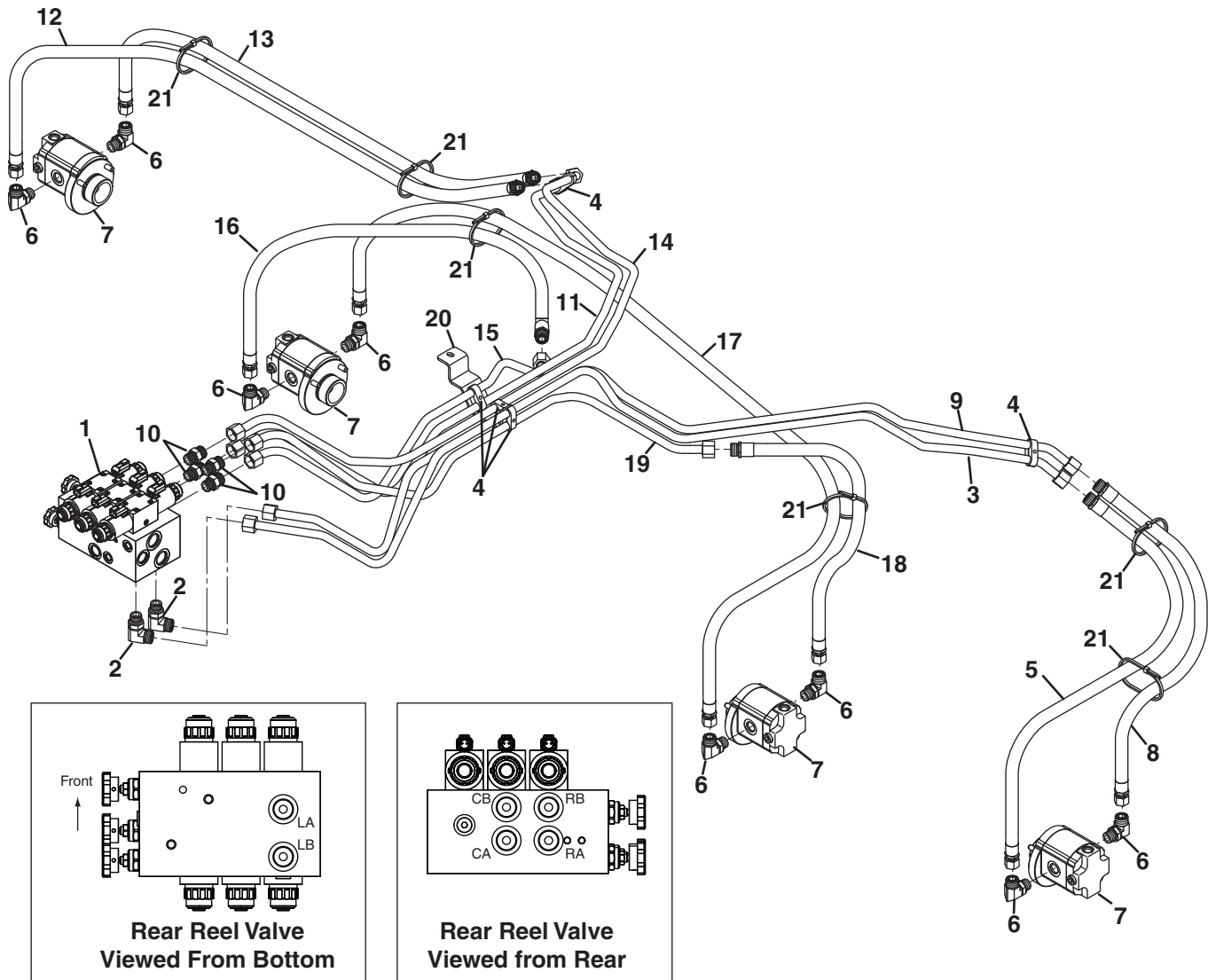
22.1 Front Reel Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195041	1	Valve, Front Reel	See 36.1
2	339989	1	Fitting, -10 ORFS x -10 ORB Straight	Front Reel Valve Port A
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
3	1003337	1	Hose, Valve to Right Front Motor	See 41.1
4	340070	6	Fitting, -10 ORFS x -10 ORB 90°	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
5	4260372	7	Motor, Reel	
6	1003444	1	Hose, Right Front Motor to Bulkhead	
7	340241	2	Union, -10 ORFS Straight Bulkhead	
	339911	2	• O-Ring, -10 ORFS	
8	339963	1	Locknut, -10 ORFS Bulkhead	
9	1003445	1	Hose, Bulkhead to Center Motor	
10	1003446	1	Hose, Center Motor to Bulkhead	
11	1003447	1	Hose, Bulkhead to Left Front Motor	
12	1003338	1	Hose, Left Front Motor to Reel Valve	
13	473142	5	Cable Tie, 3/16 x 14"	
14	3003473	2	Clamp, Double Tube	

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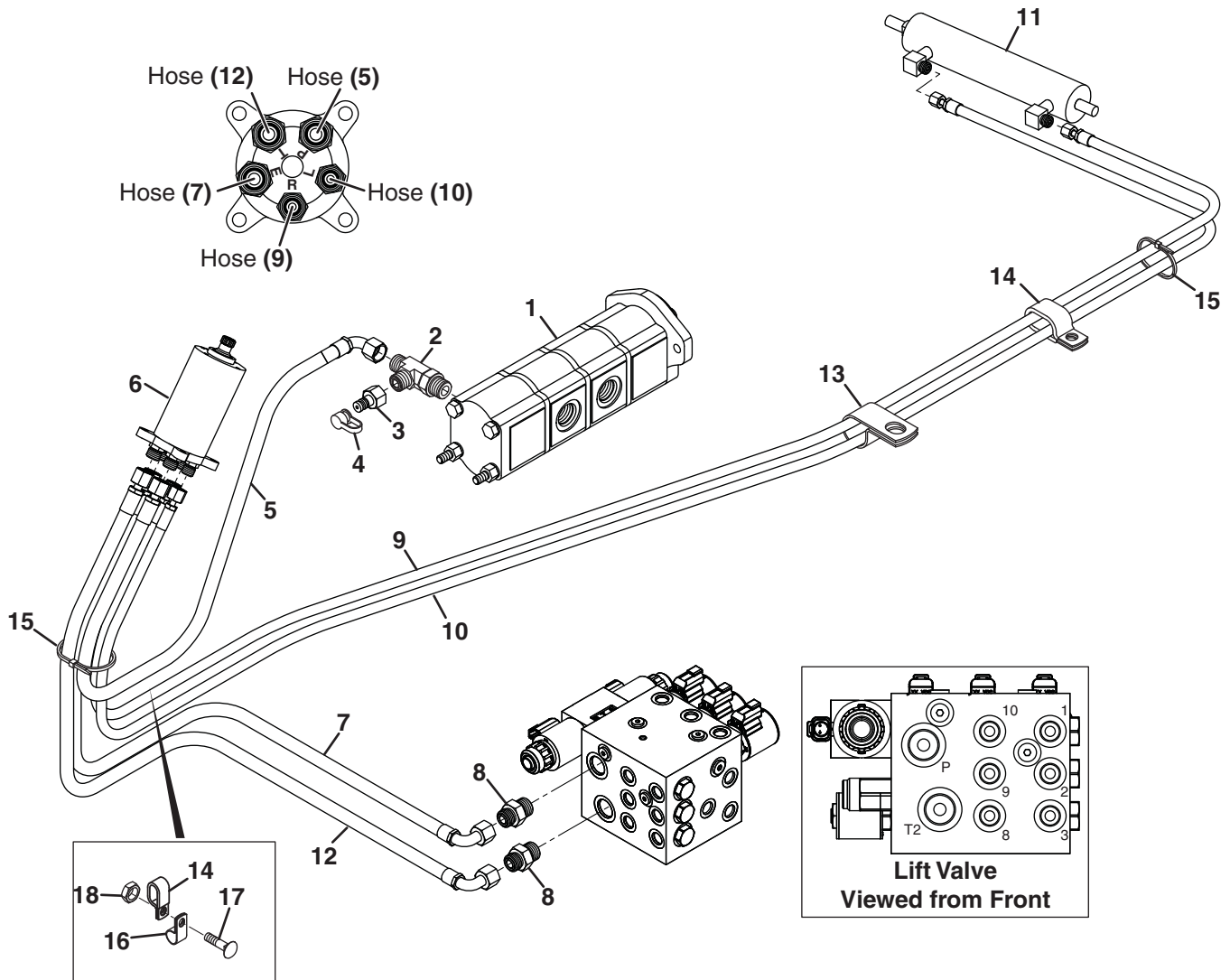
23.1 Rear Reel Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195082	1	Valve, Rear Reel	See 40.1
2	340070	2	Fitting, -10 ORFS x -10 ORB 90°	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
3	1004430	1	Tube, Left Wing Motor Pressure	Rear Reel Valve Port LA
4	3003110	5	Clamp, Double Tube	
5	1004221	1	Hose, Pressure Tube to Left Wing Motor	
	339911	1	• O-Ring, -10 ORFS	
6	340070	8	Fitting, -10 ORFS x -10 ORB 90°	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
7	4260372	4	Motor, Reel	See 41.1
8	1004221	1	Hose, Left Wing Motor to Return Tube	
	339911	1	• O-Ring, -10 ORFS	
9	1004431	1	Tube, Left Wing Motor Return	Rear Reel Valve PORT LB
10	339989	1	Fitting, -10 ORFS x -10 ORB Straight	
	339911	1	• O-Ring, -10 ORFS	
	339899	1	• O-Ring, -10 ORB	
11	1004433	1	Tube, Right Wing Pressure	Rear Reel Valve Port RA
12	1004221	1	Hose, Pressure Tube to Right Wing Motor	
	339911	1	• O-Ring, -10 ORFS	
13	1004221	1	Hose, Right Wing Motor to Return Tube	
	339911	1	• O-Ring, -10 ORFS	
14	1004434	1	Tube, Right Wing Motor Return Tube	Rear Reel Valve Port RB
15	1004432	1	Tube, Rear Reel Motor Pressure	Rear Reel Valve Port CA
16	1004284	1	Hose, Pressure Tube to Right Rear Motor	
	339911	1	• O-Ring, -10 ORFS	
17	1004285	1	Hose, Right Rear to Left Rear Motor	
18	1004283	1	Hose, Left Rear Motor to Return Tube	
	339911	1	• O-Ring, -10 ORFS	
19	1004429	1	Tube, Rear Reel Motor Reutrn	
20	3009564	1	Bracket, Tube Clamp	
21	473142	8	Cable Tie, 3/16 x 14"	

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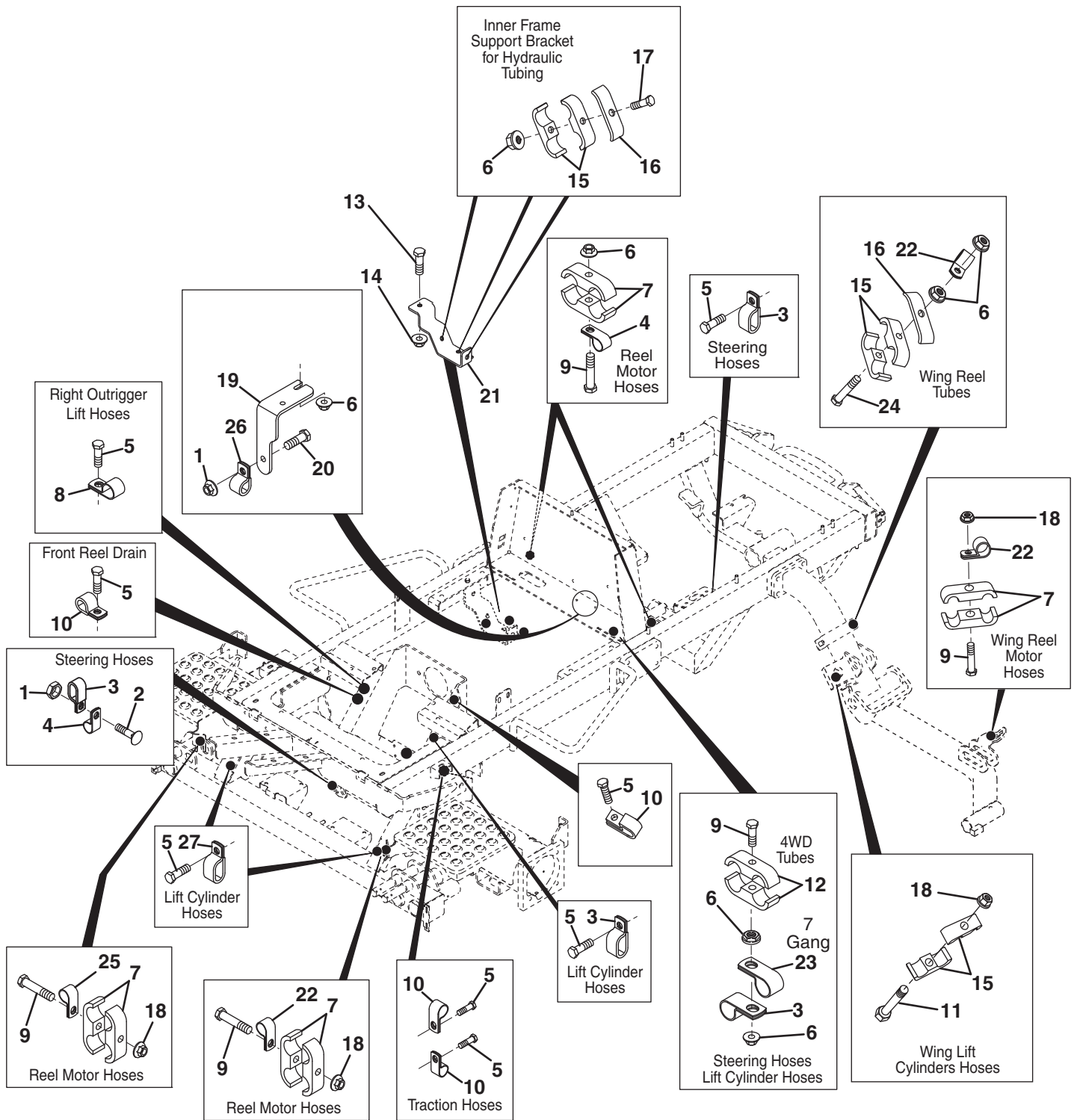
24.1 Steering Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004002	1	Pump, 4 Section Gear	See 13.1
2	340274	1	Tee, -8 ORFS x -8 ORFS x -10 ORB	
	339910	2	• O-Ring, -8 ORFS	
	339899	1	• O-Ring, -10 ORB	
3	364945	1	Fitting, Diagnostic	
4	363030	3	Cover, Dust	
5	1003334	1	Hose, Gear Pump To Steering Valve	Steering Valve Port P
6	4212981	1	Valve, Steering	See 10.2
	4197940	1	• Seal Kit	
	339908	2	• O-Ring, -4 ORFS	
	339909	3	• O-Ring, -6 ORFS	
7	1003339	1	Hose, Steering Valve To Lift Valve	Steering Valve Port E , Lift Valve Port P
8	339985	2	Fitting, -8 ORFS x -10 ORB Straight	
	339910	2	• O-Ring, -8 ORFS	
	339899	1	• O-Ring, -10 ORB	
9	1003341	1	Hose, Steering Valve to Cylinder	Steering Valve Port R
10	1003342	1	Hose, Steering Valve to Cylinder	Steering Valve Port L
11	4137137	1	Cylinder, Steering	See 9.1
	4137139	1	• Seal Kit	
	339908	2	• O-Ring, -4 ORFS	
12	1003340	1	Hose, Steering Valve to Lift Valve	Steering Valve Port T , Lift Valve Port T2
13	364190	1	Clamp, 1-1/2" I.D.	See 25.1
14	3007558	2	Clamp, Double Tube	See 25.1
15	473142	2	Tie Wrap	
16	345666	1	Clamp, 1/2" I.D.	See 25.1
17	441614	1	Carriage Bolt, 5/16-18 x1"	
18	445795	1	Nut, 5/16-18 Spiralock Flange	

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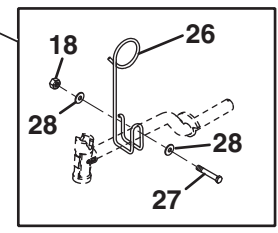
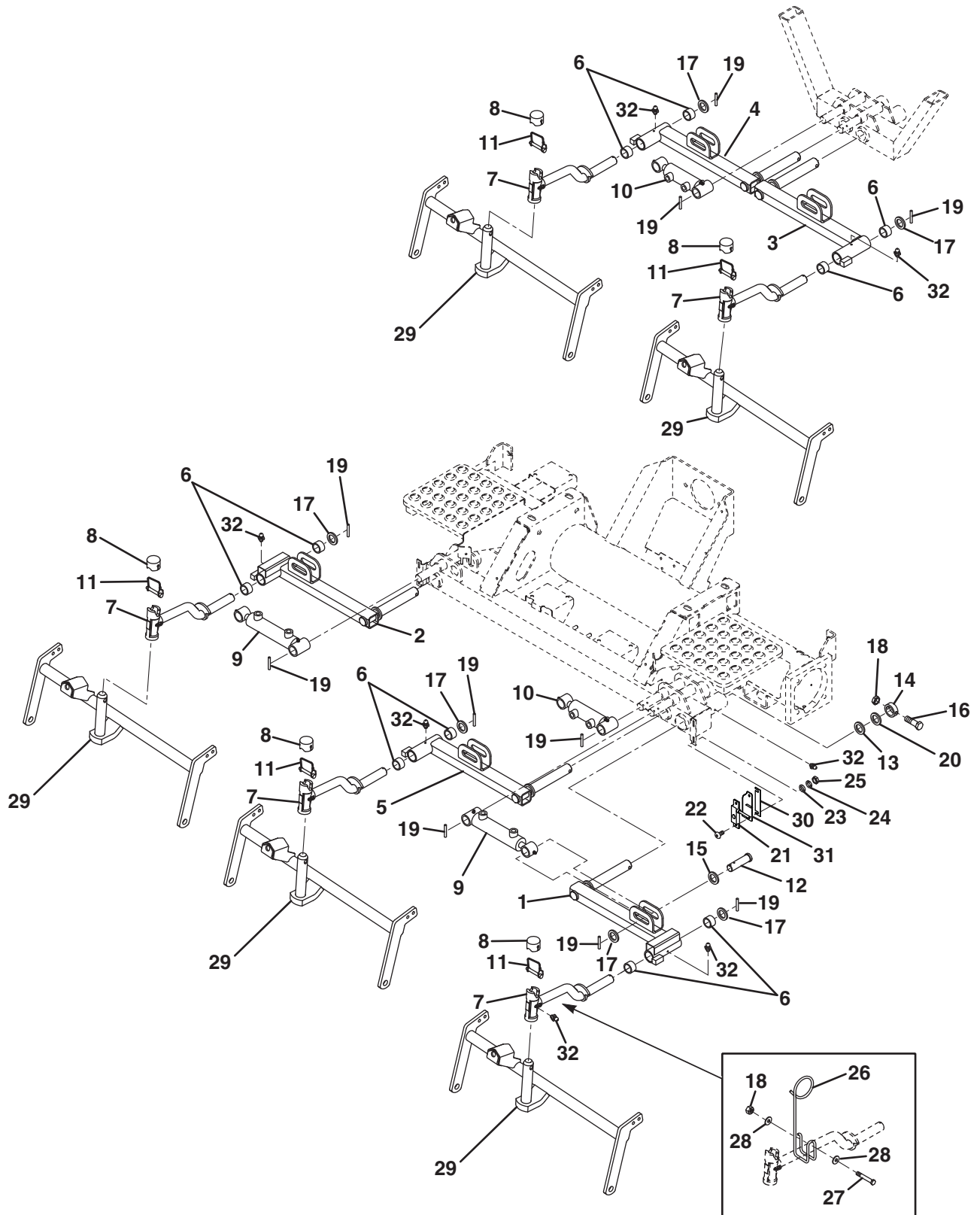
25.1 Hydraulic Clamps



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	445795	AR	Nut, 5/16-18 Spirallock Flange	
2	441614	1	Carriage Bolt, 5/16-18 x1"	
3	3007558	4	Clamp, 1/2" x 1" Tube	
4	345666	AR	Clamp, 1/2" I.D.	
5	409811	AR	Screw, 5/16-18 x 5/8" Thread Cutting	
6	445794	AR	Locknut, 1/4-20 Spirallock Flange	
7	3003473	AR	Clamp, Double 7/8" Tube	
> 8	367090	2	Clamp, 2" I.D.	
9	400122	AR	Screw, 1/4-20 x 2-1/4" Hex Head	
10	365566	AR	Clamp, 1-1/4" I.D.	
11	400118	2	Screw, 1/4-20 x 1-3/4" Hex Head	
12	367186	1	Clamp, Double 3/4" Tube	
13	400258	1	Screw, 3/8-16 x 3/4" Hex Head	
14	445796	1	Nut, 3/8-16 Spirallock Flange	
15	3003110	7	Clamp, Double 5/8" Tube	
16	2812240	5	Plate, Cover	
17	400116	3	Screw, 1/4-20 x 1-1/2" Hex Head	
18	444708	AR	Locknut, 1/4-20 Center	
19	3009645	1	Bracket, Hose Clamp	
20	400188	1	Screw, 5/16-18 x 1" Hex Head	
21	3009564	1	Bracket, Tube Clamp	
22	360970	AR	Clamp, 5/8" I.D.	
23	364190	1	Clamp, 1-1/2" I.D.	
24	400120	2	Screw, 1/4-20 x 2" Hex Head	
25	4242022	1	Clamp, 13/32" I.D.	
26	3008474	1	Clamp, 1" I.D.	
27	108138-04	2	Clamp, 5/8 x 1-1/4" Hose	

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26.1 Lift Arms

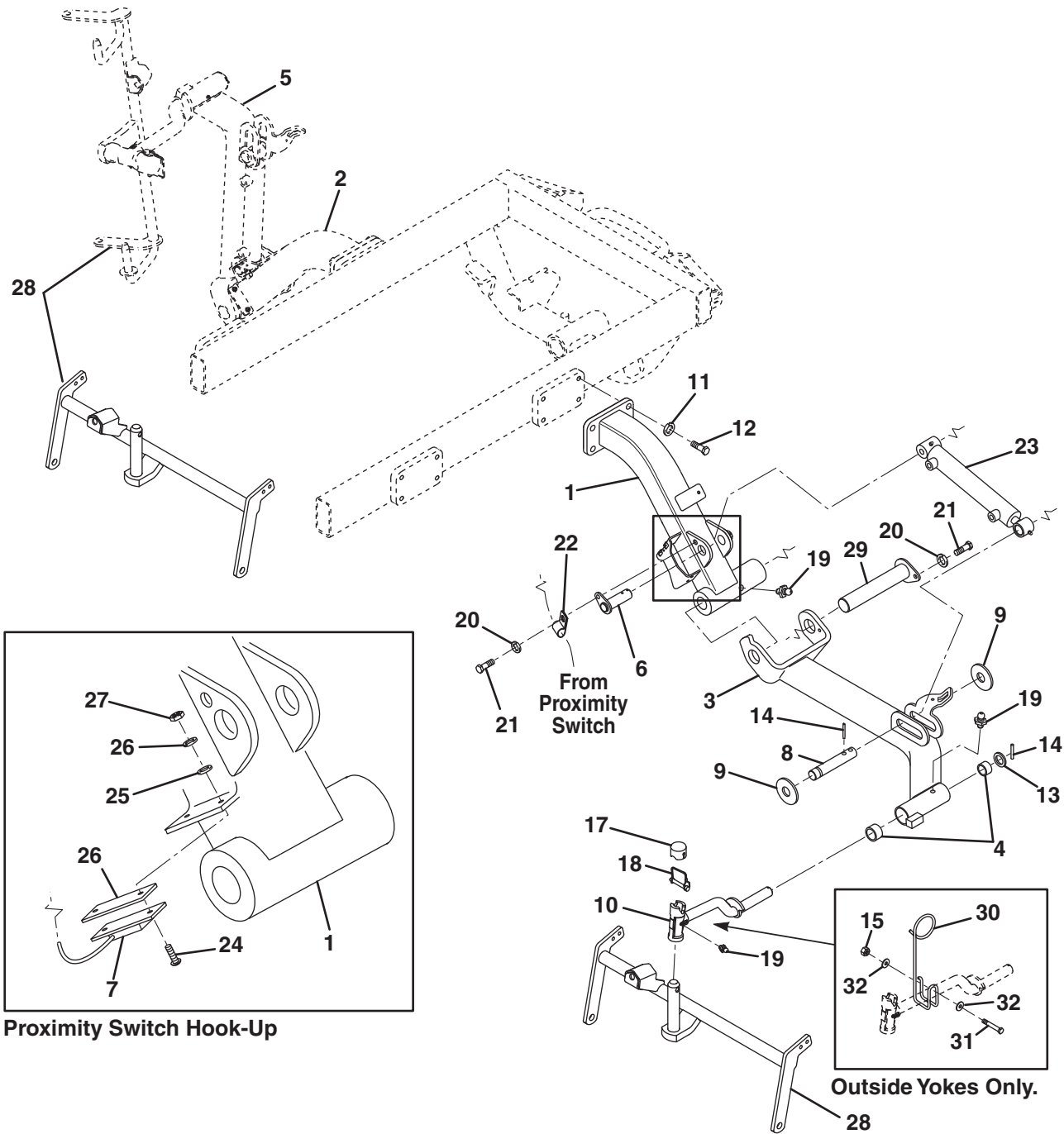


Outside Yokes Only.

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4170623	1	Left Front Lift Arm	
2	4170624	1	Right Front Lift Arm	
3	4170626	1	Left Rear Lift Arm	
4	4170627	1	Right Rear Lift Arm	
5	4170625	1	Center Lift Arm	
6	3006539	10	• Bushing	2 Per Lift Arm
7	1002498	5	Yoke, Pivot	
8	3008432	5	Cap, Swivel Housing	
9	4193221	2	Cylinder, Front Left and Right Lift	
	4194460	1	• Seal Kit	
10	4193220	3	Cylinder Lift	Used on Center, Left and Right Rear
	4194020	1	• Seal Kit	Used on Gold Star Cylinders Only
11	3007798	5	Lock Pin	
12	3007989	5	Pin, Cylinder	
13	362824	5	Spacer, Lift Arm	
14	364248	5	Collar	
15	455004	10	Flat Washer, 1	
16	400272	5	Screw, 3/8-16 x 2-1/4" Hex Head	
17	2500477	5	Machinery Bushing	
18	444762	7	Locknut, 7/16-18 Center	
19	461409	15	Roll Pin, 3/16x x1-3/4"	
20	3009490	5	Wave Washer	
21	4140149	2	Switch, Proximity	
22	403860	4	Screw, #8-32 x 5/8" Truss Head	
23	453004	4	Flat Washer, #8	
24	446110	4	Lockwasher, #8	
25	444306	4	Nut, #8-32 Hex	
26	3007575	2	Support, Hose	
27	400276	2	Screw, 3/8-16 x 2-1/2" Hex Head	
28	358794	4	Flat Washer, 3/8	
29	1003361	5	Lift Yoke	
30	3009193	1	Shim	
31	4182420	1	Bracket, Switch Guard	
32	471214	15	Grease Fitting	

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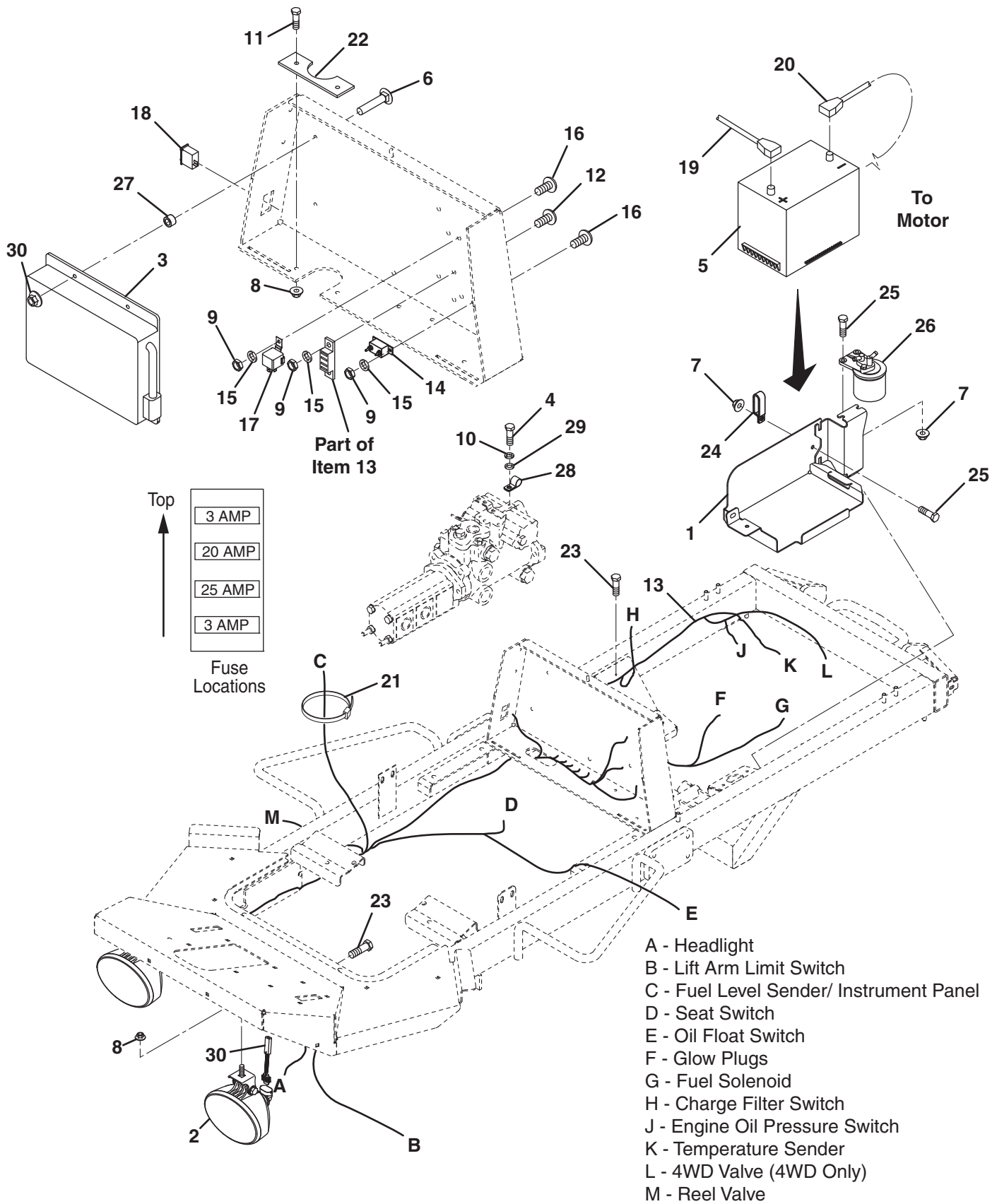
27.1 Wing Lift Arms



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1004391	1	Wing, L.H. Mounting Assembly	2 Per Lift Arm
2	1004392	1	Wing, R.H. Mounting Assembly	
3	4170621	1	Arm, L.H. Mounting Assembly	
4	3006539	4	• Bushing	
5	4170622	1	Arm, R.H. Mounting Assembly	
6	1004492	2	Pin, Cylinder	
7	4140149	2	Switch, Proximity	
8	3007989	2	Pin, Cylinder	
9	455004	4	Flat Washer, 1"	
10	1002498	2	Yoke Pivot	
11	446154	8	Lockwasher, 1/2 Heavy	
12	400406	8	Screw, 1/2-13 x 1-1/4" Hex Head	
13	2500477	4	Machinery Bushing	
14	461409	4	Roll Pin	
15	444762	7	Locknut, 7/16-18 Center	
16	3009193	1	Shim, Switch	
17	3008432	2	Cap, Swivel Housing	
18	3007798	2	Lock Pin	
19	471214	15	Grease Fitting	
20	446142	4	Lockwasher, 3/8 Heavy	
21	400258	4	Screw, 3/8-16 x 3/4" Hex Head	
22	367028	2	Clamp, Open	
23	4138513	2	Cylinder, Wing	
24	403860	4	Screw, #8-32 x 5/8" Truss Head	
25	453004	4	Flat Washer, 1/4	
26	446110	4	Lockwasher, #8	
27	444306	4	Nut, #8-32 Hex	
28	1003361	2	Lift Yoke	
29	1004416	2	Pin, Wing	
30	3007575	2	Support, Hose	
31	400276	2	Screw, 3/8-16 x 2-1/2" Hex Head	
32	358794	4	Flat Washer, 3/8	

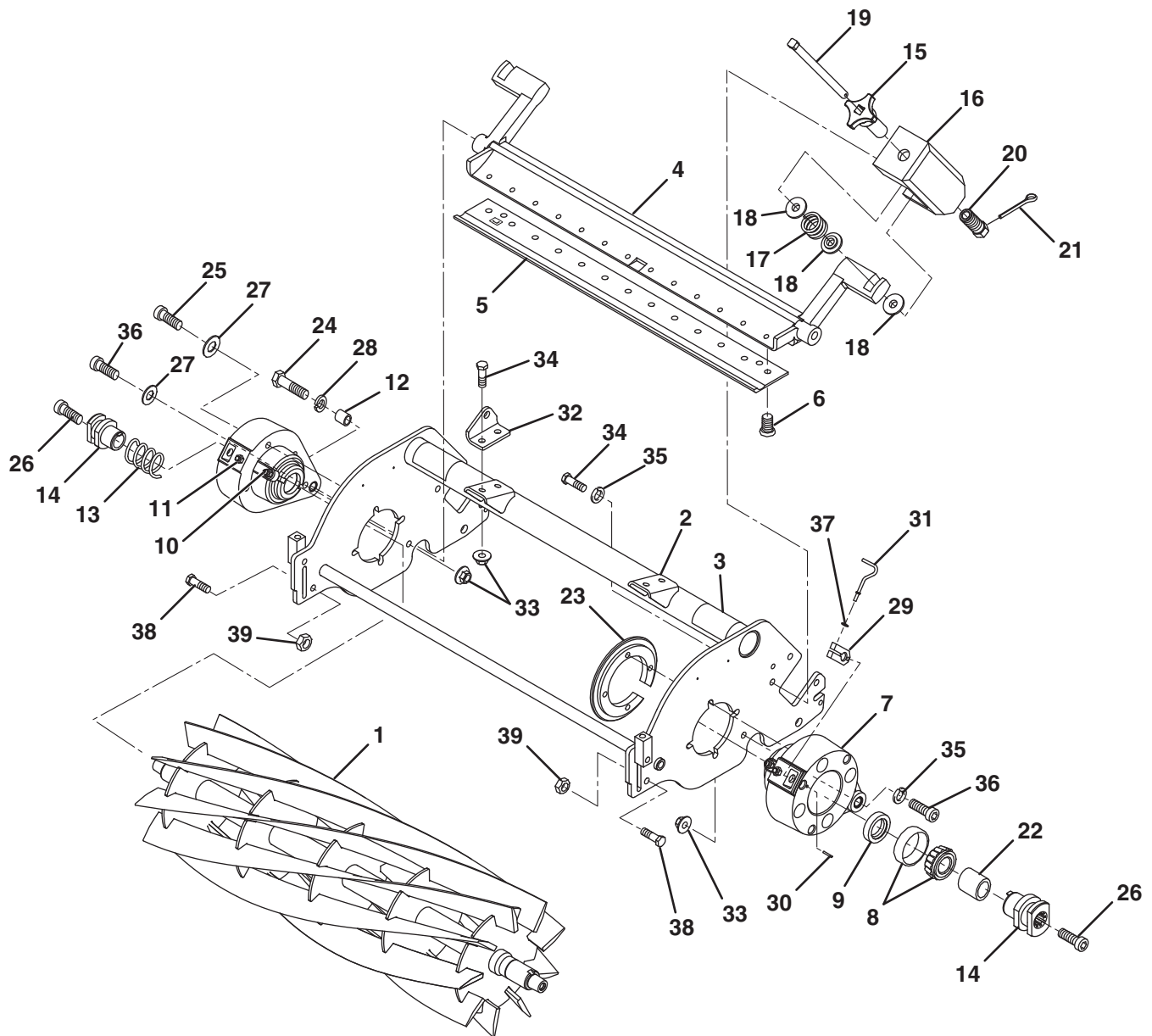
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28.1 Wire Harness and Controller Box



Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	1	Tray, Battery	See 7.1
>	2	4122840	2 Headlight	
>		4123183	1 • Bulb	
	3	4139095	1 Controller	
	4	400104	1 Screw, 1/4-20 x 1/2" Hex Head	
>	5	N/S	1 Battery	
	6	441668	4 Screw, 5/16-18 x 1-1/4" Hex Head	
	7	445795	9 Nut, 5/16-18 Spiralock Flange	
	8	445796	5 Nut, 3/8-16 Spiralock Flange	
	9	444310	7 Nut, #10-24 Hex	
	10	446128	1 Lockwasher, 1/4	
	11	400258	2 Screw, 3/8-16 x 3/4" Hex Head	
	12	403914	2 Screw, #10-24 x 3/4" Truss Head	
	12	4135546	1 Body Wire Harness	
		555486	1 • 3A Diode	
		5003276	2 • 3 Amp Fuse	
		5003282	1 • 20 Amp Fuse	
		5003283	1 • 25 Amp Fuse	
	13	361439	1 Circuit Breaker, 12V 50A	
	14	446118	7 Lockwasher, #10	
	15	403910	5 Screw, #10-24 x 1/2" Truss Head	
>	16	4193880	3 Relay-SPDT With Resistor	
	17	3006434	1 Switch, Rocker	
	18	3007777	1 Cable, Positive Battery	
	19	2810213	1 Cable, Negative Battery	
	20	473142	1 Cable Tie	
	21	3009251	1 Tab, Wire Harness	
	22	409804	3 Screw, #10-32 x 1/2" Thread Cutting	
	23	3007558	1 Clamp, Double Tube	
	24	400188	3 Screw, 5/16-18 x 1" Hex Head	
	25	555406	1 Fuel Filter Assembly	Included With Engine
		2500809	1 • Fuel Filter Element	
		2501023	1 • Filter Cover	
		2501024	1 • Filter Breather Plug	
		2501025	1 • O-Ring	
		2501026	1 • Form, Mark	
	26	367631	4 Spacer	
	27	345666	1 Clamp, 1/2" I.D.	
	28	453023	1 Flat Washer, 1/4	
		446128	1 Lockwasher, 1/4	
	29	444708	4 Locknut, 1/4-20 Center	
>	30	4200360	2 Harness, Headlight	

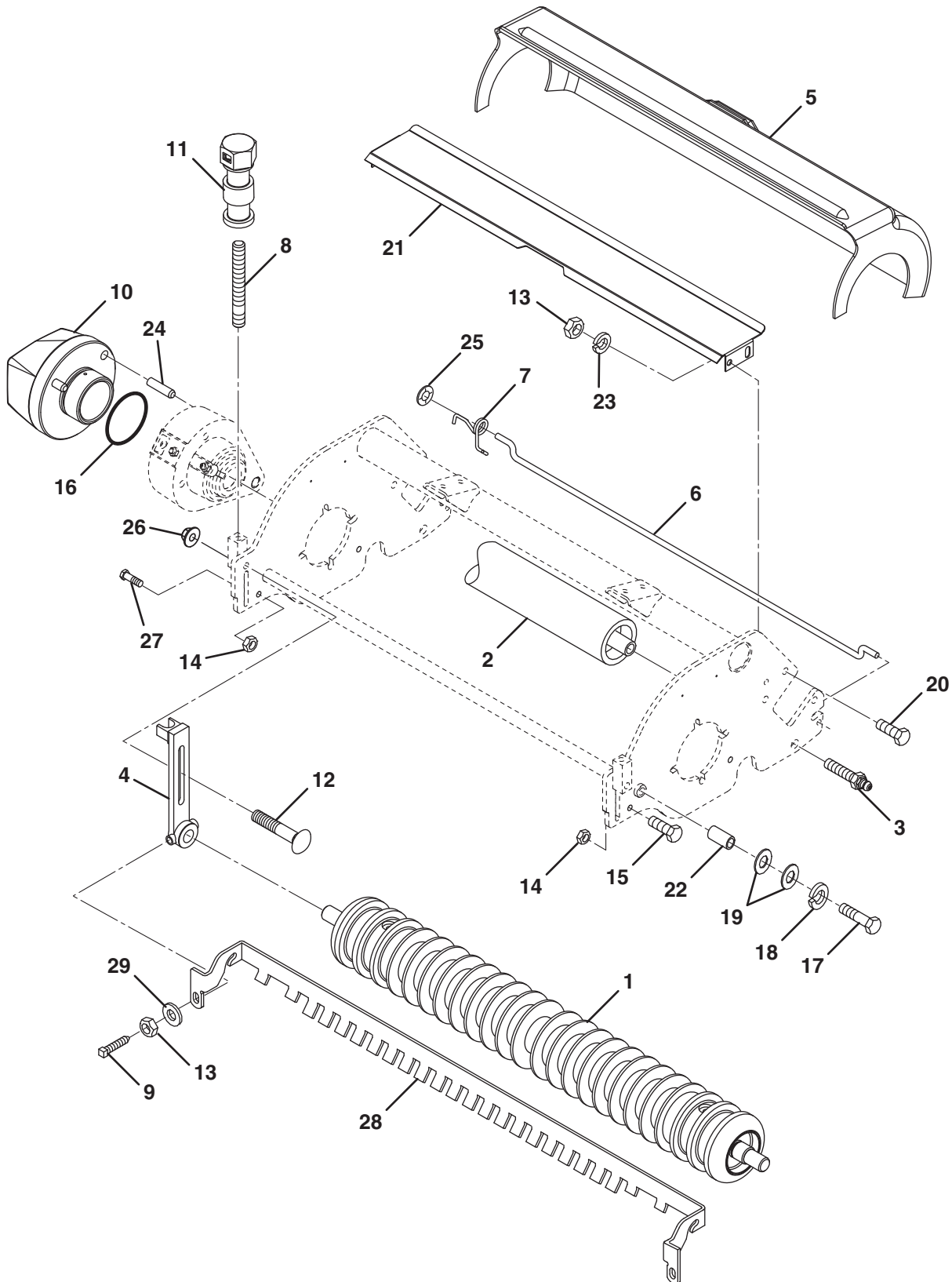
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Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2810472	1	Reel, 11 Blade	Used on 67848
1	2810471	1	Reel, 9 Blade	Used on 67858
2	5002609	1	Frame, 7" Reel	
3	361877	2	• Decal, Danger	
4	2811399	1	Bedknife Backing Assembly	
5	503460	1	• Bedknife	Standard
6	3009138	13	• Screw, 1/4-20 x 1/2" Flat Head	
7	1002811	2	Bearing Housing	
8	5002477	2	• Bearing Cup and COne	
9	3006030	2	• Seal	
10	471214	2	• Grease Fitting	
11	471242	2	• Vent Fitting	
12	2500759	2	• Bushing	
13	3004734	1	Spring, Compression	
14	3010046	2	Coupler	Replaces 3004737
	1002532	2	Bedknife Adjuster	
15	2000125	2	• Knob	
16	3004795	2	• Housing	
17	3008946	2	• Spring, Urethane	
18	3009892	6	• Spacer, Cup	Replaces 3009075
19	3009893	2	• Rod	Replaces 3004798
20	3009894	1	• Bolt, Special	Replaces 3004799
21	460026	1	• Cotter Pin, 1/8 x 3/4"	
22	3004800	1	Spacer, Reel	
23	3005210	2	Retaining Ring	
24	365501	2	Bolt, Special	
25	434039	8	Screw, 5/16-18 x 2" Socket Head	
26	434003	2	Screw, 5/16-18 x 1" Socket Head	
27	362643	8	Spacer	
28	454017	2	Spring Washer	
29	3008922	2	Block, Clamp	
30	461419	2	Roll Pin, 1/8 x 3/8"	
31	3006028	2	Pin	
32	3008601	1	Bracket, Spring	
33	445795	2	Nut, 5/16-18 Spirallock Flange	
34	400184	2	Screw, 5/16-18 x 3/4" Hex Head	
35	446136	6	Lockwasher, 5/16	
36	434036	2	Screw, 5/16-18 x 1-1/4" Socket Head	
37	455066	2	Washer	
38	400182	2	Bolt, 5/16-18 x 5/8 " Hex Head	
39	433106	2	Nut, 5/16-18 Hex	

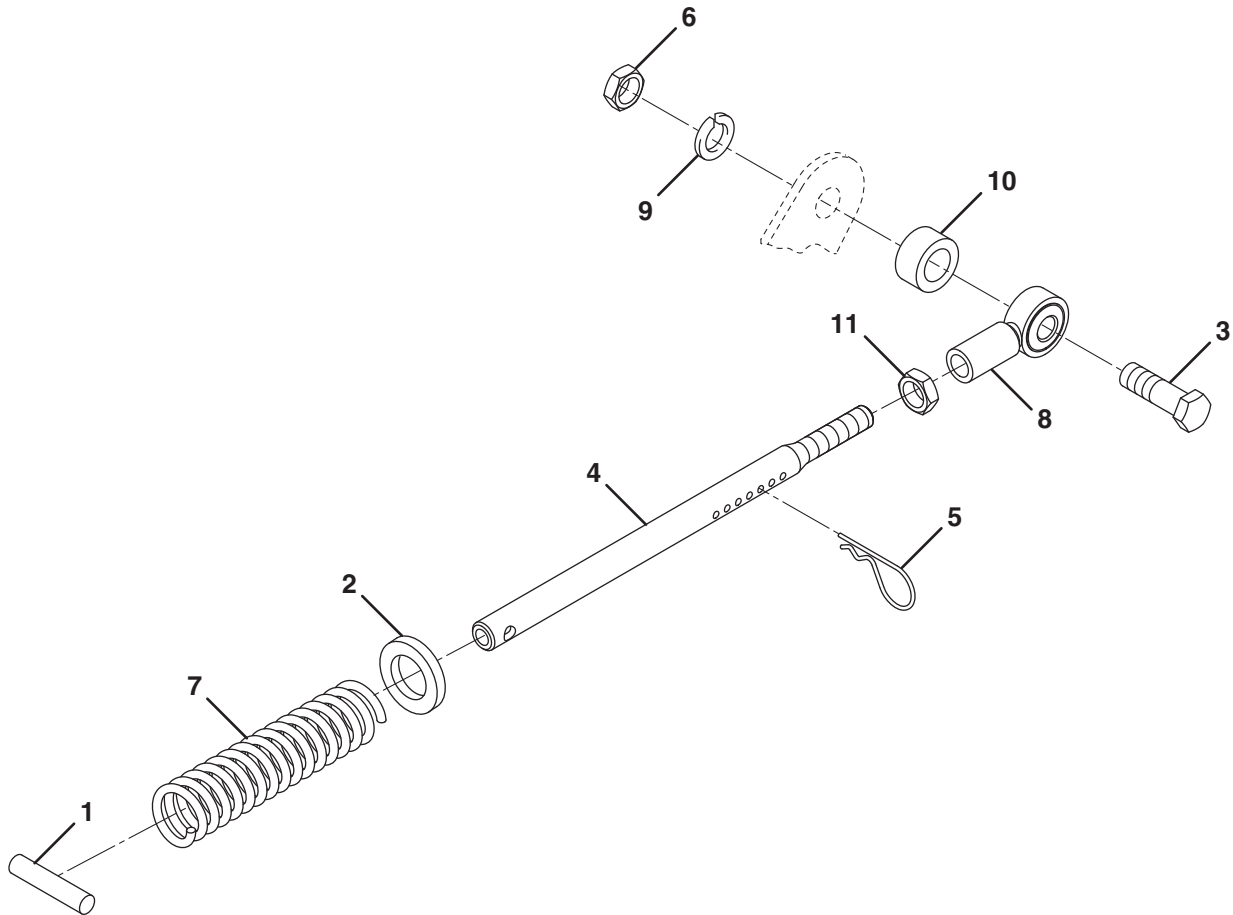
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30.1 Seven Inch Reel Assembly



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	123268	1	Front Roller	See 32.1
2	1002446	1	Rear Roller, 24"	Serial No. 67848-1601 ~ 1899,See 34.1
2	1003728	1	Rear Roller, 22"	Serial No. 67848-1900 and Up,See 34.1
2	1003728	1	Rear Roller, 22"	Serial No. 67858-1601 and Up,See 34.1
3	163568	2	Zerk Bolt	
4	3004738	2	Front Roller Adjuster	
5	3005209	1	Shield	
6	3005316	1	Scraper, 24" Rear Roller	Serial No. 67848-1601 ~ 1899
6	3009280	1	Scraper, 22" Rear Roller	Serial No. 67848-1900 and Up
6	3009280	1	Scraper, 22" Rear Roller	Serial No. 67858-1601 and Up,
7	3005267	1	Spring, 24" Rear Roller Torsion	Serial No. 67848-1601 ~ 1899
7	3009281	1	Spring, 22" Rear Roller Torsion	Serial No. 67848-1900 and Up
7	3009281	1	Spring, 22" Rear Roller Torsion	Serial No. 67858-1601 and Up,
8	343616	2	Stud	
9	352737	2	Screw, 1/4-20 x 7/8" Square Head	
10	2000135	1	Counter Balance	
11	3005692	2	Knob, Roller Adjusting	
12	441674	2	Carriage Bolt, 5/16-18 x 1-3/4"	
13	443102	4	Nut, 1/4-20 Hex	
14	443106	2	Nut, 5/16-18 Hex	
15	446136	2	Lockwasher, 3/16 Heavy	
16	3006021	1	O-Ring	
17	400264	2	Screw, 3/8-16 x 1-1/4" Hex Head	
18	446142	2	Lockwasher, 3/8 Heavy	
19	453011	4	Flat Washer, 3/8	
20	400108	2	Screw, 1/4-20 x 3/4" Hex Head	
21	3006248	1	Deflector	
22	3006290	2	Bushing	
23	453023	2	Flat Washer, 1/4	
24	3006022	2	Pin	
25	445525	2	Palnut, 1/4	
26	445795	2	Nut, 5/16-18 Spiralock Flange	
27	400182	2	Screw, 5/16-18 x 5/8" Hex Head	
28	391202	1	Scraper, Front Roller	
29	453023	2	Flat Washer, 1/4	

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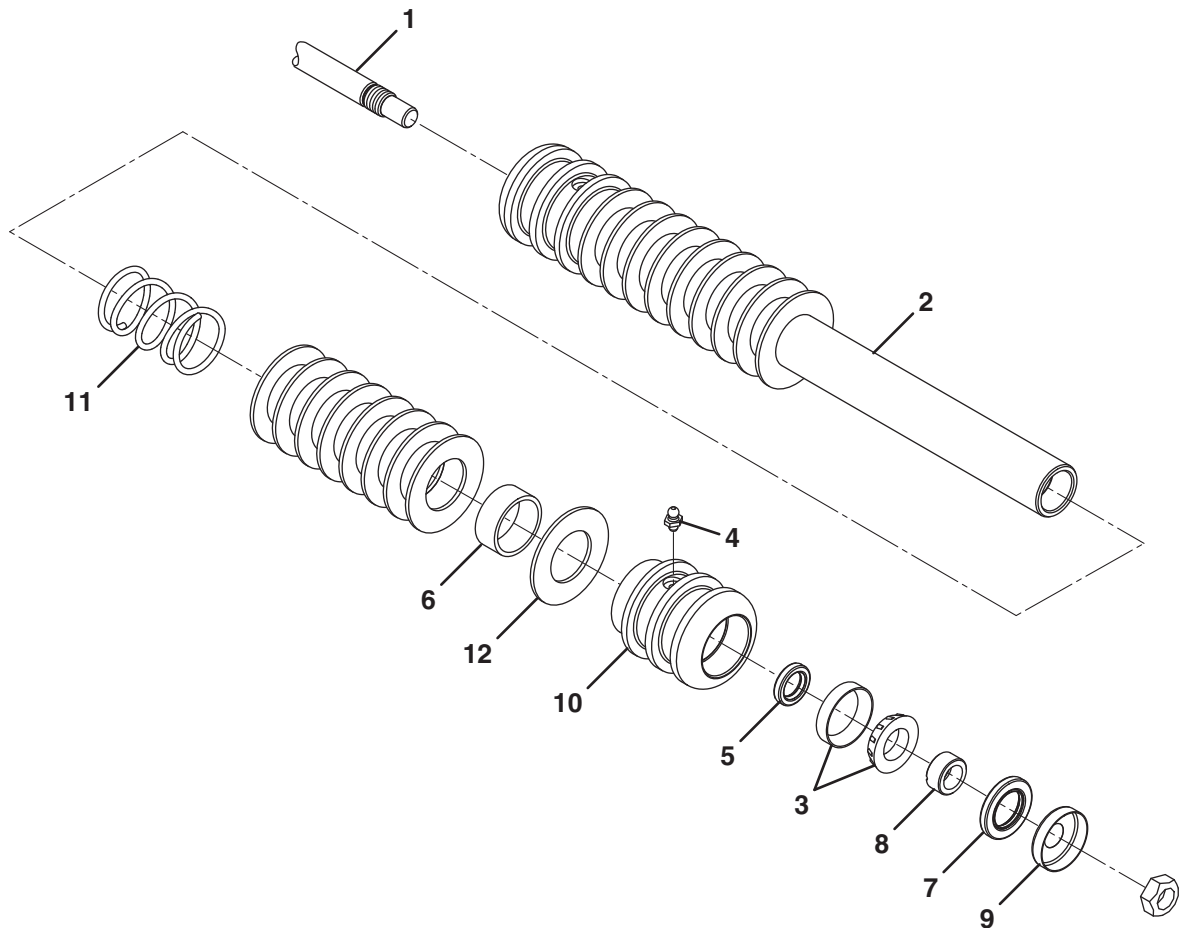


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	461397	1	Roll Pin, 1/4 x 1-1/4"	
2	453017	1	Flat Washer, 1/2	
3	400268	1	Screw, 3/8-16 x 1-3/4" Hex Head	
4	3008593	1	Tube, Down Pressure	
5	460312	1	Hairpin	
6	443110	1	Nut, 3/8-16 Hex	
7	311870	1	Spring, Compression	
8	366974	1	Rod End	
9	446142	1	Lockwasher, 3/8 Heavy	
10	352435	1	Spacer	
11	443812	1	Nut, 3/8-24 Hex	

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32.1 Front Roller

Part Number 123268

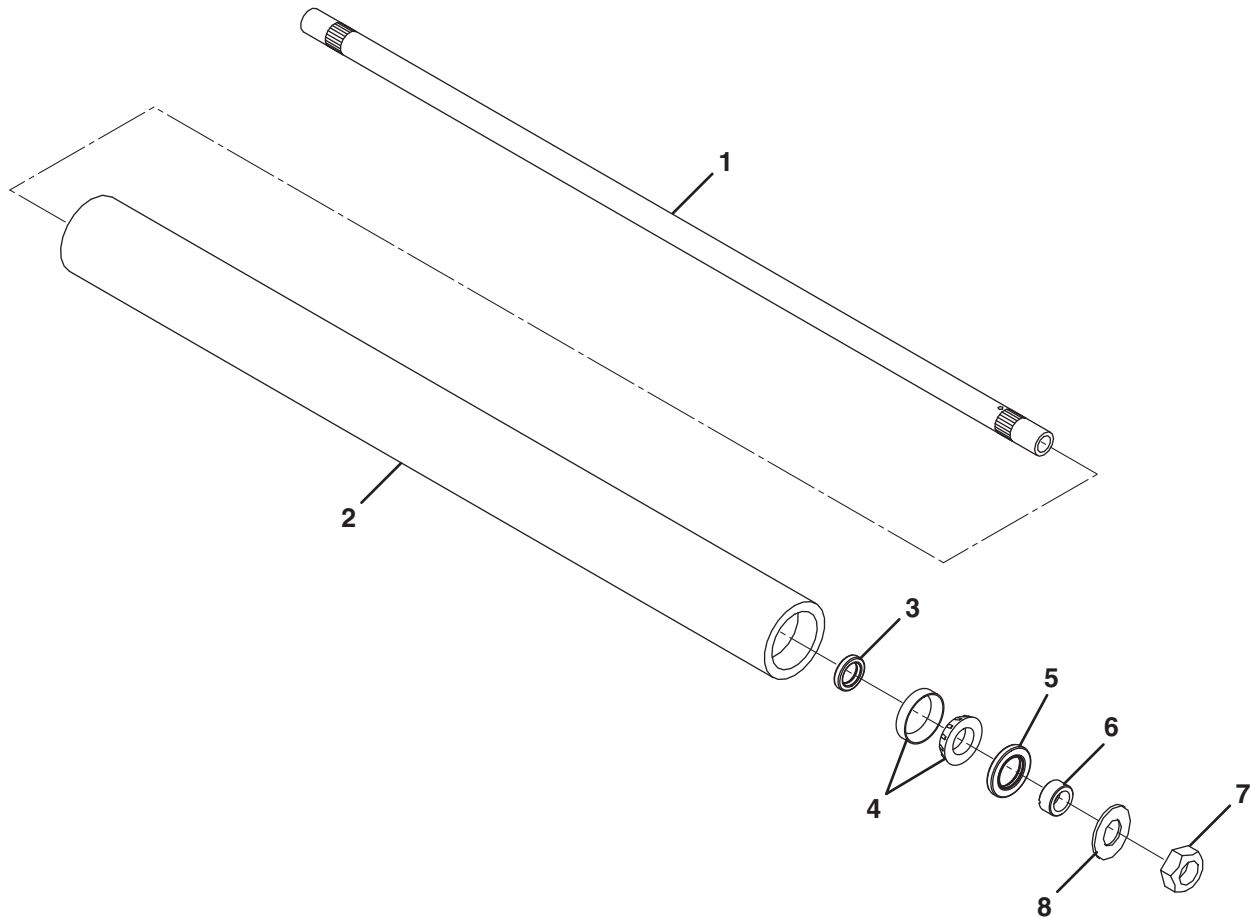


Item	Part No.	Qty.	Description	Serial Numbers/Notes	
	1	3003416	1	Shaft	
	2	3000115	1	Tube	
◆	3	500534	2	Bearing, Cup and Cone	
	4	471214	2	Grease Fitting	
◆	5	338647	2	Grease Seal	
◆	6	N/S	16	Spacer	
◆	7	3004882	2	Grease Seal	
	8	3005156	2	Sleeve,Wear	
◆	9	367029	2	Locknut	
	10	241838	2	Bearing Housing	
	11	365016	1	Spring, Heavy	
◆	12	N/S	18	Washer	
	5000097	1	Roller Rebuild Kit	Includes Items ◆	

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33.1 Rear Roller

Part Number 1000770



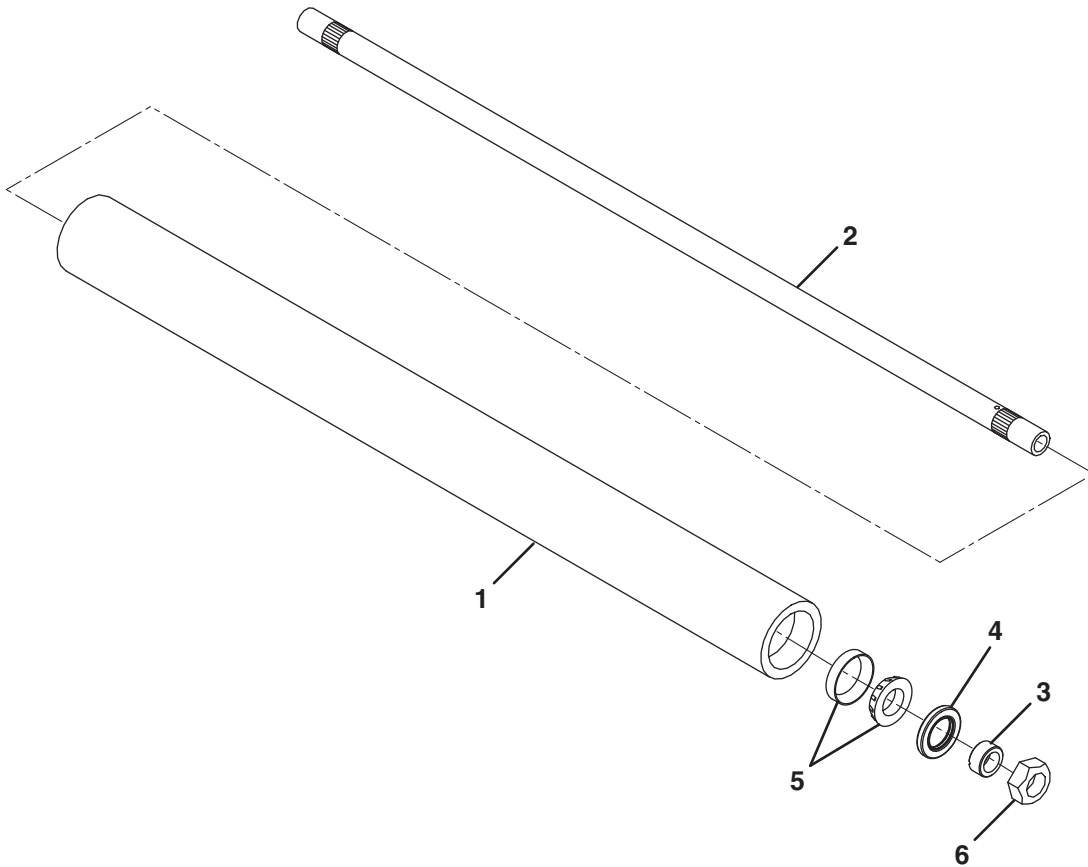
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3001654	1	Shaft, Roller	
2	3001655	1	Tube, Roller	
3	3001656	2	Seal, Grease	
4	5000625	2	Bearing, Cup and Cone	
5	3000983	2	Seal, Grease	
6	3001762	2	Sleeve, Wear	
7	445718	2	Locknut, 5/16-18 Stover	
8	3000698	2	Washer	

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34.1 Rear Roller

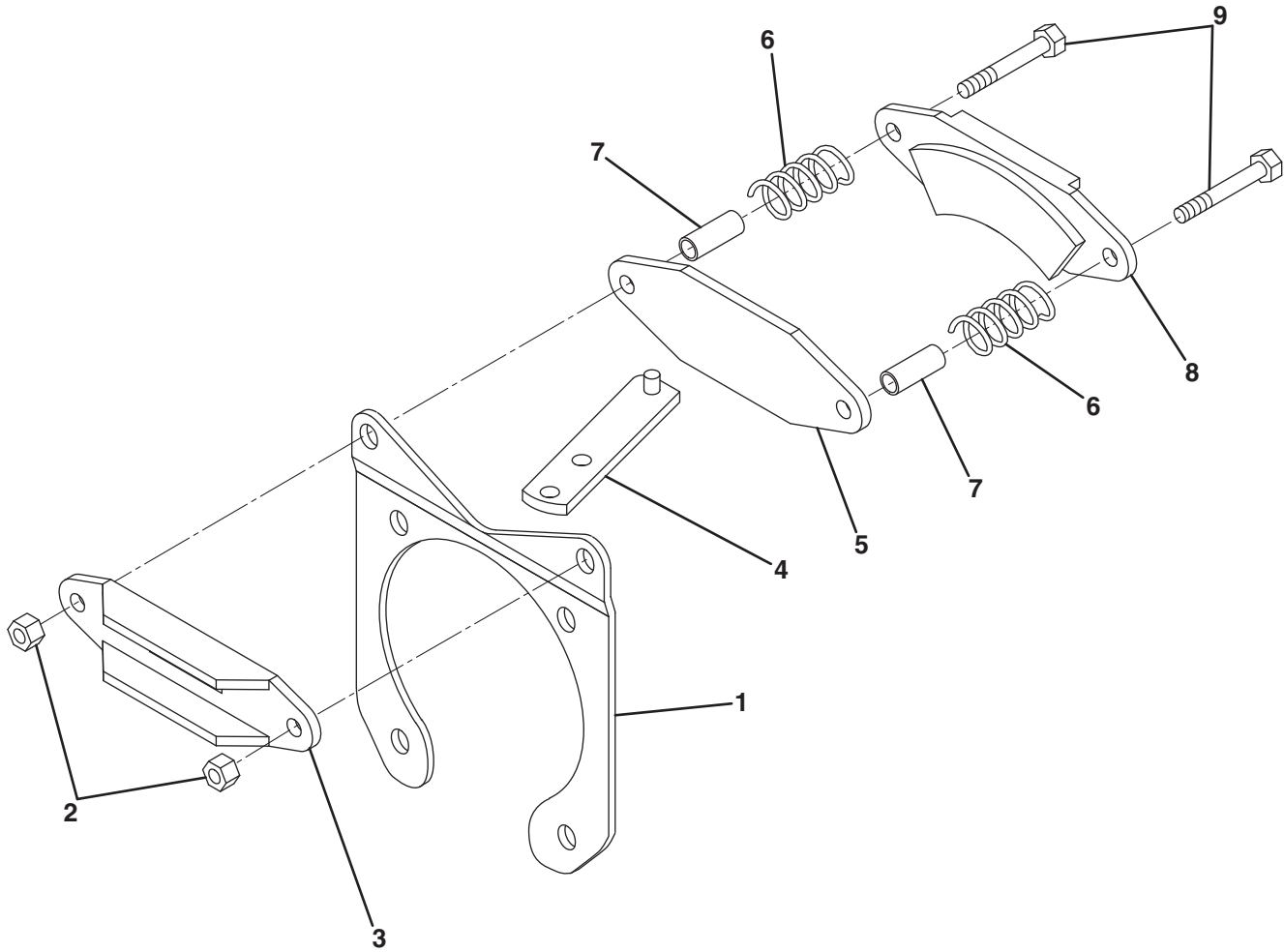
Part Number 1002446

Part Number 1003728



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1002445	1	Tube, 24" Roller	
1	1003727	1	Tube, 22" Roller	
2	3005318	1	Shaft, 24" Roller	
2	3008027	1	Shaft, 22" Roller	
3	3005156	2	Sleeve, Wear	
4	3004882	2	Seal, Grease	
5	500534	2	Bearing, Cup and Cone	
6	367029	2	Locknut, 3/4-16 Stover	

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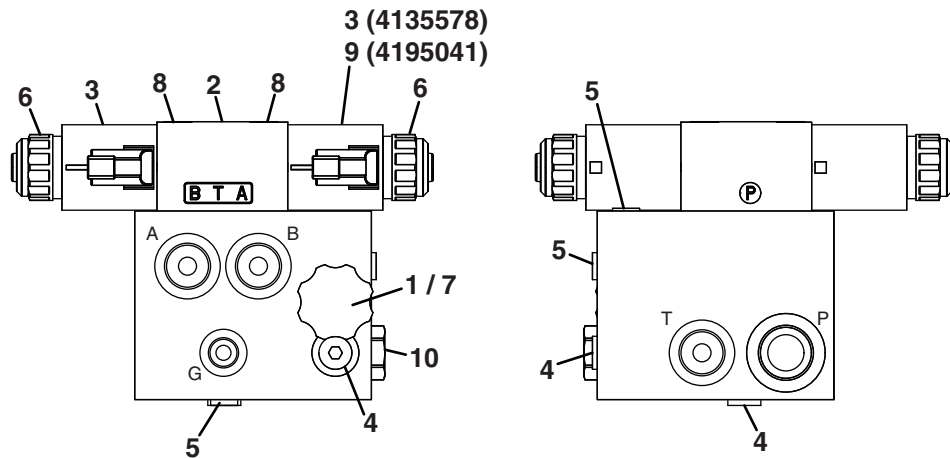


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340603	2	Bracket, Brake Mounting	
	503308	1	Disk Brake, R.H.	
	2500722	1	Disk Brake, L.H.	
2	590259	4	• Nut, 3/8-24	
3	549441	2	• V-Plate	
4	502517	1	• Cam Lever	
5	503296	2	• Stud Plate with Lining	
6	549443	4	• Spring	
7	554579	4	• Spacer, Brake	
8	503295	2	• Rib Plate with Lining	
9	590260	4	• Screw, 3/8-24 x 2-1/4"	

> Change from previous revision

36.1 Front Reel Valve

Part Number 4135578 and 4195041

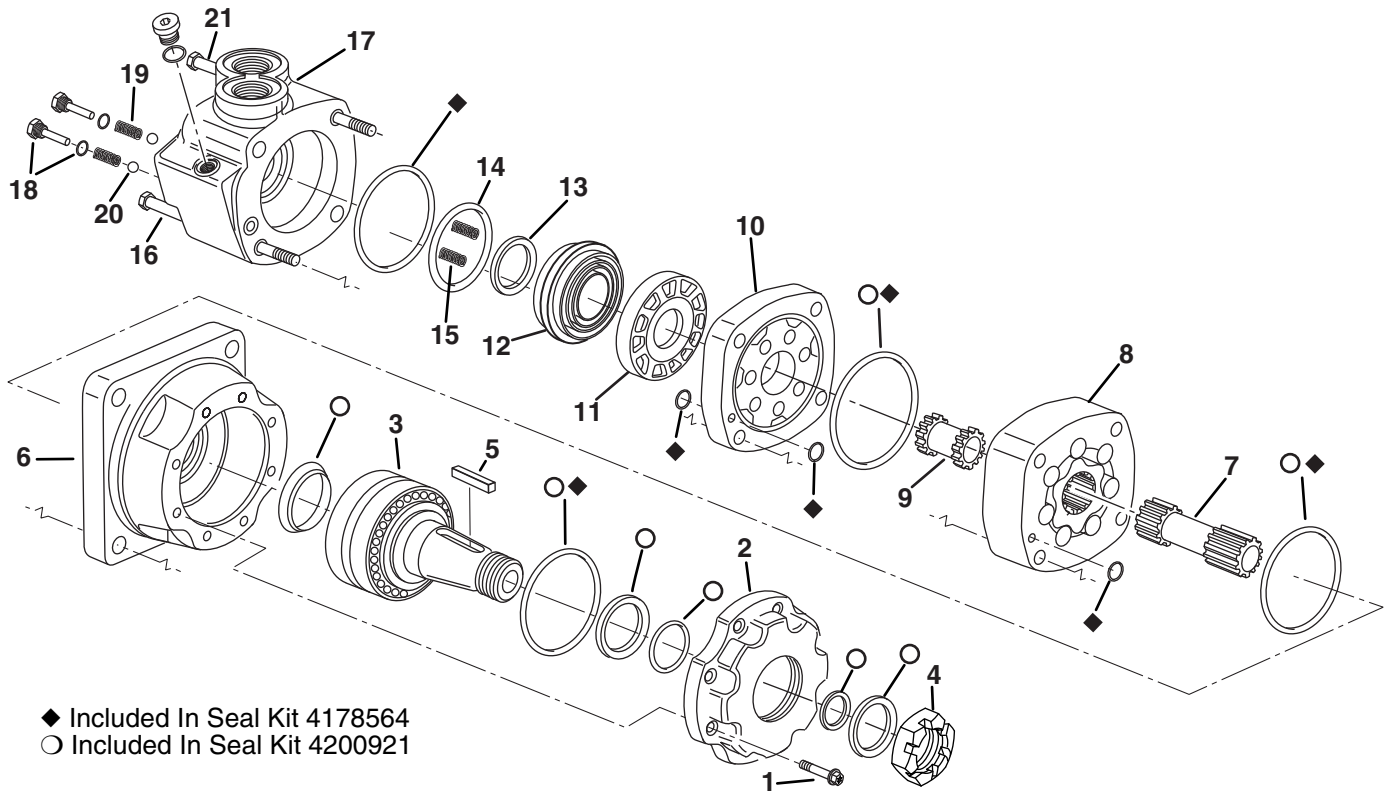


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003080	1	Flow Control	
	5003579	1	• Flow Control Seal Kit	
2	4136815	1	Solenoid Valve	
	339909	4	• O-Ring	
3	4135552	2	Coil	Used on 4135578
3	4135552	1	Coil	Used on 4195041
4	5002157	3	Port Plug	
5	5001065	3	Port Plug	
6	4136814	2	Nut, Coil, with "O"-Ring	
7	4105980	1	Knob, Flow Control	
8	4143527	4	Bolt, D03 Short Service	
9	4200060	1	Coil, D03 Solenoid	Used on 4195041 Only
10	N/S	1	Cavity Plug	
	5003579	1	• Seal Kit	

> Change from previous revision

37.1 Front Wheel Motor

Part Number 4188160



◆ Included In Seal Kit 4178564

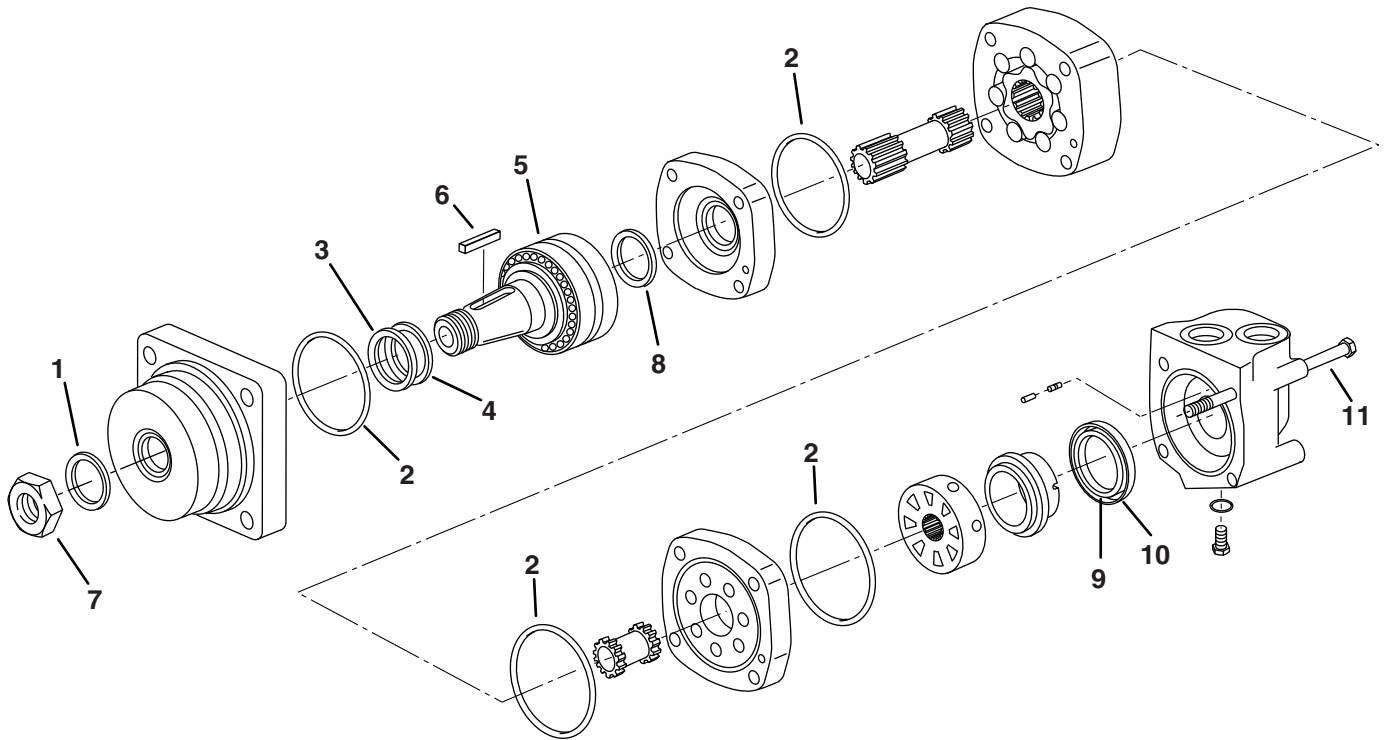
○ Included In Seal Kit 4200921

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	557630	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	557638	1	Housing, Valve	
18	557639	2	• Check Plug Assembly	
19	557642	2	• Spring	
20	557640	2	• Ball, Steel	
21	5000318	1	Bolt	

> Change from previous revision

38.1 Rear Wheel Motor

Part Number 4181920

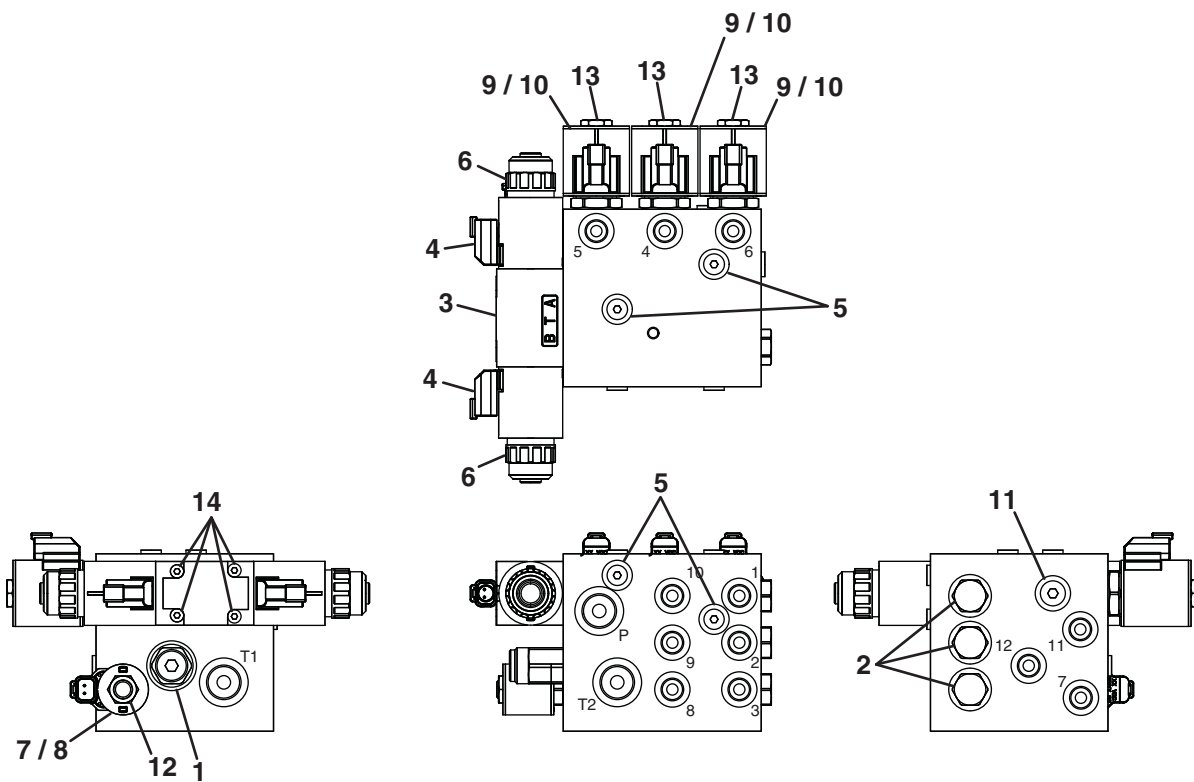


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1		1	Seal Exclusion	
2		4	Seal, 3" I.D.	
3		1	Back Up Ring	
4		1	Shaft Seal	
5	554781	1	Shaft and Bearing Kit	
6	554780	1	Key	
7	554779	1	Hex Nut	
8		1	Shaft Face Seal	
9		1	Inner Face Seal	
10		1	Outer Face Seal	
11	554782	4	Bolt	
	4178561	1	Rear Seal Kit	
	4178562	1	Front Seal Kit	

> Change from previous revision

39.1 Lift Valve

Part Number 4135567 and 4195083

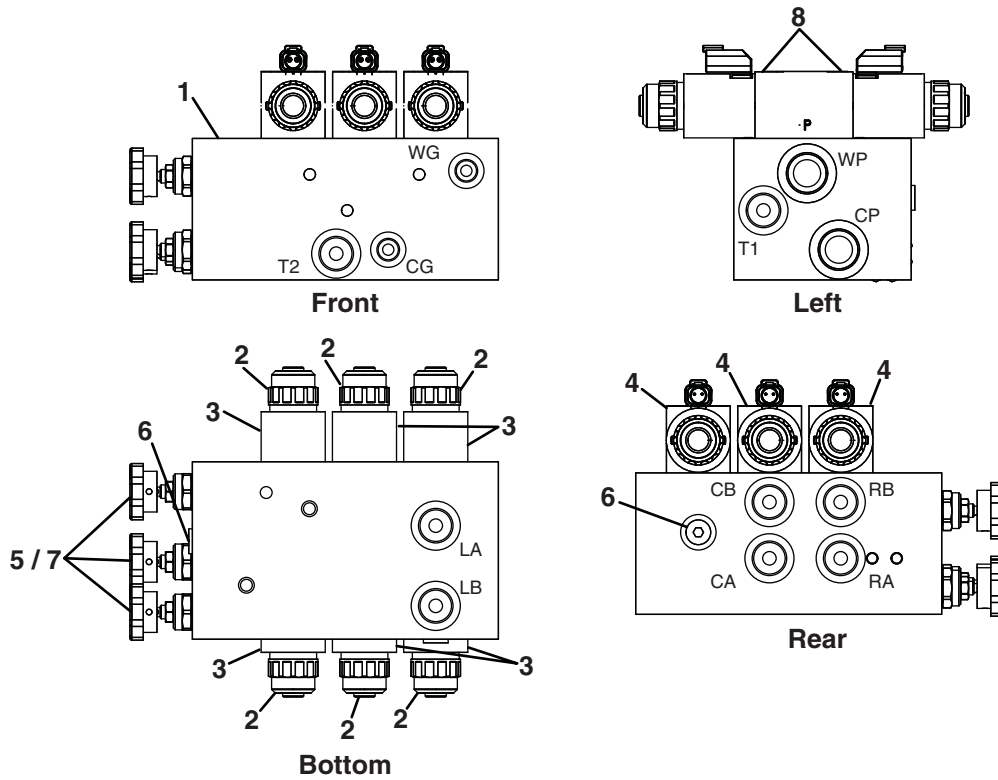


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003144	1	Relief Valve	
	5003579	1	• Seal Kit	
2	5001355	3	Pilot Operated Check Valve	
	5003578	1	• Seal Kit	
3	4136815	1	Solenoid Valve, Lift / Lower	
	339909	4	• O-Ring	
4	4135552	2	Coil	
5	5002157	10	Plug, Port	
6	4136814	2	Nut, Coil (Includes O-Rings)	
7	4134532	1	Coil	
8	2812373	1	Solenoid Valve	Front Circuit
	5003578	1	• Seal Kit	
9	4134530	3	Coil	
10	2812372	3	Solenoid Valve	Wing and Rear Circuits
	5003578	1	• Seal Kit	
11	5001065	1	Plug, Port	
12	2811254	3	Nut, Coil Service	
13	2811353	1	Nut, Coil Service	
14	4143527	4	Bolt, D03 Short Service	

> Change from previous revision

40.1 Rear Reel Valve

Part Number 1004097 and 4195082

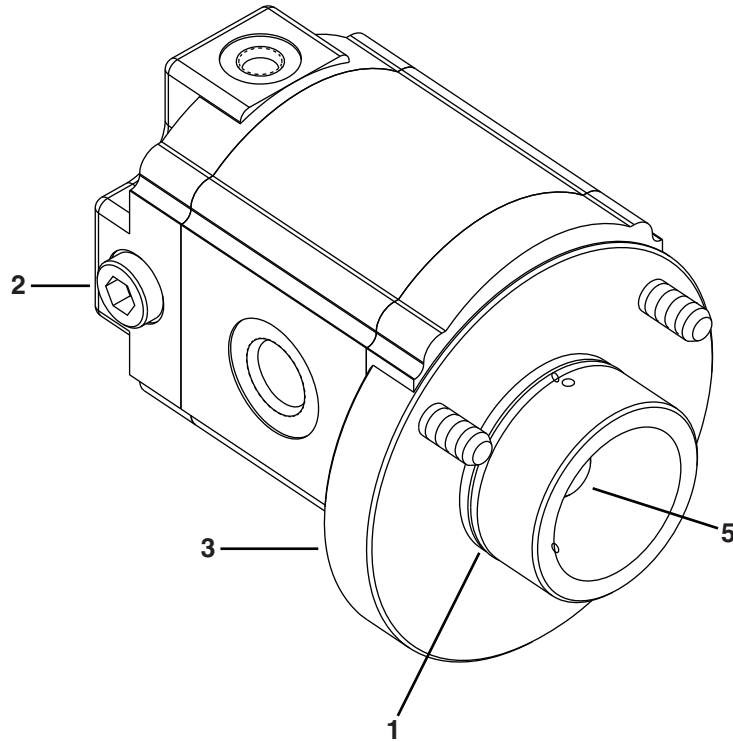


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	-----	1	Body	
2	4136814	6	Nut, Coil Service	
3	4135552	6	Coil	
4	4136815	3	Solenoid Valve	
	339909	4	• O-Ring	
5	5003080	3	Flow Control	
	5003579	1	• Seal Kit	
6	5001065	2	Plug, Port	
7	4105980	3	Knob, Flow Control	
8	4143527	12	Bolt, DO3 Service Short	

> Change from previous revision

41.1 Reel Motor

Part Number 4260372

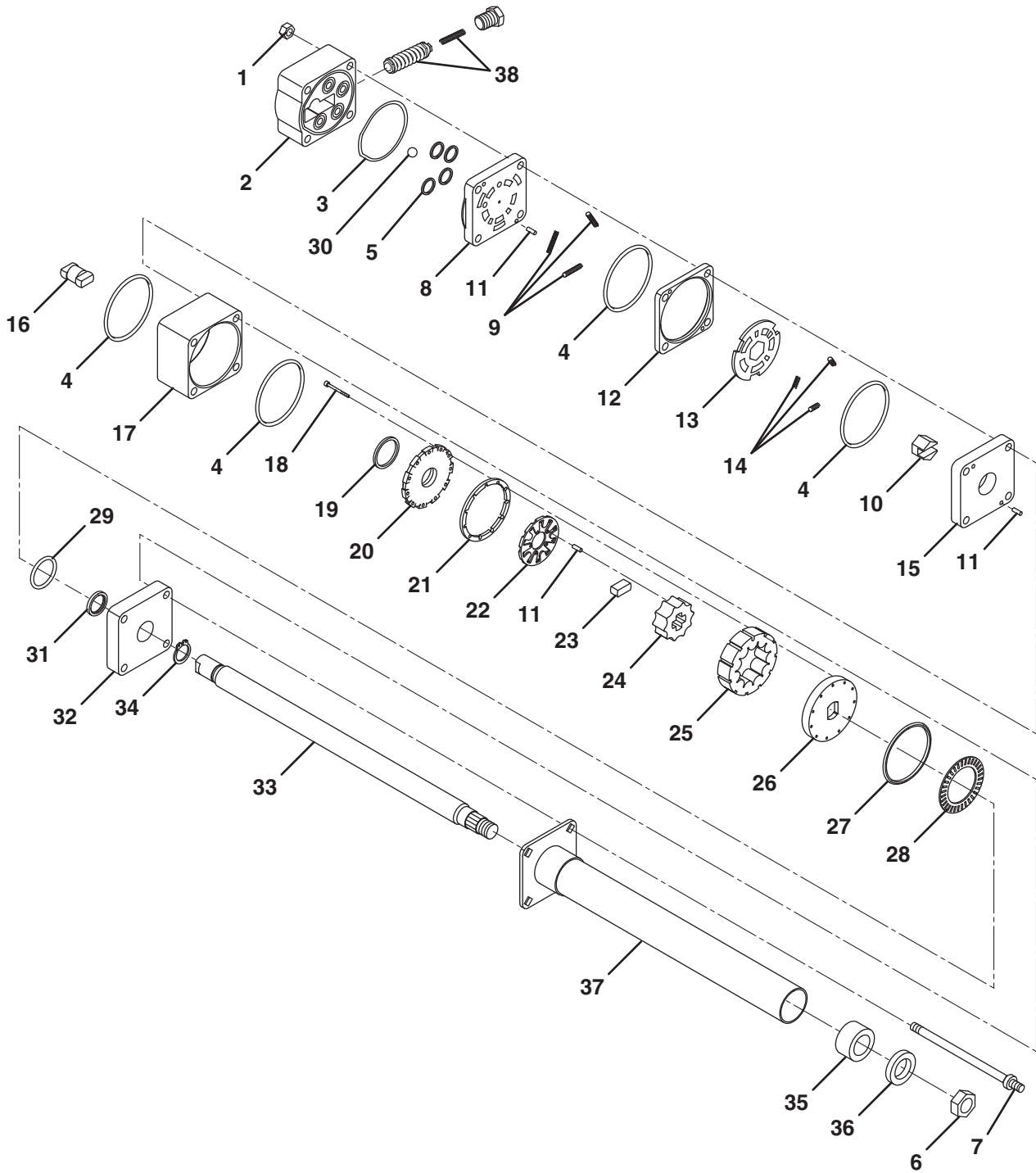


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3006021	1	O-Ring	Not Shown
2	5003140	2	Relief Valve	
3	5003485	1	Face Plate	
4	5003031	1	Seal Kit	
5	4102440	1	Shaft, Output	

> Change from previous revision

42.1 Steering Valve

Part Number 1003458



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	N/S	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	N/S	1	Isolation Manifold	
16	N/S	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	

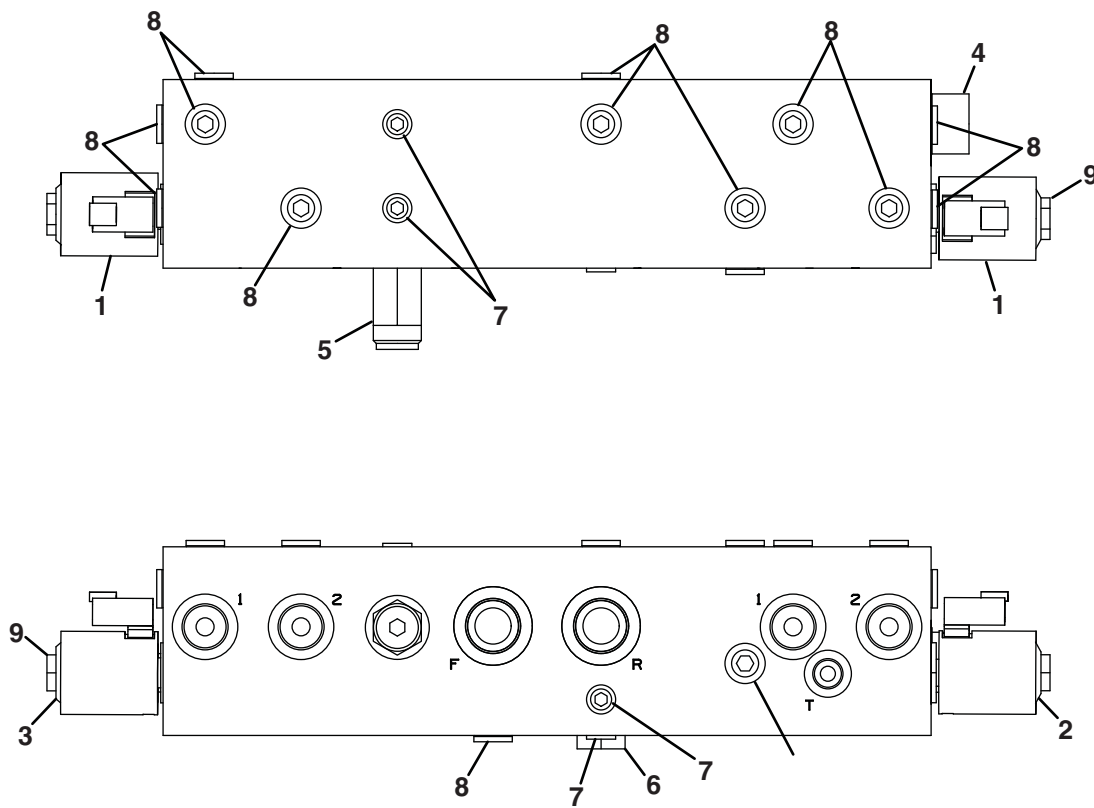
Service Kits

A	5003220	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

43.1 4WD Valve

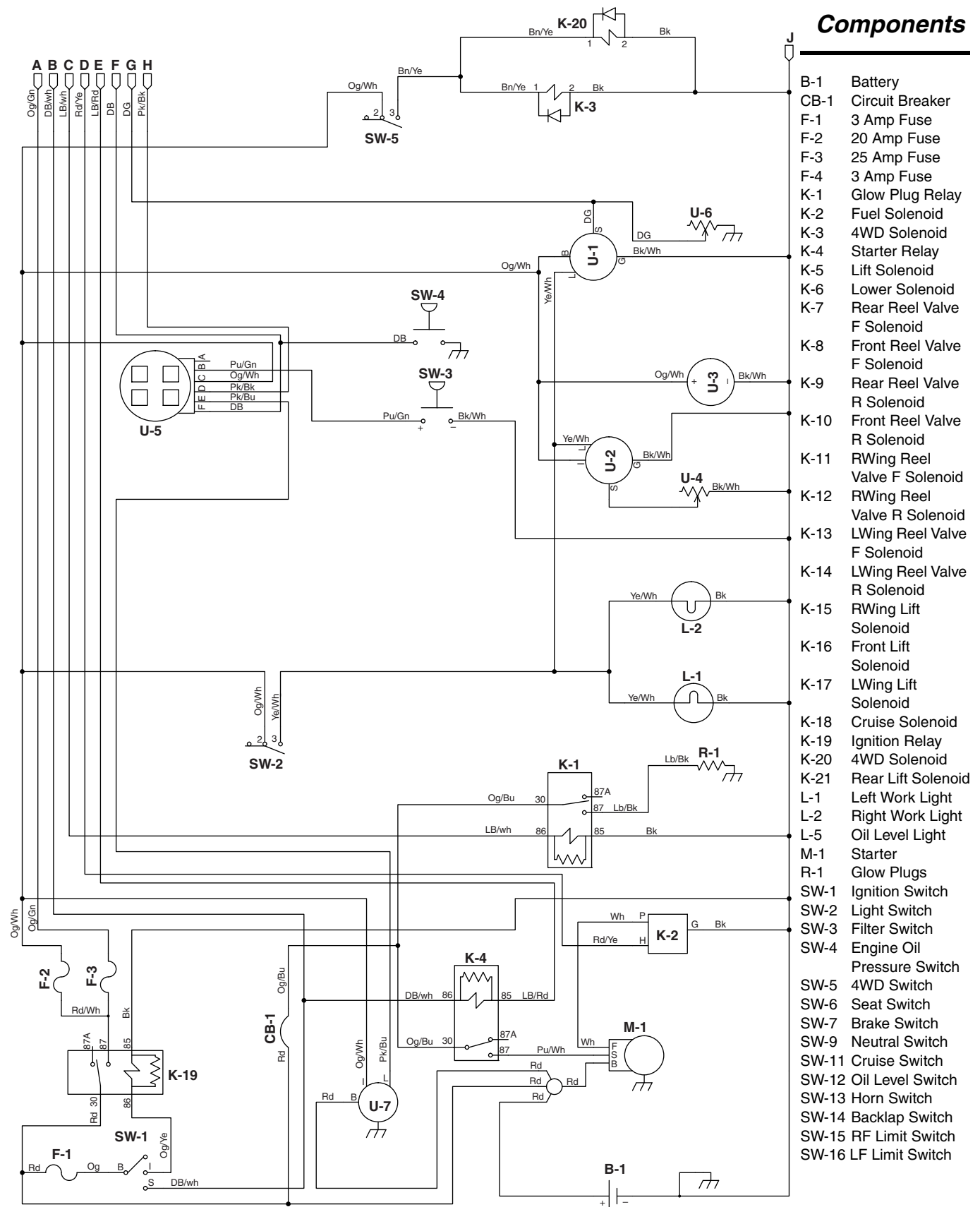
Part Number 4135554 and 4186580



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4134530	2	Coil	
2	5003096	1	Solenoid Valve	
	5003578	1	• Solenoid Valve Seal Kit	
3	5003121	1	Solenoid Valve	
	5003554	1	• Solenoid Valve Seal Kit	
4	5003097	1	Pilot Operated 2-Way	
	5003580	1	• 2-Way Seal Kit	
5	5003098	1	Check Valve	
	5003579	1	• Seal Kit	
6	5003099	1	Relief Valve	
	5003579	1	• Seal Kit	
7	5001065	4	Plug, Port	
8	5002541	15	Plug, Port	
9	2811254	2	Nut, Coil, with "O"-Ring	

> Change from previous revision

44.1 Electrical Schematic



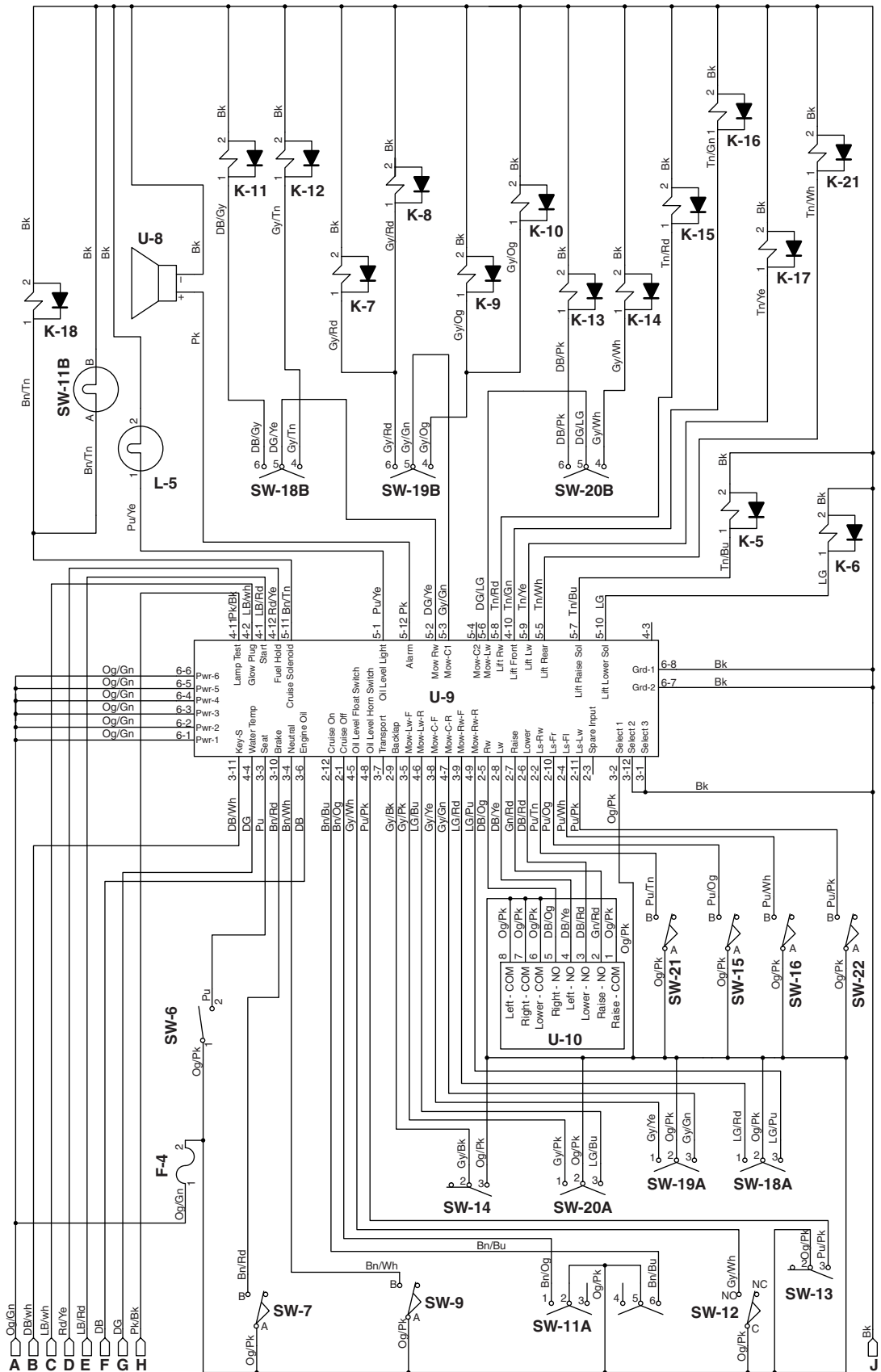
Components

- B-1 Battery
- CB-1 Circuit Breaker
- F-1 3 Amp Fuse
- F-2 20 Amp Fuse
- F-3 25 Amp Fuse
- F-4 3 Amp Fuse
- K-1 Glow Plug Relay
- K-2 Fuel Solenoid
- K-3 4WD Solenoid
- K-4 Starter Relay
- K-5 Lift Solenoid
- K-6 Lower Solenoid
- K-7 Rear Reel Valve F Solenoid
- K-8 Front Reel Valve F Solenoid
- K-9 Rear Reel Valve R Solenoid
- K-10 Front Reel Valve R Solenoid
- K-11 RWing Reel Valve F Solenoid
- K-12 RWing Reel Valve R Solenoid
- K-13 LWing Reel Valve F Solenoid
- K-14 LWing Reel Valve R Solenoid
- K-15 RWing Lift Solenoid
- K-16 Front Lift Solenoid
- K-17 LWing Lift Solenoid
- K-18 Cruise Solenoid
- K-19 Ignition Relay
- K-20 4WD Solenoid
- K-21 Rear Lift Solenoid
- L-1 Left Work Light
- L-2 Right Work Light
- L-5 Oil Level Light
- M-1 Starter
- R-1 Glow Plugs
- SW-1 Ignition Switch
- SW-2 Light Switch
- SW-3 Filter Switch
- SW-4 Engine Oil Pressure Switch
- SW-5 4WD Switch
- SW-6 Seat Switch
- SW-7 Brake Switch
- SW-9 Neutral Switch
- SW-11 Cruise Switch
- SW-12 Oil Level Switch
- SW-13 Horn Switch
- SW-14 Backlap Switch
- SW-15 RF Limit Switch
- SW-16 LF Limit Switch

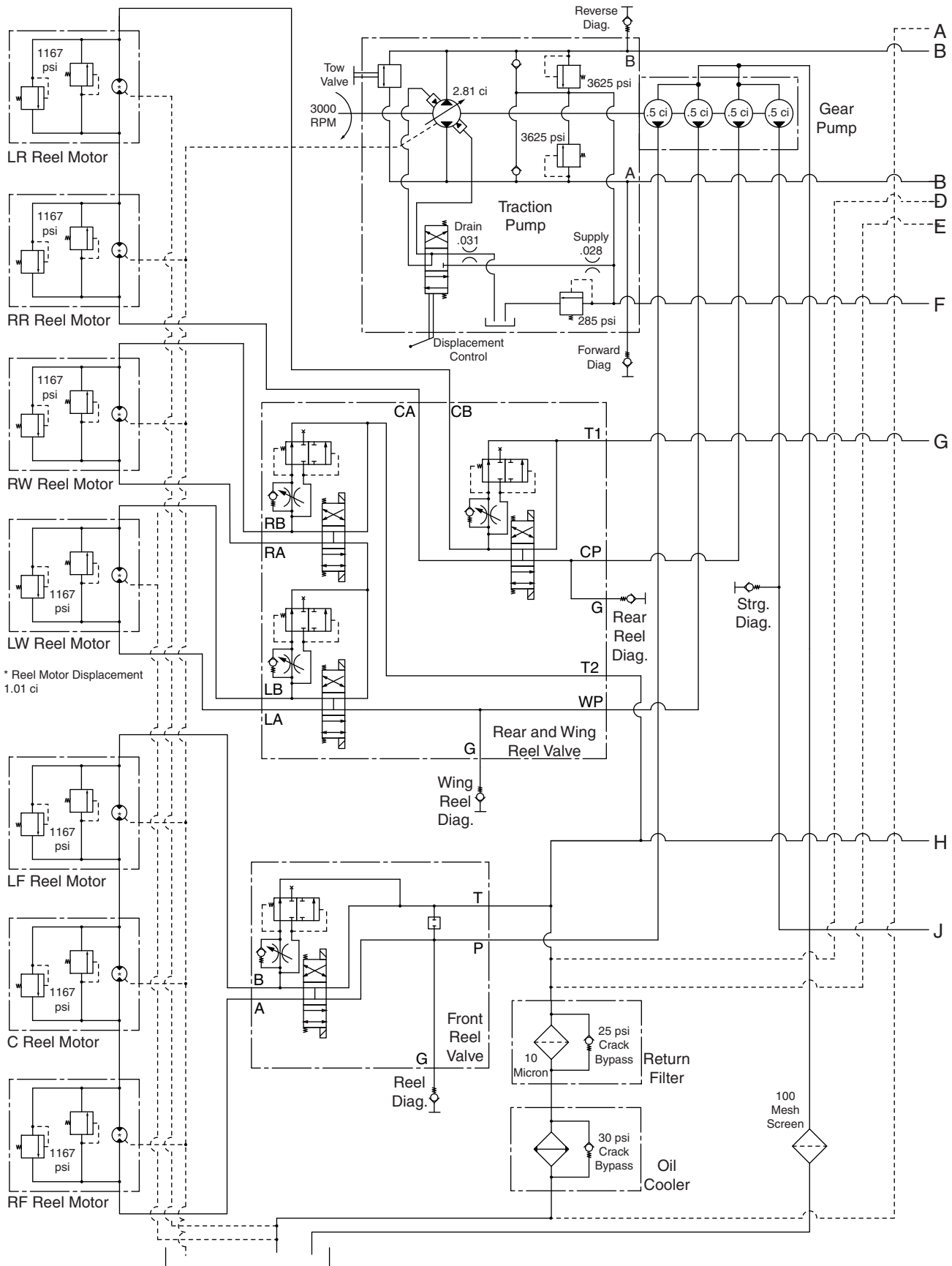
- SW-18 RWing Mow Switch
- SW-19 Center Mow Switch
- SW-20 LWin Mow Switch
- SW-21 RWing Limit Switch
- SW-22 LWin Limit Switch
- U-1 Temp Gauge
- U-2 Fuel Gauge
- U-3 Hour Meter
- U-4 Fuel Sender
- U-5 Light Gauge
- U-6 Temp Sender
- U-7 Alternator
- U-8 Horn
- U-9 Controller
- U-10 Joystick

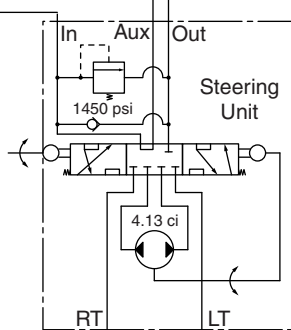
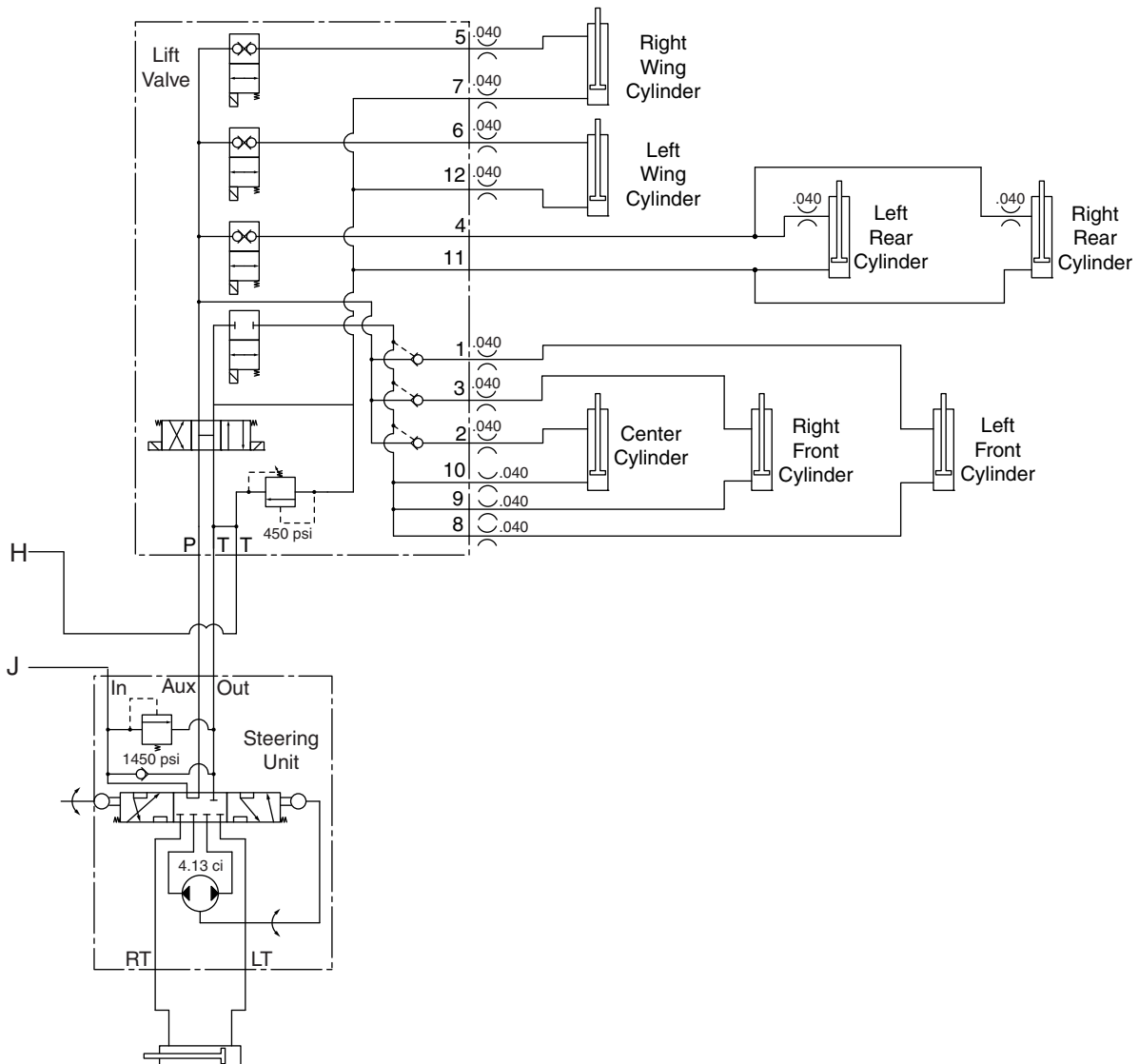
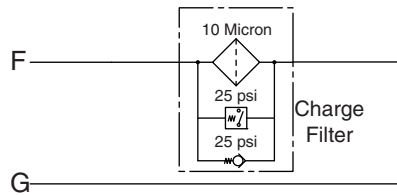
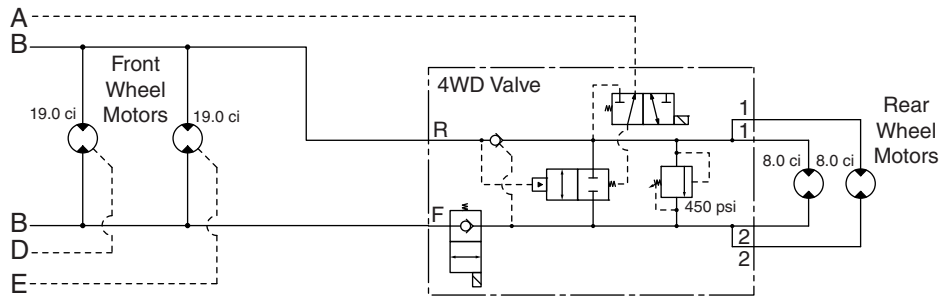
Colors

- Bk Black
- Bn Brown
- Bu Blue
- DB Dark Blue
- DG Dark Green
- Gn Green
- Gy Gray
- LB Light Blue
- LG Light Green
- Og Orange
- Pk Pink
- Pu Purple
- Rd Red
- Tn Tan
- Ye Yellow

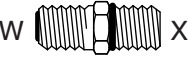
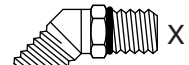

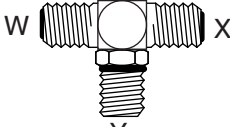
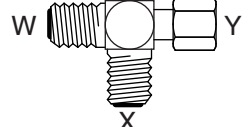
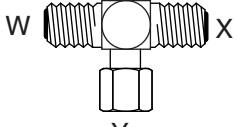
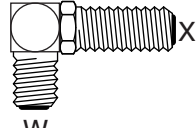
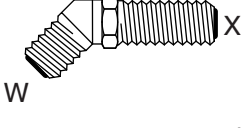
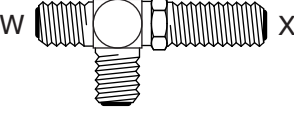
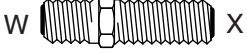
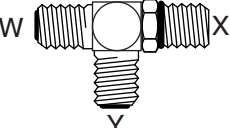

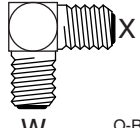
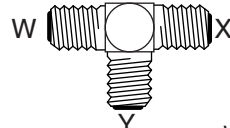
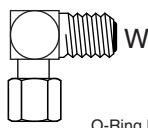
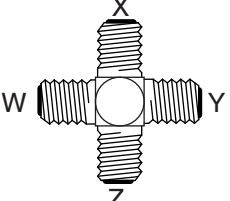



45.1 Hydraulic Schematic





46.1 O-Ring Chart



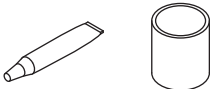
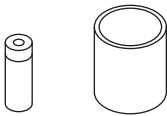

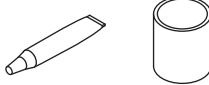


 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Boss Dash Size</p>
 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Boss Dash Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Face Seal Size O-Ring Not Needed</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Face Seal Size O-Ring Not Needed</p>
 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Face Seal Size</p>
 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Boss Dash Size O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Face Seal Size</p>
 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y}$ O-Ring Face Seal Size</p>	 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X}$ O-Ring Not Needed</p>
 <p>O-Ring Face Seal Size $\overbrace{\quad\quad}^{W-X-Y-Z}$ 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
339974	4-6	Straight Adapter	339908	339897		
339979	6-6	Straight Adapter	339909	339897		
339985	8-10	Straight Adapter	339910	339899		
339989	10-10	Straight Adapter	339911	339899		
339990	10-12	Straight Adapter	339911	339900		
339993	12-10	Straight Adapter	339912	339899		
339994	12-12	Straight Adapter	339912	339900		
339996	12-16	Straight Adapter	339912	339901		
339998	16-12	Straight Adapter	339913	339900		
339999	16-16	Straight Adapter	339913	339901		
340007	6-4	Straight Adapter	339906	339896		
340022	4-4	45° Adapter	339908	339896		
340057	4-6	90° Adapter	339908	339897		
340070	10-10	90° Adapter	339911	339899		
340090	24-24	90° Adapter	339915	339903		
340143	6-6-6	Swivel Branch Tee	339909	339909		
340241	10-10	Union Bulkhead Adapter	339911	339911		
340263	6-6-6	Straight Thread Run Tee	339909	339897		
340274	8-10-8	Straight Thread Run Tee	339910	339899		
340339	16-16-16	Union Tee	339913	339913		

SAE Boss O-Rings			ORS Face Seal O-Rings		
Dash Size	Thread Size	O-Ring	Tube Size	Thread Size	O-Ring
2	5/16-24	459290	4	9/16-18	339908
3	3/8-24	459291	6	11/16-16	339909
4	7/16-20	339896	8	13/16-16	339910
5	1/2-20	459293	10	1-14	339911
6	9/16-18	339897	12	1 3/16-12	339912
8	3/4-16	339898	16	1 7/16-12	339913
10	7/8-14	339899	20	1 11/16-12	339914
12	1 1/16-12	339900	24	2-12	339915
14	1 3/16-12	459296			
16	1 5/16-12	339901			
20	1 5/8-12	339902			
24	1 7/8-12	339903			
32	2 1/2-12	339904			

> Change from previous revision

Fluids and Compounds

5001405 5001404 2500548 2500546 503409 503407	Hydraulic Fluid* Two 2-1/2 Gallon Container of ISO VG68 Oil One 5 Gallon Pail of ISO VG68 Oil Two 2-1/2 Gallon Container of 10W30 Oil One 5 Gallon Pail of 10W30 Oil Two 2-1/2 Gallon Container of ATF Fluid One 5 Gallon Pail of ATF Fluid	
554599	2-Cycle Oil Twenty Four 8 Ounce Plastic Container	
5000067 5000068	Grease One 5 Gallon Pail OO-Grease Twenty Four 8 Ounce Tube OO-Grease	
4184140 2500789 546409 5002631 838140 4112764	Paint 12 Ounce Orange Aerosol Can Twelve 1 Quart Can Orange Two 1 Gallon Can Orange Hunter Green Aerolol Can 16 Ounce Ransomes Green Aerosol Can 1 Quart Can Ransomes Green	
5002488 5002490 5002489 5002491	Lapping Compound One 10 Pound Pail of 80 Grit One 25 Pound Pail of 80 Grit One 10 Pound Pail of 120 Grit One 25 Pound Pail of 120 Grit	
365422 5001581 523248 4136736	Specialty Compound 5.3 Ounce Tube of Electrical Insulating Gel 14 Ounce Can of Lubriplate Multi Lube A Chain Lubricant Zinc Spray Corrosion Protection	
5003102 5003103 5003105 5003104 4115976 4115977 4114701 5003106	Biodegradable Hydraulic Fluid* One 55 Gallon Drum Jacobsen GreensCare 68 One 5 Gallon Pail Jacobsen GreensCare 68 One 55 Gallon Drum Jacobsen GreensCare 46 One 5 Gallon Pail Jacobsen GreensCare 46 One 55 Gallon Drum Jacobsen GreensCare 32 One 5 Gallon Pail Jacobsen Greens Care 32 GreensCare Bio-Flush Twenty Four 14 Ounce Tube Greens Care Grease	
5002452 5002453 5002454	O-Ring Kit SAE O-Ring Boss (3/32 ~ 2" Tube O.D.) Common O-Ring Kit O-Ring Face Seal ORFS (-4 ~ -24 ORS Tube Size)	
Right Start Kit for New Machines See your local Jacobsen Dealer		
On-Time Maintenance Kit See your local Jacobsen Dealer		

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

Jacobsen offers a High Usage Parts Catalog illustrating commonly used Parts through easy to read line Drawings. See your local Jacobsen Dealer for a copy.

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