Genie®
A TEREX COMPANY

Service Manual

Serial Number Range

GS-2668 RT
from GS6805-44771

GS-3268 RT
from GS6805-44771

Part No. 112657
Rev C4
June 2016

Introduction

Important

Read, understand and obey the safety rules and operating instructions in the appropriate Operator's Manual on your machine before attempting any maintenance procedure.

Basic mechanical, hydraulic and electrical skills are required to perform most procedures. However, several procedures require specialized skills, tools, lifting equipment and a suitable workshop. In these instances, we strongly recommend that maintenance and repair be performed at an authorized Genie dealer service center.

Compliance

Machine Classification
Group A/Type 2,3 as defined by ISO 16368

Machine Design Life
Unrestricted with proper opeation, inspection and scheduled maintenance.

Technical Publications

Genie Industries has endeavored to deliver the highest degree of accuracy possible. However, continuous improvement of our products is a Genie policy. Therefore, product specifications are subject to change without notice.

Readers are encouraged to notify Genie of errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and all other manuals.

Contact Us:

www.genielift.com
e-mail: awp.techpub@terex.com

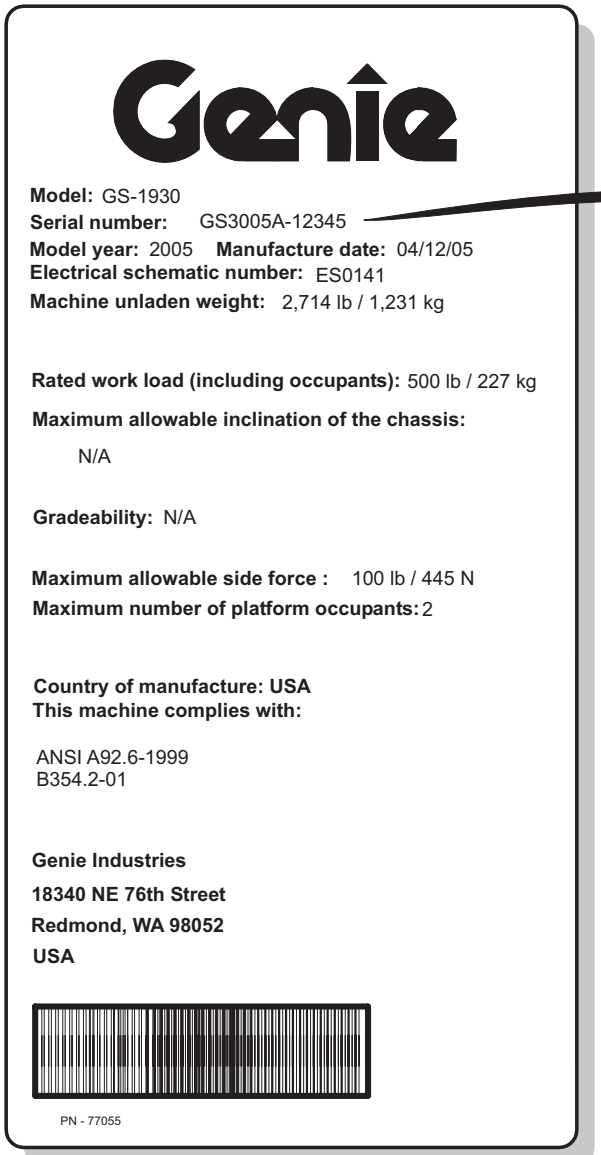
Serial Number Information

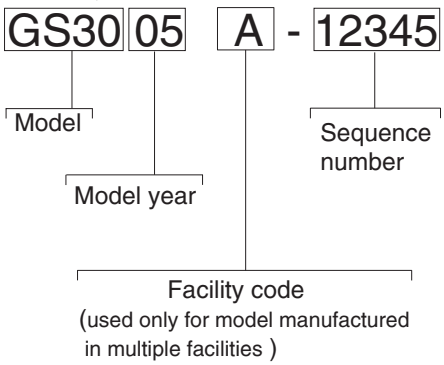
Genie Industries offers the following Service Manuals for these models:

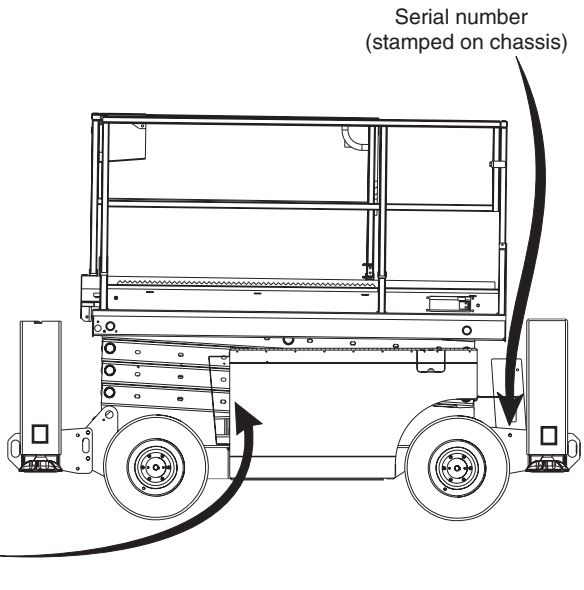
Title	Part No.
Genie GS-2668 RT and GS-3268 RT Service Manual, First Edition (from serial number 101 to GS6805-44770)	52302

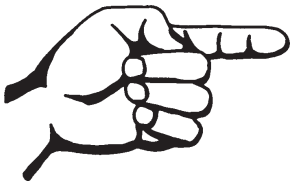
112657 Rev C June 2007
Second Edition, Third Printing

Serial Number Legend









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Safety Rules

Danger

Failure to obey the instructions and safety rules in this manual and the appropriate Operator's Manual on your machine will result in death or serious injury.

Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- ☑ You are trained and qualified to perform maintenance on this machine.
- ☑ You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- ☑ You have the appropriate tools, lifting equipment and a suitable workshop.

SAFETY RULES

Personal Safety

Any person working on or around a machine must be aware of all known safety hazards. Personal safety and the continued safe operation of the machine should be your top priority.

Read each procedure thoroughly. This manual and the decals on the machine, use signal words to identify the following:

Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠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 cause minor or moderate injury.

NOTICE Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Be sure to wear protective eye wear and other protective clothing if the situation warrants it.

Be aware of potential crushing hazards such as moving parts, free swinging or unsecured components when lifting or placing loads. Always wear approved steel-toed shoes.

Workplace Safety

Be sure to keep sparks, flames and lighted tobacco away from flammable and combustible materials like battery gases and engine fuels. Always have an approved fire extinguisher within easy reach.

Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.

Be sure any forklift, overhead crane or other lifting or supporting device is fully capable of supporting and stabilizing the weight to be lifted. Use only chains or straps that are in good condition and of ample capacity.

Be sure that fasteners intended for one time use (i.e., cotter pins and self-locking nuts) are not reused. These components may fail if they are used a second time.

Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be environmentally safe.

Be sure that your workshop or work area is properly ventilated and well lit.

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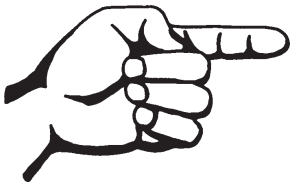

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Specifications

REV D

Machine Specifications

Fluid capacities	
Hydraulic tank	15 gallons 56.8 liters
Hydraulic system with outriggers (including tank), GS-2668 RT	15.75 gallons 59.6 liters
Hydraulic system with outriggers (including tank), GS-3268 RT	16.5 gallons 62.5 liters
Hydraulic system without outriggers (including tank), GS-2668 RT	15.5 gallons 58.7 liters
Hydraulic system without outriggers (including tank), GS-3268 RT	16.25 gallons 61.5 liters
Fuel tank	14.5 gallons 54.9 liters

For operational specifications, refer to the Operator's Manual.

Tire and wheels	
Wheel lugs	6 @ 1/2 -20
Lug bolt torque, dry	90 ft-lbs 122 Nm
Lug bolt torque, lubricated	67.5 ft-lbs 91.5 Nm
Castle nut torque, dry	300 ft-lbs 406.7 Nm
Castle nut torque, lubricated	225 ft-lbs 305 Nm
Rough Terrain, foam-filled	
Tire size	26 x 12D380
Tire ply rating	8
Tire diameter	26 in 66 cm
Tire width	12 in 30 cm
Tire weight, new foam-filled (minimum)	170 lbs 77 kg
Non-marking, solid rubber	
Tire size	22 x 16 x 9 in 55.9 x 40.6 x 22.9 cm
Tire diameter	22 in 55.9 cm
Tire width	9 in 22.9 cm
Weight	120 lbs (+/- 1 lbs) 54.4 kg (+/- 2.2 kg)

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

SPECIFICATIONS REV D

Performance Specifications

Drive speed, maximum	
Platform stowed	3.8 mph 6.1 km/h 40 ft / 7.2 sec 12.2 m / 7.2 sec
Platform raised	0.5 mph 0.8 km/h 40 ft / 54.6 sec 12.2 m / 54.6 sec

Braking distance, maximum	
High range on paved surface	less than 5 ft less than 1.5 m

Gradeability	
GS-2668 RT	40%
GS-3268 RT	35%

Function speed, maximum from platform controls (with maximum rated load in platform)	
GS-2668 RT	
Platform up	28 to 32 seconds
Platform down	33 to 37 seconds
GS-3268 RT	
Platform up	38 to 42 seconds
Platform down	35 to 39 seconds

Outrigger leveling, maximum	
Front to back	5.5°
Side to side	10°

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Hydraulic Specifications

Hydraulic Oil Specifications	
Hydraulic oil type	Chevron Rykon MV equivalent
Viscosity grade	Multi-viscosity
Viscosity index	200
Cleanliness level, minimum	15/13
Water content, maximum	200 ppm

Chevron Rykon MV oil is fully compatible and mixable with Shell Donax TG (Dexron III) oils. Genie specifications require hydraulic oils which are designed to give maximum protection to hydraulic systems, have the ability to perform over a wide temperature range, and the viscosity index should exceed 140. They should provide excellent antiwear, oxidation, corrosion inhibition, seal conditioning, and foam and aeration suppression properties.

Optional fluids	
Biodegradable	Petro Canada Environ MV 46 Statoil Hydra Way Bio Pa 32 BP Biohyd SE-S
Fire resistant	UCON Hydrolube HP-5046 Quintolubric 822
Mineral based	Shell Tellus T32 Shell Tellus T46 Chevron Aviation A

NOTICE Continued use of Chevron Aviation A hydraulic fluid when ambient temperatures are consistently above 32°F / 0°C may result in component damage.

Note: Use Chevron Aviation A hydraulic fluid when ambient temperatures are consistently below 0°F / -17°C.

Note: Use Shell Tellus T46 hydraulic oil when oil temperatures consistently exceed 205°F / 96°C.

Note: Genie specifications require additional equipment and special installation instructions for the approved optional fluids. Consult the Genie Industries Service Department before use.

REV D SPECIFICATIONS

Hydraulic Components Specifications

Function pump	
Type:	2 section pressure balanced gear pump
Displacement per revolution (pump #1)	0.488 cu in 8 cc
Flow rate @ 3600 rpm (pump #1)	6.5 gpm 24.6 L/min
Displacement per revolution (pump #2)	0.488 cu in 8 cc
Flow rate @ 3600 rpm (pump #2)	6.5 gpm 24.6 L/min
Hydraulic tank return filter	10 micron with 25 psi / 1.7 bar bypass

Function manifold	
System relief valve pressure (pump #1)	3500 psi 241.3 bar
System relief valve pressure (pump #2)	3000 psi 207 bar
Lift relief valve pressure, GS-2668 RT	3600 psi 248.2 bar
Lift relief valve pressure, GS-3268 RT	2800 psi 193 bar
Steer relief valve pressure	2800 psi 193 bar
Steer flow regulator	2 gpm 7.5 L/min

Outrigger manifold	
Relief valve pressure	2000 psi 137.8 bar

Generator manifold	
Relief valve pressure	3000 psi 206.8 bar
Flow rate	4.5 gpm 17 L/min

Drive motors	
Displacement	28.3 cu in 464 cc

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SPECIFICATIONS REV D

Manifold Component Specifications

Plug torque	
SAE No. 4	13 ft-lbs / 18 Nm
SAE No. 6	18 ft-lbs / 24 Nm
SAE No. 8	50 ft-lbs / 68 Nm
SAE No. 10	55 ft-lbs / 75 Nm

Valve Coil Resistance Specifications

Note: The following coil resistance specifications are at an ambient temperature of 68°F / 20°C. As valve coil resistance is sensitive to changes in air temperature, the coil resistance will typically increase or decrease by 4% for each 18°F / 20°C that your air temperature increases or decreases from 68°F / 20°C.

Description	Specification
Solenoid valve, 2 position 2 way 12V DC with diode (schematic item AI)	9Ω
Solenoid valve, 2 position 2 way 12V DC (schematic item BB)	7.5Ω
Solenoid valve, 3 position 4 way 12V DC (schematic item BD)	7.5Ω
Solenoid valve, 2 position 2 way 10V DC (schematic items CA, CB, CC and CD)	8.2Ω
Solenoid valve, 2 position 3 way 12V DC (schematic item DA)	6Ω
Solenoid valve, 2 position 2 way 12V DC with diode (schematic items FB and FK)	8.8Ω
Solenoid valve, 2 position 4 way 12V DC with diode (schematic items FD, FQ and FT)	5Ω
Solenoid valve, 3 position 4 way 12V DC with diode (schematic items FE and FR)	5Ω
Solenoid valve, 3 position 4 way 12V DC with diode (schematic item FF)	8.8Ω
Solenoid valve, 2 position 3 way 12V DC with diode (schematic item FP)	8.8Ω
Proportional valve, 12V DC (schematic item FU)	5Ω

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REV D SPECIFICATIONS

Kubota D1105 Engine Tier 4

Displacement	68.53 cu in 1.123 liters
Number of cylinders	3
Bore and stroke	3.07 x 3.09 inches 78 x 78.4 mm
Horsepower, gross intermittent	24.8 @ 3000 rpm 18.5 kW
Firing order	1 - 2 - 3
Compression ratio	24:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Low idle Frequency	1500 rpm 300 hz
High idle Frequency	3000 rpm 600 hz
Governor	centrifugal mechanical
Valve clearance, cold	0.0057 to 0.0072 in 0.145 to 0.185 mm
Engine coolant capacity	3.3 quarts 3.1 liters

Lubrication system

Oil pressure	28 to 64 psi 1.93 to 4.41 bar
Oil capacity (including filter)	5.4 quarts 5.1 liters

Oil viscosity requirements

Units ship with 15W-40.
Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.

Injection system

Injection pump make	Bosch MD
Injection timing	16.25° to 17.75° BTDC
Injection pump pressure	1992 to 2133 psi 137 to 147 bar

Fuel requirement

For fuel requirements, refer to the engine Operator's Manual on your machine.

Battery

Type	12V DC
Group	34/78
Quantity	1
Ampere hour	75 A
Cold cranking ampere	900A
Reserve capacity @ 25A rate	125 minutes

Alternator

Output	40A, 14V DC
Fan belt deflection	0.28 to 0.35 inch 7 to 9 mm

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SPECIFICATIONS REV D

Kubota D905 Engine Tier 2

Displacement	54.86 cu in 0.898 liters
Number of cylinders	3
Bore and stroke	2.83 x 2.90 inches 72 x 73.6 mm
Horsepower, Gross intermittent	23.5 @ 3600 rpm 17.5 kW
Firing order	1 - 2 - 3
Compression ratio	23:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Low idle Frequency	1500 rpm 300 hz
High idle Frequency	3000 rpm 600 hz
Governor	centrifugal mechanical
Valve clearance, cold	0.0057 to 0.0072 in 0.145 to 0.185 mm
Engine coolant capacity	3.3 quarts 3.1 liters

Lubrication system	
Oil pressure	36 to 64 psi 2.48 to 4.41 bar
Oil capacity (including filter)	5.4 quarts 5.1 liters

Oil viscosity requirements

Units ship with 15W-40.
Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.

Injection system	
Injection pump make	Bosch MD
Injection timing	18° to 21° BTDC
Injection pump pressure	1991 psi 137 bar

Fuel requirement

For fuel requirements, refer to the engine Operator's Manual on your machine.

Battery	
Type	12V DC
Group	34/78
Quantity	1
Ampere hour	75 A
Cold cranking ampere	900A
Reserve capacity @ 25A rate	125 minutes

Alternator	
Output	30A, 14V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

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REV D SPECIFICATIONS

Kubota DF752 Engine

Displacement	45.21 cu in 0.74 liters
Number of cylinders	3
Bore & stroke	2.68 x 2.68 inches 68 x 68 mm
Horsepower, Gross intermittent	24.8 @ 3600 rpm 18.5 kW @ 3600 rpm
Firing order	1 - 2 - 3
Compression ratio	9.2:1
Compression pressure	128 to 185 psi 8.8 to 12.7 bar
Low idle Frequency	1500 rpm 300 hz
High idle Frequency	3200 rpm 640 hz
Governor	centrifugal ball mechanical
Valve clearances, cold	0.0057 to 0.0072 inches 0.145 to 0.185 mm
Engine coolant capacity	3.1 quarts 2.9 liters

Lubrication system

Oil pressure (operating temperature @ 3850 rpm)	28 to 64 psi 1.9 to 4.4 bar
Oil capacity (including filter)	3.4 quarts 3.25 liters

Oil viscosity requirements

Units ship with 15W-40.
Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.

Fuel pump

Fuel pressure, static	2.84 psi 0.19 bar
Fuel flow rate	0.125 gpm 0.47 L/min

Starter motor

Brush length, new	0.669 in 17 mm
Brush length wear limit	0.453 in 11.5 mm
Brush spring tension	50 to 91 ounces 13.7 to 25.5 N

Battery

Type	12V DC
Group	34/78
Quantity	1
Ampere hour	75AH
Cold cranking ampere	900A
Reserve capacity at 25A rate	125 minutes

Ignition System

Ignition spark advance	18° BTDC
Ignition coil primary resistance	1.3 to 1.6Ω @ 75°F / 24°C
Ignition coil secondary resistance	10.7 to 14.5 kΩ @ 75°F / 24°C
#1 Spark plug wire resistance	2.81 to 4.79kΩ
#2 Spark plug wire resistance	3.4 to 5.8kΩ
#3 Spark plug wire resistance	3.57 to 6.09kΩ
Spark plug type	NGK BKR4E-11
Spark plug gap	0.039 to 0.043 inches 1 to 1.1 mm

Alternator

Output	30A, 14V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

SPECIFICATIONS REV D

Perkins 403D-11 Engine

Displacement	68.9 cu in 1.13 liters
Number of cylinders	3
Bore and stroke	3.03 x 3.19 inches 77 x 81 mm
Horsepower, gross intermittent	28.2 @ 3400 rpm 21 kW
Firing order	1 - 2 - 3
Compression ratio	23:1
Compression pressure	425 psi 29.3 bar
Pressure of the lowest cylinder must be within 50 psi / 3.45 bar of the highest cylinder, though at no time less than 360 psi / 24.8 bar	
Low idle Frequency	1500 rpm 300 hz
High idle Frequency	3000 rpm 600 hz
Governor	all-speed mechanical
Valve clearance, cold	0.0078 in 0.2 mm
Engine coolant capacity	3.28 quarts 3.1 liters
Engine coolant should be clean soft water with 50% anti freeze concentration ethylene glycol to BS 6580:1992 or ASTMD 3306-89 or AS 2108-1977	
Lubrication system	
Oil pressure (hot @ 2000 rpm)	40 to 60 psi 2.76 to 4.14 bar
Oil capacity (including filter)	4.6 quarts 4.4 liters
Oil viscosity requirements	
Units ship with 15W-40. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.	

Injection system	
Injection pump make	Bosch
Injection timing	23° BTDC @ 3000 rpm
Injection pump pressure	2133 psi 150 bar
Fuel requirement	diesel number 2-D
Battery	
Type	12V DC
Group	34/78
Quantity	1
Ampere hour	75AH
Cold cranking ampere	900A
Reserve capacity @ 25A rate	125 minutes
Alternator	
Output	40A, 12V DC
Fan belt deflection	$^{3}/_{16}$ inch 5 mm

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

REV D SPECIFICATIONS

Perkins 403C-11 Engine

Displacement	68.9 cu in 1.13 liters
Number of cylinders	3
Bore and stroke	3.03 x 3.19 inches 77 x 81 mm
Horsepower, gross intermittent	26.1 @ 3000 rpm 19.5 kW
Firing order	1 - 2 - 3
Compression ratio	23:1
Compression pressure Pressure of the lowest cylinder must be within 50 psi / 3.45 bar of the highest cylinder, though at no time less than 360 psi / 24.8 bar	425 psi 29.3 bar
Low idle Frequency	1500 rpm 300 hz
High idle Frequency	3000 rpm 600 hz
Governor	all-speed mechanical
Valve clearance, cold	0.0078 in 0.2 mm
Engine coolant capacity	3.28 quarts 3.1 liters

Engine coolant should be clean soft water with 50% anti freeze concentration ethylene glycol to BS 6580:1992 or ASTMD 3306-89 or AS 2108-1977

Lubrication system	
Oil pressure (hot @ 2000 rpm)	40 to 60 psi 2.76 to 4.14 bar
Oil capacity (including filter)	4.3 quarts 4.07 liters

Oil viscosity requirements

Units ship with 15W-40.
Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.

Injection system	
Injection pump make	Bosch
Injection timing	23° BTDC @ 3000 rpm
Injection pump pressure	2133 psi 150 bar
Fuel requirement	diesel number 2-D

Battery	
Type	12V DC
Group	34/78
Quantity	1
Ampere hour	75AH
Cold cranking ampere	900A
Reserve capacity @ 25A rate	125 minutes

Alternator	
Output	40A, 12V DC
Fan belt deflection	$^{3}/_{16}$ inch 5 mm

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SPECIFICATIONS REV D

Hydraulic Hose and Fitting Torque Specifications

Your machine is equipped with Parker Seal-Lok® fittings and hose ends. Genie specifications require that fittings and hose ends be torqued to specification when they are removed and installed or when new hoses or fittings are installed.

SAE O-ring Boss Port
(tube fitting - installed into Aluminum)

SAE Dash size	Torque
-4	11 ft-lbs / 14.9 Nm
-6	23 ft-lbs / 31.2 Nm
-8	40 ft-lbs / 54.2 Nm
-10	69 ft-lbs / 93.6 Nm
-12	93 ft-lbs / 126.1 Nm
-16	139 ft-lbs / 188.5 Nm
-20	172 ft-lbs / 233.2 Nm
-24	208 ft-lbs / 282 Nm

Seal-Lok® fittings

1 Replace the O-ring. The O-ring must be replaced anytime the seal has been broken. The O-ring cannot be re-used if the fitting or hose end has been tightened beyond finger tight.

Note: The O-rings used in the Parker Seal Lok® fittings and hose ends are custom-size O-rings. They are not standard SAE size O-rings. They are available in the O-ring field service kit (Genie part number 49612).

2 Lubricate the O-ring before installation.

3 Be sure that the face seal O-ring is seated and retained properly.

4 Position the tube and nut squarely on the face seal end of the fitting and tighten the nut finger tight.

5 Tighten the nut or fitting to the appropriate torque per given size as shown in the table.

6 Operate all machine functions and inspect the hoses and fittings and related components to confirm that there are no leaks.

SAE O-ring Boss Port
(tube fitting - installed into Steel)

SAE Dash size	Torque
-4	16 ft-lbs / 21.7 Nm
-6	35 ft-lbs / 47.5 Nm
-8	60 ft-lbs / 81.3 Nm
-10	105 ft-lbs / 142.4 Nm
-12	140 ft-lbs / 190 Nm
-16	210 ft-lbs / 284.7 Nm
-20	260 ft-lbs / 352.5 Nm
-24	315 ft-lbs / 427.1 Nm

Seal-Lok® Fittings
(hose end)

SAE Dash size	Torque
-4	18 ft-lbs / 24.4 Nm
-6	27 ft-lbs / 36.6 Nm
-8	40 ft-lbs / 54.2 Nm
-10	63 ft-lbs / 85.4 Nm
-12	90 ft-lbs / 122 Nm
-16	120 ft-lbs / 162.7 Nm
-20	140 ft-lbs / 190 Nm
-24	165 ft-lbs / 223.7 Nm

SAE FASTENER TORQUE CHART

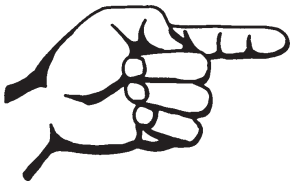
• This chart is to be used as a guide only unless noted elsewhere in this manual •

SIZE	THREAD	Grade 5				Grade 8				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	80	9	100	11.3	110	12.4	140	15.8	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1 1/8	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1 1/4	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1 1/2	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART

• This chart is to be used as a guide only unless noted elsewhere in this manual •

Size (mm)	Class 4.6				Class 8.8				Class 10.9				Class 12.9			
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	1.95	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233



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Scheduled Maintenance Procedures

Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of this machine.
- ☑ Scheduled maintenance inspections shall be completed daily, quarterly, semi-annually, annually and every 2 years as specified on the *Maintenance Inspection Report.*

⚠WARNING Failure to perform each procedure as presented and scheduled could result in death, serious injury or substantial damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Use only Genie approved replacement parts.
- ☑ Machines that have been out of service for a period longer than 3 months must complete the quarterly inspection.
- ☑ Unless otherwise specified, perform each maintenance procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Platform in the stowed position
  - Key switch in the off position with the key removed
  - The red Emergency Stop button in the off position at both ground and platform controls
  - Wheels chocked
  - All external AC power supply disconnected from the machine

About This Section

This section contains detailed procedures for each scheduled maintenance inspection.

Each procedure includes a description, safety warnings and step-by-step instructions.

Symbols Legend

Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠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 cause minor or moderate injury.

NOTICE Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

⊙ Indicates that a specific result is expected after performing a series of steps.

⊠ Indicates that an incorrect result has occurred after performing a series of steps.

SCHEDULED MAINTENANCE PROCEDURES

Maintenance Symbols Legend

Note: The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.

Indicates that tools will be required to perform this procedure.

Indicates that new parts will be required to perform this procedure.

Indicates that a cold engine will be required to perform this procedure.

Indicates that a warm engine will be required to perform this procedure.

Indicates that dealer service will be required to perform this procedure.

Pre-delivery Preparation Report

The pre-delivery preparation report contains checklists for each type of scheduled inspection.

Make copies of the *Pre-delivery Preparation* report to use for each inspection. Store completed forms as required.

Maintenance Schedule

There are five types of maintenance inspections that must be performed according to a schedule—daily, quarterly, semi-annually, annually, and two year. The *Scheduled Maintenance Procedures Section and the Maintenance Inspection Report* have been divided into five subsections—A, B, C, D, and E. Use the following chart to determine which group(s) of procedures are required to perform a scheduled inspection.

Inspection	Checklist
Daily or every 8 hours	A
Quarterly or every 250 hours	A + B
Semi-annually or every 500 hours	A + B + C
Annually or every 1000 hours	A + B + C + D
Two year or every 2000 hours	A + B + C + D + E

Maintenance Inspection Report

The maintenance inspection report contains checklists for each type of scheduled inspection.

Make copies of the *Maintenance Inspection Report* to use for each inspection. Maintain completed forms for a minimum of 4 years or in compliance with your employer, jobsite and governmental regulations and requirements.

Pre-Delivery Preparation

Fundamentals

It is the responsibility of the dealer to perform the Pre-delivery Preparation.

The Pre-delivery Preparation is performed prior to each delivery. The inspection is designed to discover if anything is apparently wrong with a machine before it is put into service.

A damaged or modified machine must never be used. If damage or any variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in the responsibilities manual.

Instructions

Use the operator's manual on your machine.

The Pre-delivery Preparation consists of completing the Pre-operation Inspection, the Maintenance items and the Function Tests.

Use this form to record the results. Place a check in the appropriate box after each part is completed. Follow the instructions in the operator's manual.

If any inspection receives an N, remove the machine from service, repair and re-inspect it. After repair, place a check in the R box.

Legend

Y = yes, completed
N = no, unable to complete
R = repaired

Comments

Pre-Delivery Preparation	Y	N	R
Pre-operation inspection completed			
Maintenance items completed			
Function tests completed			

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

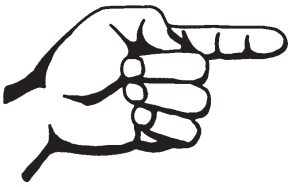
Inspector title

Inspector company

Genie®
A TEREX COMPANY

Genie Industries USA
18340 NE 76th Street
PO Box 97030
Redmond, WA 98073-9730
(425) 881-1800

Genie UK
The Maltings, Wharf Road
Grantham, Lincolnshire
NG31- 6BH England
(44) 1476-584333



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Maintenance Inspection Report

Model

Serial number

Date

Hour meter

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐	**Daily or 8 hours Inspection: A**
☐	**Quarterly or 250 hours Inspection: A+B**
☐	**Semi-annually or 500 hours Inspection: A+B+C**
☐	**Annually or 1000 hours Inspection: A+B+C+D**
☐	**Two year or 2000 hours Inspection: A+B+C+D+E**

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the step-by-step procedures in this section to learn how to perform these inspections.
- If any inspection receives an “N”, tag and remove the machine from service, repair and re-inspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, remove from service

R = repaired

Checklist A - Rev B		**Y**	**N**	**R**
A-1	Manuals and decals			
A-2	Pre-operation inspect			
A-3	Function tests			
A-4	Engine maintenance			
Perform every 40 hours:				
A-5	Engine air filter			
Perform after 40 hours:				
A-6	Perform 30 day service			
Perform after 50 hours:				
A-7	Engine maintenance - Kubota models			
Perform every 50 hours:				
A-8	Engine maintenance - Kubota models			
Perform every 100 hours:				
A-9	Engine maintenance - Kubota models			
Perform every 200 hours:				
A-10	Engine maintenance - Kubota models			
A-11	Drain filter/separator - Diesel models			
Perform every 1-2 months:				
A-12	Engine maintenance - Kubota models			

Checklist B - Rev B		**Y**	**N**	**R**
B-1	Battery			
B-2	Electrical wiring			
B-3	Tires and wheels			
B-4	Engine maintenance - Perkins models			
B-5	Key switch			
B-6	Emergency Stop			
B-7	Horn			
B-8	Fuel select - Gasoline/LPG models			
B-9	Drive brakes			
B-10	Drive speed - stowed			
B-11	Drive speed - raised			
B-12	Tank venting systems			
B-13	Hydraulic oil analysis			
B-14	Flashing beacons (if equipped)			
Perform every 400 hours:				
B-15	Engine maintenance - Kubota models			

Comments

MAINTENANCE INSPECTION REPORT

Model

Serial number

Date

Hour meter

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this report to use for each inspection.
- Select the appropriate checklist(s) for the type of inspection to be performed.

☐	**Daily or 8 hours Inspection: A**
☐	**Quarterly or 250 hours Inspection: A+B**
☐	**Semi-annually or 500 hours Inspection: A+B+C**
☐	**Annually or 1000 hours Inspection: A+B+C+D**
☐	**Two year or 2000 hours Inspection: A+B+C+D+E**

- Place a check in the appropriate box after each inspection procedure is completed.
- Use the step-by-step procedures in this section to learn how to perform these inspections.
- If any inspection receives an “N”, tag and remove the machine from service, repair and re-inspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, remove from service

R = repaired

Checklist C - Rev B		Y	N	R
C-1	Platform overload (if equipped)			
C-2	Fuel tank - Diesel models			
C-3	Breather cap - models with optional oil			
C-4	Engine maintenance - Diesel models			
Perform every 800 hours:				
C-5	Engine maintenance - Kubota models			

Checklist D - Rev B		Y	N	R
D-1	Scissor arm wear pads			
D-2	Hydraulic filter			
D-3	Engine maintenance - Perkins models			
D-4	Engine maintenance - Kubota models			
Perform every 1500 hours:				
D-5	Engine maintenance - Kubota models			

Checklist E - Rev B		Y	N	R
E-1	Test or replace hydraulic oil			
E-2	Engine maintenance - Perkins models			
E-3	Engine maintenance - Gasoline/LPG models			
E-4	Engine maintenance - Kubota D1105 models			
Perform every 3000 hours:				
E-5	Engine maintenance - Perkins models			
E-6	Engine maintenance - Kubota D1105 models			

Comments

Checklist A Procedures

REV B

A-1
Inspect the Manuals and Decals

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Maintaining the operator's and safety manuals in good condition is essential to safe machine operation. Manuals are included with each machine and should be stored in the container provided in the platform. An illegible or missing manual will not provide safety and operational information necessary for a safe operating condition.

In addition, maintaining all of the safety and instructional decals in good condition is mandatory for safe machine operation. Decals alert operators and personnel to the many possible hazards associated with using this machine. They also provide users with operation and maintenance information. An illegible decal will fail to alert personnel of a procedure or hazard and could result in unsafe operating conditions.

1 Check to make sure that the operator's and safety manuals are present and complete in the storage container on the platform.

2 Examine the pages of each manual to be sure that they are legible and in good condition.

⊙ Result: The operator's manual is appropriate for the machine and all manuals are legible and in good condition.

⊠ Result: The operator's manual is not appropriate for the machine or all manuals are not in good condition or is illegible. Remove the machine from service until the manual is replaced.

3 Open the operator's manual to the decals inspection section. Carefully and thoroughly inspect all decals on the machine for legibility and damage.

⊙ Result: The machine is equipped with all required decals, and all decals are legible and in good condition.

⊠ Result: The machine is not equipped with all required decals, or one or more decals are illegible or in poor condition. Remove the machine from service until the decals are replaced.

4 Always return the manuals to the storage container after use.

Note: Contact your authorized Genie distributor or Genie Industries if replacement manuals or decals are needed.

CHECKLIST A PROCEDURES REV B

A-2
Perform Pre-operation Inspection

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Completing a Pre-operation Inspection is essential to safe machine operation. The Pre-operation Inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests. The Pre-operation Inspection also serves to determine if routine maintenance procedures are required.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

A-3
Perform Function Tests

Genie specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Completing the function tests is essential to safe machine operation. Function tests are designed to discover any malfunctions before the machine is put into service. A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service.

Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

A-4
Perform Engine Maintenance

Engine specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1) OR the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota DF752 Operator's Manual	
Genie part number	84250
Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

A-5
Inspect the Engine Air Filter

Genie specifications require that this procedure be performed every 40 hours or weekly, whichever comes first.

Maintaining the engine air filter in good condition is essential to good engine performance and service life. Failure to perform this procedure can lead to poor engine performance and component damage.

1 **Kubota D1105 and D905 models:** Pull up on the engine tray locking pin, located under the radiator on the engine pivot tray. Swing the engine pivot tray out and away from the machine for access.

2 **Kubota D1105 and D905 models:** Remove the wingnut securing the end cap to the air cleaner canister. Remove the end cap.

All other models: Disconnect the retaining clamps securing the end cap to the air cleaner canister. Remove the end cap.

3 Remove the air filter element.

4 Clean the inside of the air filter canister and the canister gasket with a damp cloth.

5 Inspect for and remove any blockage or debris from the intake air passages.

CHECKLIST A PROCEDURES REV B

6 Inspect the air filter element. If needed, blow from the inside out using low pressure dry compressed air, or carefully tap out dust.

7 Securely install the filter element into the canister.

8 Install the gasket and baffle (if equipped), and end cap onto the air cleaner canister.

Note: Be sure the dust discharge valve is facing down when installed.

9 Secure the end cap to the air cleaner cannister with the retaining clamps.

10 **Kubota D1105 and D905 models:** Swing the engine pivot tray back to its original position and make sure the engine tray locking pin locks into place.

A-6
Perform 30 Day Service

The 30 day maintenance procedure is a one-time sequence of procedures to be performed after the first 30 days or 40 hours of usage. After this interval, refer to the maintenance checklists for continued scheduled maintenance.

1 Perform the following maintenance procedures:

Kubota models:

- B-3 Inspect the Tires, Wheels and Lug Nut Torque
- D-2 Replace the Hydraulic Tank Return Filter

Perkins models:

- B-3 Inspect the Tires, Wheels and Lug Nut Torque
- B-4 Perform Engine Maintenance - Perkins Models
- C-4 Perform Engine Maintenance - Diesel Models
- D-2 Replace the Hydraulic Tank Return Filter

A-7
Perform Engine Maintenance - Kubota Models

Engine specifications require that this one time procedure be performed after the first 50 hours of operation.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240

A-8
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 50 hours or weekly, whichever comes first.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota DF752 Operator's Manual	
Genie part number	84250

CHECKLIST A PROCEDURES REV B

A-9
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 100 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota DF752 Operator's Manual	
Genie part number	84250

A-10
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 200 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota DF752 Operator's Manual	
Genie part number	84250

A-11
Drain the Fuel Filter/ Water Separator - Diesel Models

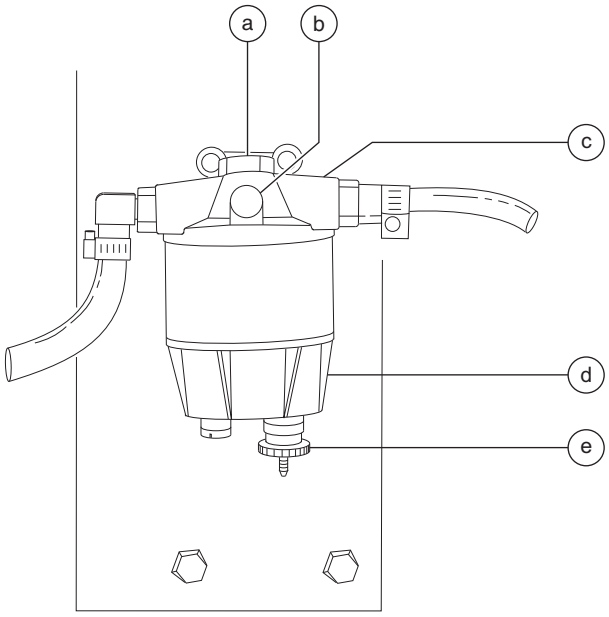
Genie specifications require that this procedure be performed every 200 hours or monthly, whichever comes first.

Proper maintenance of the fuel filter/water separator is essential for good engine performance. Failure to perform this procedure can lead to poor engine performance and component damage.

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

1 Locate the fuel filter/water separator and loosen the vent plug located on the fuel filter/water separator head.

2 Loosen the drain plug located at the bottom of the bowl. Allow the water to drain into a suitable container until fuel starts to come out. Immediately tighten the drain plug.



a head bolt
b vent plug
c separator head
d filter bowl
e drain plug

3 Tighten the vent plug and clean up any spills or wet surfaces.

Note: If the fuel bowl is completely drained, you must prime, or bleed, the fuel filter/water separator before starting the engine. See step 5.

4 Start the engine from the ground controls and check the fuel filter/water separator for leaks.

Bleed the fuel system:

Note: Before bleeding the system, fill the fuel tank.

5 Loosen the vent plug/screw located on the filter head.

6 Operate the hand primer until fuel, free of air, flows from the vent plug/screw. Tighten the vent plug/screw on the filter head.

7 Loosen the vent screw, located on top of the fuel injection pump.

CHECKLIST A PROCEDURES REV B

8 Operate the hand primer until fuel, free of air, flows from the vent plug/screw. Tighten the vent plug/screw on the injection pump.

9 Clean up any fuel that may have spilled.

10 Attempt to start the engine using the starter motor for a maximum of 15 seconds, resting the starter for 30 seconds before trying again.

11 Inspect the fuel filter/water separator for leaks.

⚠DANGER Explosion and fire hazard. If a fuel leak is discovered, keep any additional personnel from entering the area and do not operate the machine. Repair the leak immediately.

Note: Information to perform this procedure is also available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

A-12
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every one or two months.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240

Checklist B Procedures

REV B

B-1
Inspect the Battery

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Bodily injury hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Be sure that the battery cable connections are free of corrosion.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

3 Be sure that the battery retainers and cable connections are tight.

4 Fully charge the battery. Allow the battery to rest 24 hours before performing this procedure to allow the battery cells to equalize.

5 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.

6 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:

- Add 0.004 to the reading of each cell for every 10° / 5.5° C above 80° F / 26.7° C.
- Subtract 0.004 from the reading of each cell for every 10° / 5.5° C below 80° F / 26.7° C.

⊙ Result: All battery cells display an adjusted specific gravity of 1.277 or higher. The battery is fully charged. Proceed to step 10.

⊠ Result: One or more battery cells display a specific gravity of 1.217 or below. Proceed to step 7.

7 Perform an equalizing charge OR fully charge the batteries and allow the battery to rest at least 6 hours.

8 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.

9 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:

- Add 0.004 to the reading of each cell for every 10° / 5.5° C above 80° F / 26.7° C.
- Subtract 0.004 from the reading of each cell for every 10° / 5.5° C below 80° F / 26.7° C.

⊙ Result: All battery cells display a specific gravity of 1.277 or greater. The battery is fully charged. Proceed to step 10.

⊠ Result: The difference in specific gravity readings between cells is greater than 0.1 OR the specific gravity of one or more cells is less than 1.217. Replace the battery.

10 Check the battery acid level. If needed, replenish with distilled water to 1/8 inch / 3 mm below the bottom of the battery fill tube. Do not overfill.

11 Install the vent caps and neutralize any electrolyte that may have spilled.

CHECKLIST B PROCEDURES REV B

B-2
Inspect the Electrical Wiring

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Maintaining electrical wiring in good condition is essential to safe operation and good machine performance. Failure to find and replace burnt, chafed, corroded or pinched wires could result in unsafe operating conditions and may cause component damage.

⚠WARNING Electrocution/burn hazard. Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

1 Inspect the following areas for burnt, chafed, corroded and loose wires:
   - Ground control panel
   - Hydraulic tray
   - Engine tray
   - Scissor arms
   - Platform controls

2 Inspect for a liberal coating of dielectric grease in the following locations:
   - Between the ECM and platform controls
   - All wire harness connectors
   - Level sensor

3 Turn the key switch to ground control and pull out the Emergency Stop button to the ON position at both the ground and platform controls.

4 Start the engine and raise the platform approximately 10 feet / 3 m from the ground.

5 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.

6 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

7 Inspect the center chassis area and scissor arms for burnt, chafed and pinched cables.

8 Inspect the following areas for burnt, chafed, corroded, pinched and loose wires:
   - ECM to platform controls
   - Power to platform wiring

9 Raise the platform and return the safety arm to the stowed position.

10 Lower the platform to the stowed position and turn the machine off.

REV B CHECKLIST B PROCEDURES

B-3
Inspect the Tires, Wheels and Lug Bolt Torque

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

1 Check the tire tread and sidewalls for cuts, cracks, punctures and unusual wear.

2 Check each wheel for damage, bends and cracked welds.

3 Remove the castle nut lock plate or cotter pin and check each castle nut for proper torque. Refer to Section 2, *Specifications*.

Note: Always replace the cotter pin with a new one when removing the castle nut or checking the torque of the castle nut.

4 Check each lug bolt for proper torque.

5 Install the castle nut lock plate using a new lock washer OR install a new cotter pin and secure.

B-4
Perform Engine Maintenance - Perkins Models

Engine specifications require that this procedure be performed every 250 hours or six months, whichever comes first.

Required maintenance procedures and additional engine information is available in the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

CHECKLIST B PROCEDURES REV B

B-5
Test the Key Switch

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper key switch action and response is essential to safe machine operation. The machine can be operated from the ground or platform controls and the activation of one or the other is accomplished with the key switch. Failure of the key switch to activate the appropriate control panel could cause a hazardous operating situation.

1 Pull out the red Emergency Stop button to the ON position at both the ground and platform controls.

2 Turn the key switch to **platform control**.

3 Check the platform up/down function from the **ground controls**.

⊙ Result: The machine functions should **not** operate.

4 Turn the key switch to **ground control**.

5 Check the machine functions from the **platform controls**.

⊙ Result: The machine functions should **not** operate.

6 Turn the key switch to the OFF position.

⊙ Result: The engine should stop and no functions should operate.

B-6
Test the Emergency Stop

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

A properly functioning Emergency Stop is essential for safe machine operation. An improperly operating red Emergency Stop button will fail to shut off power and stop all machine functions, resulting in a hazardous situation.

Note: As a safety feature, selecting and operating the ground controls will override the platform controls, except the platform red Emergency Stop button.

1 Start the engine from ground controls.

2 Push in the red Emergency Stop button to the off position.

⊙ Result: The engine should shut off and no machine functions should operate.

3 Start the engine from platform controls.

4 Push in the red Emergency Stop button to the off position.

⊙ Result: The engine should shut off and no machine functions should operate.

Note: The red Emergency Stop button at the ground controls should stop all machine operation, even if the key switch is switched to platform control.

REV B CHECKLIST B PROCEDURES

B-7
Test the Automotive-style Horn

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

A functioning horn is essential to safe machine operation. The horn is activated at the platform controls and sounds at the ground as a warning to ground personnel. An improperly functioning horn will prevent the operator from alerting ground personnel of hazards or unsafe conditions.

1 Turn the key switch to platform control and pull out the red Emergency Stop button to the ON position at both the ground and platform controls.

2 Push down the horn button at the platform controls.

⊙ Result: The horn should sound.

Note: If necessary, the horn can be adjusted to obtain the loudest volume by turning the adjustment screw near the wire terminals on the horn.

B-8
Test the Fuel Select Operation - Gasoline/LPG Models

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

The ability to select and switch between gasoline and LPG fuels as needed is essential to safe machine operation. A fuel selection can be made whether the engine is running or not. Switching malfunctions and/or the failure of the engine to start and run properly in both fuel modes and through all idle speeds can indicate fuel system problems that could develop into a hazardous situation.

Note: Perform this test after checking the gasoline and LPG fuel levels, and warming the engine to normal operating temperature.

Note: Be sure that the valve on the LPG tank is in the OPEN position.

1 Move the fuel select toggle switch to the gasoline position at the ground controls.

2 Start the engine from the platform controls and allow the engine to run at low idle.

3 Press the high idle button at the platform controls to allow the engine to run at high idle.

⊙ Result: The high idle indicator light should be ON and the engine should start promptly and operate smoothly in low and high idle.

4 Press the high idle button again to return the engine to low idle.

⊙ Result: The high idle indicator light should turn OFF and the engine should return to low idle.

5 Press the engine stop button.

⊙ Result: The engine should stop.

6 Press the LPG operation button.

⊙ Result: The LPG indicator light should be ON.

7 Start the engine and allow it to run at low idle.

8 Press the high idle button to allow the engine to run at high idle.

⊙ Result: The high idle indicator light should be ON and the engine should start promptly and operate smoothly in low and high idle.

Note: The engine may hesitate momentarily and then continue to run on the selected fuel if the fuel source is switched while the engine is running.

B-9
Test the Drive Brakes

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper brake action is essential to safe machine operation. The drive brake function should operate smoothly, free of hesitation, jerking and unusual noise. Hydraulically-released individual wheel brakes can appear to operate normally when they are actually not fully operational.

1 Mark a test line on the ground for reference.

2 Start the engine from platform controls.

3 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the test line.

4 Slowly move the joystick in the direction indicated by the blue arrow on the control panel until the machine begins to move, then return the joystick to the center position.

⊙ Result: The machine should move in the direction that the blue arrow points on the control panel, then come to an abrupt stop.

5 Slowly move the joystick in the direction indicated by the yellow arrow on the control panel until the machine begins to move, then return the joystick to the center position.

⊙ Result: The machine should move in the direction that the yellow arrow points on the control panel, then come to an abrupt stop.

6 Bring the machine to maximum drive speed before reaching the start line. Release the function enable switch on the joystick or release the joystick when your reference point on the machine crosses the test line.

7 Measure the distance between the test line and your machine reference point. Refer to Section 2, *Specifications*.

Note: The brakes must be able to hold the machine on any slope it is able to climb.

B-10
Test the Drive Speed - Stowed Position

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper drive function movement is essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

1 Create start and finish lines by marking two lines on the ground 40 feet / 12.2 m apart.

2 Turn the key switch to platform controls and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

3 Start the engine from the platform controls.

4 Lower the platform to the stowed position.

5 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

6 Bring the machine to maximum forward drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

7 Continue at full speed and note the time when the machine reference point passes over the finish line. Refer to Section 2, *Specifications.*

8 Bring the machine to maximum reverse drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

9 Continue at full speed and note the time when the machine reference point passes over the finish line. Refer to Section 2, *Specifications.*

CHECKLIST B PROCEDURES REV B

B-11
Test the Drive Speed - Raised Position

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper drive function movement is essential to safe machine operation. The drive function should respond quickly and smoothly to operator control. Drive performance should also be free of hesitation, jerking and unusual noise over the entire proportionally controlled speed range.

1 Create start and finish lines by marking two lines on the ground 40 feet / 12.2 m apart.

2 Start the engine from the platform controls.

3 Raise the platform to approximately 6 feet / 2 m.

4 Choose a point on the machine; i.e., contact patch of a tire, as a visual reference for use when crossing the start and finish lines.

5 Bring the machine to maximum drive speed before reaching the start line. Begin timing when your reference point on the machine crosses the start line.

6 Continue at maximum speed and note the time when your reference point on the machine crosses the finish line. Refer to Section 2, *Specifications*.

Note: If the raised drive speed does not meet specifications, refer to the Repair procedure 7-2, *Function Speed Tuning*.

B-12
Inspect the Fuel and Hydraulic Tank Cap Venting Systems

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first. Perform this procedure more often if dusty conditions exist.

Free-breathing fuel and hydraulic tank caps are essential for good machine performance and service life. A dirty or clogged tank cap may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the caps be inspected more often.

⚠ DANGER Explosion and fire hazard. Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

1 Remove the cap from the fuel tank.

2 Check for proper venting.

⊙ Result: Air passes through the fuel tank cap. Proceed to step 4.

⊠ Result: If air does not pass through the cap, clean or replace the cap. Proceed to step 3.

Note: When checking for positive tank cap venting, air should pass freely through the cap.

3 Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat this procedure beginning with step 2.

4 Install the fuel tank cap onto the fuel tank.

5 Remove the breather cap from the hydraulic tank.

6 Check for proper venting.

⊙ Result: Air passes through the fuel tank cap. Proceed to step 8.

⊠ Result: If air does not pass through the cap, clean or replace the cap. Proceed to step 7.

Note: When checking for positive tank cap venting, air should pass freely through the cap.

7 Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat this procedure beginning with step 6.

8 Install the breather cap onto the hydraulic tank.

B-13
Perform Hydraulic Oil Analysis

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil and a clogged suction strainer may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

Note: Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary. **If the hydraulic oil is not replaced at the two year inspection, test the oil quarterly. Replace the oil when it fails the test.** See E-1, *Test or Replace the Hydraulic Oil.*

CHECKLIST B PROCEDURES REV B

B-14
Test the Flashing Beacons (if equipped)

Genie requires that this procedure be performed every 250 hours or quarterly, whichever comes first.

Flashing beacons are used to alert operators and ground personnel of machine proximity and motion. The flashing beacons are located on both sides of the machine.

1 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

⊙ Result: The beacons should flash.

2 Turn the key switch to platform controls.

⊙ Result: The beacons should flash.

B-15
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 400 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240

Checklist C Procedures

REV B

C-1 Test the Platform Overload System (if equipped)

Genie specifications require that this procedure be performed every 500 hours or six months, whichever comes first OR when the machine fails to lift the maximum rated load.

Testing the platform overload system regularly is essential to safe machine operation. Continued use of an improperly operating platform overload system could result in the system not sensing an overloaded platform condition. Machine stability could be compromised resulting in the machine tipping over.

1 Disconnect the platform controls from the machine at the platform.

2 Open the ground control panel and locate the Electronic Control Module (ECM).

3 Tag and disconnect the platform controls wire harness from the ECM wire harness.

4 Securely connect the platform controls to the ECM wire harness.

5 Locate the terminal strip behind the ground control panel.

6 Tag and disconnect the black wire of the maximum height limit switch wire harness from the A10 terminal of the terminal strip.

7 Tag and disconnect the white wire of the maximum height limit switch wire harness from the B9 terminal of the terminal strip.

8 Securely connect a jumper wire from terminal A10 of the terminal strip to terminal B9 of the terminal strip.

9 Turn the key switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

10 Fully raise the platform. Release the joystick.

⊙ Result: The engine should stop and an alarm should sound and fault code 99 PLATFORM OVERLOAD should be present in the ECM diagnostic display window at the ground controls.

⊠ Result: The engine does not stop OR an alarm doesn't sound OR fault code 99 is not present in the ECM diagnostic display window at the ground controls. Refer to Repair Procedure 15-1, *Calibrate the Platform Overload System (if equipped).*

11 Activate the auxiliary lowering function and lower the platform approximately 4.5 m.

12 Turn the key switch to the off position.

13 Disconnect the jumper wire from terminal A10 of the terminal strip to terminal B9 of the terminal strip.

14 Securely connect the black wire of the maximum height limit switch wire harness to terminal A10 of the terminal strip.

15 Securely connect the white wire of the maximum height limit switch wire harness to terminal B9 of the terminal strip.

16 Turn the key switch to platform control.

17 Fully raise the platform. Release the joystick.

⊙ Result: The platform should stop raising at maximum height. The engine should continue to run and an alarm should not sound.

⊠ Result: The engine stops OR an alarm sounds. Refer to Repair Procedure 15-1, *Calibrate the Platform Overload System (if equipped).*

18 Lower the platform to the stowed position.

19 Disconnect the platform controls from the ECM wire harness.

20 Securely connect the platform controls wire harness to the ECM wire harness.

21 Securely connect the platform controls to the platform controls wire harness at the platform.

CHECKLIST C PROCEDURES REV B

C-2
Clean the Fuel Tank - Diesel Models

Genie requires that this procedure be performed every 500 hours or six months, whichever comes first.

Removing sediment from the fuel tank is essential to good engine performance and service life. A dirty fuel tank may cause the fuel filter to clog prematurely resulting in poor engine performance and possible component damage.

⚠ DANGER Explosion and fire hazard. Engine fuels are combustible. Clean the fuel tank in an open, well-ventilated area away from heater, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

Note: Immediately clean up any fuel that may have spilled during this procedure.

1 **Models with fuel shutoff valve:** Turn the manual fuel shutoff valve, located above the fuel filter, to the closed position.

2 Tag, disconnect and plug the fuel supply and return hoses at the filter head and the fuel return pipe at the injectors. Clean up any fuel that may have spilled.

3 Using an approved hand-operated pump, drain the fuel tank into a suitable container. Refer to Section 2, *Specifications*, for tank capacity.

⚠ DANGER Explosion and fire hazard. When transferring fuel, connect a grounding wire between the machine and pump or container.

Note: Be sure to only use a hand operated pump suitable for use with gasoline and/or diesel fuel.

4 Remove the tank retaining fasteners from the bottom of the fuel tank and remove the tank from the machine.

NOTICE Component damage hazard. The fuel tank is plastic and may become damaged if allowed to fall.

5 Tag and remove the hoses and fittings from the top of the tank.

6 Rinse out the inside of the tank using a mild solvent.

7 Install the hoses and fittings (removed in step 5) into the top of the tank.

8 Install the tank into the machine as you route the hoses through the bulkhead. Install and tighten the tank retaining fasteners to specification.

Torque specifications	
Fuel tank retaining fasteners, dry	175 in-lbs 19.8 Nm
Fuel tank retaining fasteners, lubricated	131 in-lbs 14.8 Nm

9 Install the fuel supply and return hoses onto the filter head and the fuel return pipe at the injectors. Tighten the clamps.

10 **Models with fuel shutoff valve:** Turn the manual fuel shutoff valve, located above the fuel filter, to the open position.

REV B CHECKLIST C PROCEDURES

C-3
Replace the Hydraulic Tank Breather Cap - Models with Optional Hydraulic Oil

Genie requires that this procedure be performed every 500 hours or six months, whichever comes first.

The hydraulic tank is a vented-type tank. The breather cap has an internal air filter that can become clogged or, over time, can deteriorate. If the breather cap is faulty or improperly installed, impurities can enter the hydraulic system which may cause component damage. Extremely dirty conditions may require that the cap be inspected more often.

1 Remove and discard the hydraulic tank breather cap.

2 Install and new cap onto the tank.

C-4
Perform Engine Maintenance - Diesel Models

Engine specifications require that this procedure be performed every 500 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

CHECKLIST C PROCEDURES REV B

C-5
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 800 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240

Checklist D Procedures

REV B

D-1
Check the Scissor Arm Wear Pads

Genie requires that this procedure be performed every 1000 hours or annually, whichever comes first.

Maintaining the scissor arm wear pads in good condition is essential to safe machine operation. Continued use of worn out wear pads may result in component damage and unsafe operating conditions.

1 Measure the thickness of each chassis wear pad at the steer end of the machine.

⊙ Result: The measurement is 5/16 inch / 8 mm or more. Proceed to step 2.

⊠ Result: The measurement is less than 5/16 inch / 8 mm. Replace both wear pads.

2 Measure the thickness of each chassis wear pad at the non-steer end of the machine.

⊙ Result: The measurement is 5/16 inch / 8 mm or more. Proceed to step 3.

⊠ Result: The measurement is less than 5/16 inch / 8 mm. Replace both wear pads.

3 Measure the thickness of each platform scissor arm wear pad at the steer end of the machine.

⊙ Result: The measurement is 5/16 inch / 8 mm or more. Proceed to step 4.

⊠ Result: The measurement is less than 5/16 inch / 8 mm. Replace both wear pads.

4 Measure the thickness of each platform scissor arm wear pad at the non-steer end of the machine.

⊙ Result: The measurement is 5/16 inch / 8 mm or more.

⊠ Result: The measurement is less than 5/16 inch / 8 mm. Replace both wear pads.

CHECKLIST D PROCEDURES REV B

D-2
Replace the Hydraulic Tank Return Filter

Genie requires that this procedure be performed every 1000 hours or annually, whichever comes first.

Replacement of the hydraulic tank return filter is essential for good machine performance and service life. A dirty or clogged filter may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter be replaced more often.

⚠CAUTION Bodily injury hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

1 Remove the filter with an oil filter wrench. Clean the area where the hydraulic oil filter meets the filter head.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

Note: The hydraulic filter is mounted on the hydraulic tank.

2 Apply a thin layer of fresh oil to the new oil filter gasket.

3 Install the new filter and tighten it securely by hand.

4 Use a permanent ink marker to write the date and number of hours from the hour meter on the filter.

5 Clean up any oil that may have spilled during the replacement procedure.

6 Turn the key switch to ground controls and pull out the red Emergency Stop button to the on position at both the ground and platform controls. Start the engine.

7 Raise the platform approximately 3 feet / 1 m.

8 Inspect the filter and related components to be sure that there are no leaks.

REV B CHECKLIST D PROCEDURES

D-3
Perform Engine Maintenance - Perkins Models

Engine specifications require that this procedure be performed every 1000 hours.

Required maintenance procedures and additional engine information is available in the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

D-4
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed annually.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota DF752 Operator's Manual	
Genie part number	84250

CHECKLIST D PROCEDURES REV B

D-5
Perform Engine Maintenance - Kubota Models

Engine specifications require that this procedure be performed every 1500 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240

Checklist E Procedures

REV B

E-1
Test or Replace the Hydraulic Oil

Genie requires that this procedure be performed every 2000 hours or two years, whichever comes first.

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil and suction strainers may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more often.

Note: Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary. **If the hydraulic oil is not replaced at the two year inspection, test the oil quarterly. Replace the oil when it fails the test.**

1 Raise the platform approximately 10 feet / 3 m.

2 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.

3 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

4 Push in the red Emergency Stop button to the off position.

5 Locate the hose cover plate in the center of the drive chassis. Remove the hose cover plate mounting fasteners and remove the cover.

6 If equipped, close the two hydraulic shutoff valves located at the hydraulic tank.

NOTICE Component damage hazard. The engine must not be started with the hydraulic tank shutoff valves in the closed position or component damage will occur. If the tank valves are closed, remove the key from the key switch and tag the machine to inform personnel of the condition.

7 Place a drain pan or other suitable container under the hydraulic tank. Refer to Section 2, *Specifications*.

8 Remove the drain plug from the hydraulic tank and completely drain the tank.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

9 Tag and disconnect the two suction hoses from the hydraulic tank.

10 Disconnect and plug the hydraulic hose at the return filter. Cap the fitting on the filter.

11 Remove the tank strap retaining fasteners and remove the tank strap from the machine.

CHECKLIST E PROCEDURES REV B

12 Remove the hydraulic tank from the machine.

13 Remove the suction strainers and clean them using a mild solvent.

14 Clean the inside of the hydraulic tank using a mild solvent.

15 Install the suction strainers using thread sealer on the threads.

16 Install the drain plug using thread sealer on the threads.

17 Install the hydraulic tank, tank strap and tank strap retaining fasteners.

18 Install the return filter hose onto the filter head.

19 Install the suction hoses onto the tank.

20 Fill the tank with hydraulic oil until the fluid is within the top 2 inches / 5 cm of the sight gauge. Do not overfill.

21 Clean up any oil that may have spilled. Properly discard the oil.

22 If equipped, open the two hydraulic shutoff valves located at the hydraulic tank.

23 Operate all machine functions through a full cycle and check for leaks.

24 Install the hose cover plate and install the hose cover plate mounting fasteners.

E-2
Perform Engine Maintenance - Perkins Models

Engine specifications require that this procedure be performed every 2000 hours.

Required maintenance procedures and additional engine information is available in the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

REV B CHECKLIST E PROCEDURES

E-3
Perform Engine Maintenance - Gasoline/LPG Models

Engine specifications require that this procedure be performed every two years.

Required maintenance procedures and additional engine information is available in the *Kubota DF750 Operator's Manual* (Kubota part number EG261-8916-1) OR the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1).

Kubota DF750 Operator's Manual	
Genie part number	97359
Kubota DF752 Operator's Manual	
Genie part number	84250

E-4
Perform Engine Maintenance - Kubota D1105 Models

Engine specifications require that this procedure be performed every two years.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166).

Kubota D1105 Operator's Manual	
Genie part number	131379

CHECKLIST E PROCEDURES REV B

E-5
Perform Engine Maintenance - Perkins Models

Engine specifications require that this procedure be performed every 3000 hours.

Required maintenance procedures and additional engine information is available in the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460).

Perkins 403D-11 User's Handbook	
Genie part number	131661
Perkins 403C-11 User's Handbook	
Genie part number	97360

E-6
Perform Engine Maintenance - Kubota D1105 Models

Engine specifications require that this procedure be performed every 3000 hours.

Required maintenance procedures and additional engine information is available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166).

Kubota D1105 Operator's Manual	
Genie part number	131379

Repair Procedures

Observe and Obey:

- ☑ Repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Repairs Start:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Use only Genie approved replacement parts.
- ☑ Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Platform in the stowed position
  - Key switch in the off position with the key removed
  - The red Emergency Stop button in the off position at both ground and platform controls
  - Wheels chocked
  - All external AC power supply disconnected from the machine

About This Section

Most of the procedures in this section should only be performed by a trained service professional in a suitably equipped workshop. Select the appropriate repair procedure after troubleshooting the problem.

Perform disassembly procedures to the point where repairs can be completed. Then to re-assemble, perform the disassembly steps in reverse order.

Symbols Legend

Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠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 cause minor or moderate injury.

NOTICE Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

⊙ Indicates that a specific result is expected after performing a series of steps.

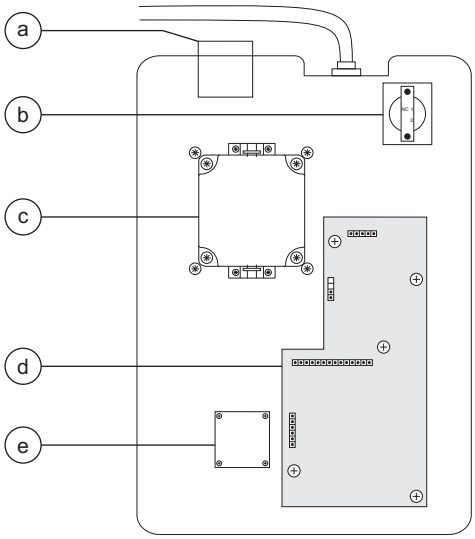
⊠ Indicates that an incorrect result has occurred after performing a series of steps.

Platform Controls

REV A

The platform controls, used to activate machine functions from the platform or while standing on the ground, contain a printed circuit board, joystick, decal membrane pad, buttons and/or toggle switches, and LEDs. All of these components are replaceable.

For further information or assistance, consult the Genie Industries Service Department.



a alarm H1
b red Emergency Stop button P2
c joystick controller JC1
d circuit board U3
e platform up/down toggle switch TS20 OR platform up/down and outrigger up/down toggle switch TS21

1-1 Circuit Boards

How to Remove the Platform Controls Circuit Board

1 Push in the red Emergency Stop button to the off position at both the ground and platform controls.

2 Loosen the platform control box lid retaining fasteners. Open the control box and secure the control box lid in a level position.

3 Visually locate the circuit board mounted to the inside of the platform control box lid.

4 Tag and disconnect the wire connections from the red Emergency Stop button.

5 Tag and disconnect the wire harness connectors from the platform controls circuit board.

⚠WARNING Electrocution hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

NOTICE Component damage hazard. Electrostatic discharge (ESD) can damage printed circuit board components. Maintain firm contact with a metal part of the machine that is grounded at all times when handling printed circuit boards OR use a grounded wrist strap.

6 Remove the platform controls circuit board retaining fasteners.

7 Remove the platform controls circuit board from the platform control box lid.

Platform Components

REV A

2-1 Platform

How to Remove the Platform

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is required.

1 Start the engine from the ground controls and raise the platform 9 to 10 feet / 2.7 to 3 m.

2 Lift the safety arm, move it to the center of the scissor arm and rotate down to a vertical position.

3 Lower the platform onto the safety arm. Turn the machine off.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

4 Remove the hose clamps or zip ties that secure the power to platform wiring to the bottom of the platform.

NOTICE Component damage hazard. Be sure not to cut the power to platform wiring.

5 Raise the platform and return the safety arm to the stowed position.

6 Lower the platform to the stowed position and turn the machine off.

7 Remove the mounting fasteners that secure the platform controls quick disconnect plug to the platform.

8 Twist the connector to disconnect the platform controls from the plug.

9 Remove the platform control box from the platform and lay it off to the side.

NOTICE Component damage hazard. The platform controls wiring can be damaged if it is kinked or pinched.

10 Remove the cover to the AC power to platform outlet. Tag and disconnect the wiring from the outlet.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

11 Pull the wiring down through the platform tube.

NOTICE Component damage hazard. The AC power to platform wiring can be damaged if it is kinked or pinched.

Note: If your machine is equipped with an air line to platform option, the air line must be disconnected from the platform before removal.

12 Support the platform with a forklift at the steer end of the machine. Do not apply any lifting pressure.

13 Attach a strap from the platform railings to the carriage on the forklift to support the platform.

14 Remove the retaining fasteners from the platform pivot pins at the steer end of the machine.

15 Use a slide hammer to remove the pins.

⚠WARNING Crushing hazard. The platform will fall when the pivot pins are removed if not properly supported by the forklift.

16 Remove the retaining fasteners from the platform pivot pins at the non-steer end of the machine.

17 Use a slide hammer to remove the pins.

⚠WARNING Crushing hazard. The platform will fall when the pivot pins are removed if not properly supported by the forklift.

18 Carefully lift the platform off of the machine and place it on a structure capable of supporting it.

⚠WARNING Crushing hazard. The platform will become unbalanced and fall when removed from the machine if not properly supported and secured to the forklift.

Note: Note the position of the wear pads before the platform is removed so that when the platform is installed they will be in the correct position.

2-2 Platform Extension Deck

How to Remove the Platform Extension Deck

1 Remove the fasteners from the access cover on the side of the platform at the non-steer end of the machine.

2 Remove the fasteners from the roller wheel mount.

3 Remove the wheel roller bolt, then remove the roller wheel from the platform.

4 Repeat steps 2 through 4 for the other side of the platform.

5 Lift the platform extension lock handle.

6 Remove the two bolts that attach the platform extension lock handle assembly to the platform extension railing.

7 Remove the two bolts that attach the extension lock pin bracket to the railing. Lay the lock handle assembly off to the side.

8 Remove the platform extension limit switch mounting fasteners and remove the limit switch. Do not disconnect the wiring.

9 Remove the platform controls from the platform and lay them off to the side.

10 Position a forklift at the steer end of the machine with the forks even with the bottom of the platform extension.

11 Carefully slide the platform extension out until the platform extension makes contact with the carriage on the forklift.

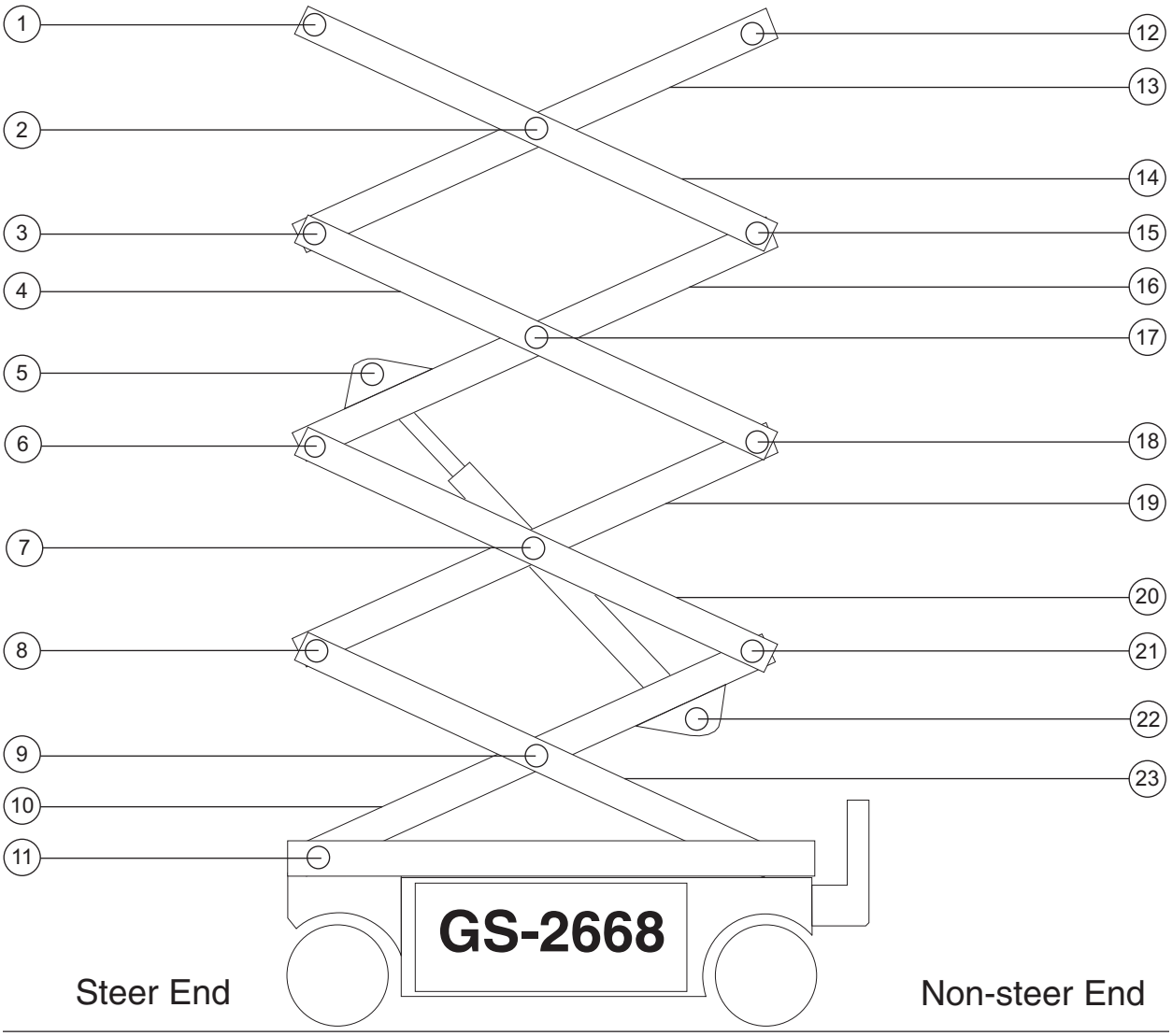
12 Attach a lifting strap from the platform extension railings to the carriage on the forklift to support the platform extension.

13 Carefully slide the platform extension out and away from the platform and place it on a structure capable of supporting it.

⚠WARNING Crushing hazard. The platform extension will become unbalanced and fall when removed from the machine if not properly supported and secured to the forklift.

Scissor Components

REV B



1 Number 5 pivot pin (steer end)
2 Number 4 center pivot pin
3 Number 4 pivot pin (steer end)
4 Number 3 outer arm
5 Lift cylinder rod-end pivot pin
6 Number 3 pivot pin (steer end)
7 Number 2 center pivot pins (2 each)
8 Number 2 pivot pin (steer end)
9 Number 1 center pivot pin
10 Number 1 inner arm
11 Number 1 pivot pin(s) (steer end)
12 Number 5 pivot pin (non-steer end)
13 Number 4 inner arm
14 Number 4 outer arm
15 Number 4 pivot pin (non-steer end)
16 Number 3 inner arm
17 Number 3 center pivot pin
18 Number 3 pivot pin (non-steer end)
19 Number 2 inner arm
20 Number 2 outer arm
21 Number 2 pivot pin (non-steer end)
22 Lift cylinder barrel-end pivot pin
23 Number 1 outer arm

3-1
Scissor Assembly, GS-2668 RT

How to Disassemble the Scissor Assembly, GS-2668 RT

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is required.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Remove the platform. See 2-1, *How to Remove the Platform.*

2 Remove the cables from the number 4 outer arm (index #14).

3 Remove the cables from the upper cable tray support.

4 Remove the cables from the number 3 inner arm (index #16) and lay the cables off to the side.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

5 Remove the mounting fasteners from the upper cable tray supports.

6 Remove the upper cable tray from the scissor assembly.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

7 Connect the platform controls to the quick disconnect plug to allow the machine to operate.

8 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at both the ground and platform controls. Start the engine.

9 Raise the platform approximately 10 feet / 3 m.

10 Remove the safety arm from the number 3 inner arm (index #16).

11 Install the safety arm on the number 2 inner arm (index #19) at the steer end of the machine.

12 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.

13 Lower the scissor assembly onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

14 Turn the key switch to the off position and push in the red Emergency Stop button to the off position at both the ground and platform controls.

15 Attach a lifting strap from an overhead crane to the number 4 outer arm (index #14).

16 Support the number 4 inner arm (index #13) with a second overhead crane at the non-steer end.

SCISSOR COMPONENTS REV B

17 Remove the external snap rings from the number 4 center pivot pin (index #2).

18 Use a soft metal drift to remove the number 4 center pivot pin (index #2).

19 Remove the external snap rings from the number 4 pivot pin (index #15) at the non-steer end of the machine.

20 Use a soft metal drift to remove the number 4 pivot pin (index #15) from the non-steer end. Remove the number 4 outer arm (index #14) from the machine.

⚠WARNING Crushing hazard. The number 4 outer arm (index #14) could become unbalanced and fall if not properly supported when removed from the machine.

21 Attach a lifting strap from an overhead crane to the number 4 inner arm (index #13).

22 Remove the external snap rings from the number 4 pivot pin (index #3).

23 Use a soft metal drift to remove the number 4 pivot pin (index #3). Remove the number 4 inner arm (index #13) from the machine.

⚠WARNING Crushing hazard. The number 4 inner arm (index #13) could become unbalanced and fall if not properly supported when removed from the machine.

24 Attach a lifting strap from an overhead crane to the number 3 outer arm (index #4) at the ground controls side.

25 Support the number 3 inner arm (index #16) with a second overhead crane at the non-steer end.

26 Remove the external snap rings from the number 3 center pivot pin (index #17) at the ground controls side.

27 Use a soft metal drift to tap the number 3 center pivot pin (index #17) halfway out at the ground controls side.

28 Remove the external snap rings from the number 3 pivot pin (index #18) at the non-steer end.

29 Use a soft metal drift to tap the number 3 pivot pin (index #18) halfway out at the non-steer end of the machine. Remove the number 3 outer arm (index #4) at the ground controls side from the machine.

⚠WARNING Crushing hazard. The number 3 outer arm (index #4) at the ground controls side could become unbalanced and fall if not properly supported when removed from the machine.

30 Attach a lifting strap from an overhead crane to the number 3 outer arm (index #4) at the engine side.

31 Remove the external snap rings from the number 3 center pivot pin (index #17) at the engine side.

32 Use a soft metal drift to tap the number 3 center pivot pin (index #17) at the engine side in the other direction.

33 Use a soft metal drift to tap the number 3 pivot pin (index #18) at the non-steer end in the other direction. Remove the number 3 outer arm (index #4) from the engine side of the machine.

⚠WARNING Crushing hazard. The number 3 outer arm (index #4) at the engine side could become unbalanced and fall if not properly supported when removed from the machine.

34 Remove the cables from the lower cable tray. Lay the cables off to the side of the machine.

35 Remove the mounting fasteners from the lower cable tray mounting bracket on the number 2 center pivot pin (index #7) at the engine side of the machine.

36 Remove the mounting fasteners from the lower cable tray supports at both ends of the lower cable tray.

37 Remove the lower cable tray from the machine.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

38 Attach a lifting strap from an overhead crane to the lug on the rod end of the lift cylinder.

39 Remove the pin retaining fasteners from the cylinder rod-end pivot pin (index #5). Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The cylinder could fall if not properly supported when the pin is removed.

40 Lower the cylinder onto the number 1 center pivot pin (index #9).

41 Remove the external snap rings from the number 3 pivot pin (index #6) at the steer end.

42 Use a soft metal drift to remove the number 3 pivot pin (index #6) at the steer end. Remove the number 3 inner arm (index #16) from the machine.

⚠WARNING Crushing hazard. The number 3 inner arm (index #16) could become unbalanced and fall if not properly supported when removed from the machine.

43 Attach a lifting strap from an overhead crane to the number 2 outer arm (index #20) at the ground controls side.

44 Support the number 2 inner arm (index #19) with a second overhead crane at the non-steer end.

45 Remove the external snap rings from the number 2 center pivot pin (index #7) at the ground controls side.

46 Use a soft metal drift to remove the number 2 center pivot pin (index #7) at the ground controls side.

47 Remove the external snap rings from the number 2 pivot pin (index #21) at the non steer end.

48 Use a soft metal drift to tap the number 2 pivot pin (index #21) halfway out at the non-steer end of the machine. Remove the number 2 outer arm (index #20) at the ground controls side from the machine.

⚠WARNING Crushing hazard. The number 2 outer arm (index #20) at the ground controls side could become unbalanced and fall if not properly supported when removed from the machine.

49 Attach a lifting strap from an overhead crane to the number 2 outer arm (index #20) at the engine side.

50 Remove the external snap rings from the number 2 center pivot pin (index #7) at the engine side.

51 Use a soft metal drift to remove the number 2 center pivot pin (index #7) at the engine side.

SCISSOR COMPONENTS REV B

52 Use a soft metal drift to tap the number 2 pivot pin (index #21) at the non steer end in the other direction. Remove the number 2 outer arm (index #20) from the engine side of the machine.

⚠WARNING Crushing hazard. The number 2 outer arm (index #20) at the engine side could become unbalanced and fall if not properly supported when removed from the machine.

53 Support the number 1 outer arm (index #23) with a second overhead crane at the steer end.

54 Remove the external snap rings from the number 2 pivot pin (index #8) at the steer end.

55 Use a soft metal drift to remove the number 2 pivot pin (index #8) at the steer end. Remove the number 2 inner arm (index #19) from the machine.

⚠WARNING Crushing hazard. The number 2 inner arm (index #19) could become unbalanced and fall if not properly supported when removed from the machine.

56 Tag, disconnect and plug the hydraulic hose on the lift cylinder. Cap the fitting on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

57 Tag and disconnect the wiring from the solenoid valve on the lift cylinder.

58 Remove the cables from the number 1 inner arm (index #10). Lay the cables off to the side of the machine.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

59 Remove the LPG tank.

60 Remove the LPG tank bracket mounting fasteners. Remove the LPG tank bracket from the machine.

61 Raise the scissor assembly slightly and return the safety arm to the stowed position. Lower the scissor assembly.

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported when the safety arm is returned to the stowed position.

62 Support and secure the entry ladder to an appropriate lifting device. Remove the entry ladder mounting fasteners. Remove the entry ladder from the machine.

⚠WARNING Crushing hazard. The entry ladder could become unbalanced and fall if not properly supported and secured to the lifting device.

63 Secure both ends of the scissor arms together with a strap or other suitable device.

64 Attach each end of a lifting strap to each end of the scissor assembly.

65 Attach an overhead crane to the center of the strap.

66 Remove the pin retaining fasteners from the number 1 pivot pin(s) (index #11). Use a soft metal drift to remove the pin(s).

⚠WARNING Crushing hazard. The scissor assembly could fall if not properly supported by the overhead crane.

67 Lift the scissor assembly slightly and slide the scissor assembly towards the non-steer end of the machine to allow the wear pads to slide out of the channel.

68 Remove the scissor assembly from the machine and place it on a structure capable of supporting it.

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported and secured to the overhead crane.

Note: During removal, the lifting strap connected to the overhead crane will need to be carefully adjusted for proper balancing.

69 Remove the straps securing the scissor arms together.

70 Attach a lifting strap from an overhead crane to the lug on the rod end of the lift cylinder. Raise the rod end of the cylinder to a vertical position.

71 Remove the pin retaining fasteners from the cylinder barrel-end pivot pin (index #22). Use a soft metal drift to remove the pin. Remove the cylinder from the scissor assembly.

⚠WARNING Crushing hazard. The cylinder could become unbalanced and fall if not properly supported when removed from the assembly.

72 Attach a lifting strap from an overhead crane to the number 1 outer arm (index #23).

73 Support the number 1 inner arm (index #10) with a second overhead crane.

74 Remove the external snap rings from the number 1 center pivot pin (index #9).

75 Use a soft metal drift to remove the number 1 center pivot pin (index #9).

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported when the center pivot pin is removed.

76 Remove the number 1 outer arm (index #23) from the assembly.

⚠WARNING Crushing hazard. The number 1 inner arm (index #10) could become unbalanced and fall if not properly supported when removed from the machine.

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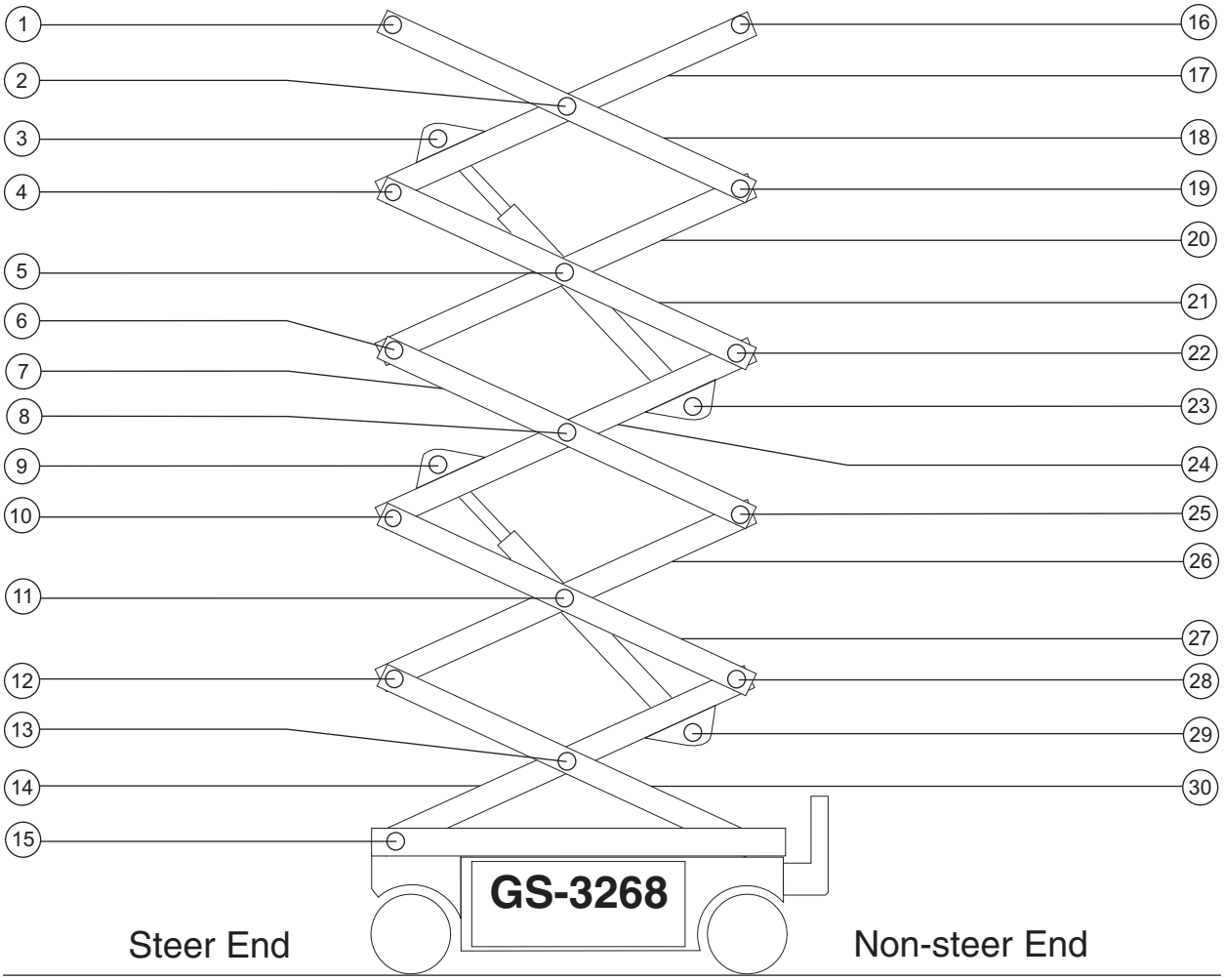

1 Number 6 pivot pin (steer end)
2 Number 5 center pivot pin
3 Upper lift cylinder rod-end pivot pin
4 Number 5 pivot pin (steer end)
5 Number 4 center pivot pins (2 each)
6 Number 4 pivot pin (steer end)
7 Number 3 outer arm
8 Number 3 center pivot pin
9 Lower lift cylinder rod-end pivot pin
10 Number 3 pivot pin (steer end)
11 Number 2 center pivot pins (2 each)
12 Number 2 pivot pin (steer end)
13 Number 1 center pivot pin
14 Number 1 inner arm
15 Number 1 pivot pin(s) (steer end)
16 Number 6 pivot pin (non-steer end)
17 Number 5 inner arm
18 Number 5 outer arm
19 Number 5 pivot pin (non-steer end)
20 Number 4 inner arm
21 Number 4 outer arm
22 Number 4 pivot pin (non-steer end)
23 Upper lift cylinder barrel-end pivot pin
24 Number 3 inner arm
25 Number 3 pivot pin (non-steer end)
26 Number 2 inner arm
27 Number 2 outer arm
28 Number 2 pivot pin (non-steer end)

3-2
Scissor Assembly, GS-3268 RT

How to Disassemble the Scissor Assembly, GS-3268 RT

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is required.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Remove the platform. See 2-1, *How to Remove the Platform.*

2 Remove the cables from the side of the number 5 outer arm (index #18) at the engine side.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

3 Attach a lifting strap from an overhead crane to the number 5 outer arm (index #18).

4 Remove the external snap rings from the number 5 center pivot pin (index #2).

5 Use a soft metal drift to remove the number 5 center pivot pin (index #2).

6 Remove the external snap rings from the number 5 pivot pin (index #19) at the non-steer end.

7 Use a soft metal drift to remove the number 5 pivot pin (index #19) from the non-steer end of the machine. Remove the number 5 outer arm (index #18) from the machine.

⚠WARNING Crushing hazard. The number 5 outer arm (index #18) could become unbalanced and fall if not properly supported when removed from the machine.

8 Remove the cable clamps from the number 5 inner arm (index #17) and the upper cable tray. Lay the cables off to the side of the machine.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

9 Tag, disconnect and plug the hydraulic hose on the upper lift cylinder. Cap the fitting on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

10 Attach a lifting strap from an overhead crane to the lug on the rod end of the upper lift cylinder.

11 Remove the pin retaining fasteners from the upper cylinder rod-end pivot pin (index #3). Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The cylinder could fall if not properly supported when the pin is removed.

SCISSOR COMPONENTS REV B

12 Lower the cylinder onto the number 3 center pivot pin (index #8).

13 Attach a lifting strap from an overhead crane to the number 5 inner arm (index #17).

14 Remove the external snap rings from the number 5 pivot pin (index #4).

15 Use a soft metal drift to remove the number 5 pivot pin (index #4). Remove the number 5 inner arm (index #17) from the machine.

⚠WARNING Crushing hazard. The number 5 inner arm (index #17) could become unbalanced and fall if not properly supported when removed from the machine.

16 Remove the mounting fasteners from the upper cable tray mounting bracket on the number 4 center pivot pin (index #5) at the engine side of the machine.

17 Remove the mounting fasteners from the upper cable tray supports at both ends of the upper cable tray.

18 Remove the upper cable tray.

19 Tag and disconnect the wiring from the solenoid valve on the lift cylinder.

20 Remove the safety arm from the number 4 inner arm (index #20).

21 Install the safety arm on the number 2 inner arm (index #26) at the steer end of the machine.

22 Connect the platform controls to the quick disconnect plug to allow the machine to operate.

23 Turn the key switch to ground control and pull out the red Emergency Stop buttons to the on position at both the ground and platform controls. Start the engine.

24 Raise the platform approximately 10 feet / 3 m.

25 Lift the safety arm, move it to the center of the scissor arm and rotate down to a vertical position. Lower the scissor assembly onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

26 Turn the key switch to the off position and push in the red Emergency Stop buttons to the off position at both the ground and platform controls.

27 Attach a lifting strap from an overhead crane to the number 4 outer arm (index #21) at the ground controls side.

28 Support the number 4 inner arm (index #20) with a second overhead crane at the non-steer end.

29 Remove the external snap rings from the number 4 center pivot pin (index #5) at the ground controls side.

30 Use a soft metal drift to remove the number 4 center pivot pin (index #5) at the ground controls side.

31 Remove the external snap rings from the number 4 pivot pin (index #22) at the non-steer end.

32 Use a soft metal drift to tap the number 4 pivot pin (index #22) halfway out at the non-steer end of the machine. Remove the number 4 outer arm (index #21) at the ground controls side from the machine.

⚠WARNING Crushing hazard. The number 4 outer arm (index #21) at the ground controls side could become unbalanced and fall if not properly supported when removed from the machine.

33 Attach a lifting strap from an overhead crane to the number 4 outer arm (index #21) at the engine side.

34 Remove the external snap rings from the number 4 center pivot pin (index #5) at the engine side.

35 Use a soft metal drift to remove the number 4 center pivot pin (index #5) at the engine side.

36 Use a soft metal drift to tap the number 4 pivot pin (index #22) in the other direction. Remove the number 4 outer arm (index #21) from the engine side of the machine.

⚠WARNING Crushing hazard. The number 4 outer arm at the engine side (index #21) could become unbalanced and fall if not properly supported when removed from the machine.

37 Remove the external snap rings from the number 4 pivot pin (index #6) at the steer end of the machine.

38 Use a soft metal drift to remove the number 4 pivot pin (index #6) at the steer end. Remove the number 4 inner arm (index #20) from the machine.

⚠WARNING Crushing hazard. The number 4 inner arm (index #20) could become unbalanced and fall if not properly supported when removed from the machine.

39 Attach a lifting strap from an overhead crane to the lug on the rod end of the upper lift cylinder. Raise the rod end of the cylinder to a vertical position.

40 Remove the pin retaining fasteners from the upper cylinder barrel-end pivot pin (index #23). Use a soft metal drift to remove the pin. Remove the cylinder from the machine.

⚠WARNING Crushing hazard. The cylinder could become unbalanced and fall when removed from the machine if not properly supported.

NOTICE Component damage hazard. Be careful not to damage the valve or fittings on the cylinder while removing it from the machine.

41 Attach a lifting strap from an overhead crane to the number 3 outer arm (index #7) at the ground controls side.

42 Support the number 3 inner arm (index #24) with a second overhead crane at the non-steer end.

43 Remove the external snap rings from the number 3 center pivot pin (index #8) at the ground controls side.

44 Use a soft metal drift to tap the number 3 center pivot pin (index #8) halfway out at the ground controls side.

45 Remove the external snap rings from the number 3 pivot pin (index #25) at the non steer end.

46 Use a soft metal drift to tap the number 3 pivot pin (index #25) halfway out at the non-steer end of the machine. Remove the number 3 outer arm (index #7) at the ground controls side from the machine.

⚠WARNING Crushing hazard. The number 3 outer arm (index #7) at the ground controls side could become unbalanced and fall if not properly supported when removed from the machine.

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47 Attach a lifting strap from an overhead crane to the number 3 outer arm (index #7) at the engine side.

48 Remove the external snap rings from the number 3 center pivot pin (index #8) at the engine side.

49 Use a soft metal drift to tap the number 3 center pivot pin (index #8) at the engine side in the other direction.

50 Use a soft metal drift to tap the number 3 pivot pin (index #25) at the non-steer end in the other direction. Remove the number 3 outer arm (index #7) from the engine side of the machine.

⚠WARNING Crushing hazard. The number 3 outer arm (index #7) at the engine side could become unbalanced and fall if not properly supported when removed from the machine.

51 Remove the cables from the number 3 inner arm (index #24). Lay the cables off to the side of the machine.

52 Remove the cables from the lower cable tray. Lay the cables off to the side of the machine.

53 Remove the mounting fasteners from the lower cable tray mounting bracket on the number 2 center pivot pin (index #11) at the engine side of the machine.

54 Remove the mounting fasteners from the lower cable tray supports at both ends of the lower cable tray.

55 Remove the lower cable tray from the machine.

NOTICE Component damage hazard. Cables can be damaged if they are kinked or pinched.

56 Attach a lifting strap from an overhead crane to the lug on the rod end of the lower lift cylinder.

57 Remove the pin retaining fasteners from the lower cylinder rod-end pivot pin (index #9). Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The cylinder could fall if not properly supported when the pin is removed.

58 Lower the cylinder onto the number 1 center pivot pin (index #13).

59 Remove the external snap rings from the number 3 pivot pin (index #10) at the steer end.

60 Use a soft metal drift to remove the number 3 pivot pin (index #10) at the steer end. Remove the number 3 inner arm (index #24) from the machine.

⚠WARNING Crushing hazard. The number 3 inner arm (index #24) could become unbalanced and fall if not properly supported when removed from the machine.

61 Attach a lifting strap from an overhead crane to the number 2 outer arm (index #27) at the ground controls side.

62 Support the number 2 inner arm (index #26) with a second overhead crane at the non-steer end.

63 Remove the external snap rings from the number 2 center pivot pin (index #11) at the ground controls side.

64 Use a soft metal drift to remove the number 2 center pivot pin (index #11) at the ground controls side.

65 Remove the external snap rings from the number 2 pivot pin (index #28) at the non steer end.

66 Use a soft metal drift to tap the number 2 pivot pin (index #28) halfway out at the non-steer end of the machine. Remove the number 2 outer arm (index #27) at the ground controls side from the machine.

⚠WARNING Crushing hazard. The number 2 outer arm (index #27) at the ground controls side could become unbalanced and fall if not properly supported when removed from the machine.

67 Attach a lifting strap from an overhead crane to the number 2 outer arm (index #27) at the engine side.

68 Remove the external snap rings from the number 2 center pivot pin (index #11) at the engine side.

69 Use a soft metal drift to remove the number 2 center pivot pin (index #11) at the engine side.

70 Use a soft metal drift to tap the number 2 pivot pin (index #28) at the non-steer end in the other direction. Remove the number 2 outer arm (index #27) from the engine side of the machine.

⚠WARNING Crushing hazard. The number 2 outer arm (index #27) at the engine side could become unbalanced and fall if not properly supported when removed from the machine.

71 Support the number 1 outer arm (index #30) with a second overhead crane at the steer end.

72 Remove the external snap rings from the number 2 pivot pin (index #12) at the steer end.

73 Use a soft metal drift to remove the number 2 pivot pin (index #12) at the steer end. Remove the number 2 inner arm (index #26) from the machine.

⚠WARNING Crushing hazard. The number 2 inner arm (index #26) could become unbalanced and fall if not properly supported when it is removed from the machine.

74 Support and secure the entry ladder to an appropriate lifting device. Then remove the entry ladder mounting fasteners. Remove the entry ladder from the machine.

⚠WARNING Crushing hazard. The entry ladder could become unbalanced and fall if not properly supported and secured to the lifting device.

75 Disconnect and plug the hydraulic hose on the lift cylinder. Cap the fitting on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

76 Tag and disconnect the wiring from the solenoid valve on the lift cylinder.

77 Remove the cables from the number 1 inner arm (index #14). Lay the cables off to the side of the machine.

78 Remove the LPG tank.

79 Remove the LPG tank bracket mounting fasteners. Remove the LPG tank bracket from the machine.

SCISSOR COMPONENTS REV B

80 Raise the scissor assembly slightly and return the safety arm to the stowed position. Lower the scissor assembly. Remove the straps.

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported when the safety arm is returned to the stowed position.

81 Secure both ends of the scissor arms together with a strap or suitable device.

82 Attach each end of a lifting strap of ample capacity to each end of the scissor assembly.

83 Attach an overhead crane to the center of the strap.

84 Remove the pin retaining fasteners from the number 1 pivot pin(s) (index #15). Use a soft metal drift to remove the pin(s).

⚠WARNING Crushing hazard. The scissor assembly could fall if not properly supported by the overhead crane.

85 Lift the scissor assembly slightly and slide the scissor assembly towards the non-steer end of the machine to allow the wear pads to slide out of the channel.

86 Remove the scissor assembly from the machine and place it on a structure capable of supporting it.

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported and secured to the overhead crane.

Note: During removal, the lifting strap connected to the overhead crane will need to be carefully adjusted for proper balancing.

87 Remove the straps securing the scissor arms together.

88 Attach a lifting strap from an overhead crane to the lug on the rod end of the lower lift cylinder. Raise the rod end of the cylinder to a vertical position.

89 Remove the pin retaining fasteners from the lower cylinder barrel-end pivot pin (index #29). Use a soft metal drift to remove the pin. Remove the cylinder from the scissor assembly.

⚠WARNING Crushing hazard. The cylinder could become unbalanced and fall if not properly supported when removed from the assembly.

90 Attach a lifting strap from an overhead crane to the number 1 outer arm (index #30).

91 Support the number 1 inner arm (index #14) with a second overhead crane.

92 Remove the external snap rings from the number 1 center pivot pin (index #13).

93 Use a soft metal drift to remove the number 1 center pivot pin (index #13).

⚠WARNING Crushing hazard. The scissor assembly could become unbalanced and fall if not properly supported when removed from the machine.

94 Remove the number 1 outer arm (index #30) from the assembly.

⚠WARNING Crushing hazard. The number 1 outer arm (index #30) could become unbalanced and fall if not properly supported when removed from the machine.

3-3
Wear Pads

How to Replace the Scissor Arm Wear Pads

Platform Scissor Arm Wear Pads:

1 Remove the platform. See 2-1, How to Remove the Platform.

2 Remove the wear pads from the slide blocks. Discard the wear pads.

3 Using a mild solvent, clean the wear pad mounting surfaces of both slide blocks.

4 Use a knife or scissors to cut the provided double-sided adhesive tape to the correct length.

NOTICE Component damage hazard. Use a knife or scissors to cut the tape to length. Tearing the tape will at the same time stretch the tape, reducing the adhesive quality of the tape. Do not tear the tape.

5 Remove the protective cover from the adhesive tape and install the tape, equally spaced, onto the slide block. Do not stretch the tape during installation.

NOTICE Component damage hazard. Stretching the tape will reduce the adhesive quality of the tape. Do not stretch the tape.

6 Install the wear pads onto the slide blocks. Securely fix the adhesive tape of the slide blocks to the wear pads using firm, even hand pressure.

7 Install the platform.

Chassis Scissor Arm Wear Pads:

1 Attach a lifting strap from an overhead crane to the ladder at the non-steer end of the machine. Support the ladder. Do not apply any lifting pressure.

2 Remove the fasteners securing the ladder to the chassis. Remove the ladder from the machine.

⚠WARNING Crushing hazard. The ladder could fall if not properly supported when the fasteners are removed from the machine.

3 Secure both ends of the scissor arms together with a strap or other suitable device.

4 Attach a strap from an overhead crane to the non-steer end of the scissor arms.

5 Raise the scissor arms slightly at the non-steer end with the overhead crane just enough to take the pressure off of the non-steer end slide blocks.

6 Remove the pin retaining fasteners from the slide block pivot pin.

7 Place a rod through the pin and twist to remove the pin.

8 Remove the slide block and remove the wear pad mounting fasteners.

9 Install the new wear pad. Install and securely tighten the fasteners. Do not over tighten.

10 Repeat steps 6 through 9 for the other wear pad slide block.

11 Install the wear pad slide blocks into the drive chassis and install the slide block pivot pins and pin retaining fasteners. Securely tighten the fasteners. Do not over tighten.

12 Securely install the ladder onto the machine. Do not over tighten the fasteners.

3-4
Lift Cylinder(s)

The lift cylinders are single acting hydraulic cylinders. The GS-2668 RT uses one lift cylinder; the GS-3268 RT uses two. Each lift cylinder is equipped with a check valve to prevent movement in the event of a hydraulic line failure.

How to Remove the Lift Cylinder

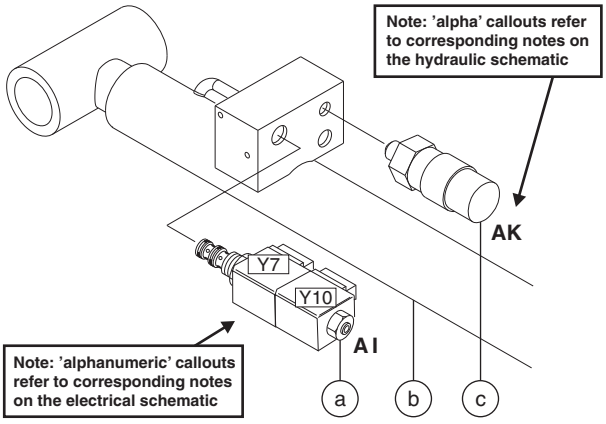
GS-2668 RT:

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is strongly recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Raise the platform approximately 10 feet / 3 m.

2 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.



GS-2668 RT

a platform down solenoid valve
b lift cylinder
c pressure switch (CE models)

3 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

4 Tag and disconnect the wiring from the solenoid valve at the barrel end of the lift cylinder.

5 Tag, disconnect and plug the hydraulic hose from the lift cylinder. Cap the fitting on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Attach a strap from an overhead crane or similar lifting device to the rod end of the lift cylinder for support.

7 Remove the lift cylinder rod-end pivot pin retaining fastener. Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The lift cylinder will fall if not properly supported.

8 Lower the cylinder onto the number 1 center pivot pin.

9 Support and secure the entry ladder to an appropriate lifting device. Remove the entry ladder mounting fasteners. Remove the entry ladder from the machine.

⚠WARNING Crushing hazard. The entry ladder could become unbalanced and fall if not properly supported and secured to the lifting device when removed from the machine.

10 Remove the lift cylinder barrel-end pivot pin retaining fastener. Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The lift cylinder will fall if not properly supported.

11 Carefully pull the lift cylinder out the non-steer end of the machine through the scissor arms.

⚠WARNING Crushing hazard. The lift cylinder could become unbalanced and fall if not properly supported when removed from the machine.

NOTICE Component damage hazard. Be careful not to damage the valve or fittings on the cylinder while removing it from the machine.

GS-3268 RT:

⚠WARNING Bodily injury hazard. This procedure requires specific repair skills, lifting equipment and a suitable workshop. Attempting this procedure without these skills and tools could result in death or serious injury and significant component damage. Dealer service is strongly recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

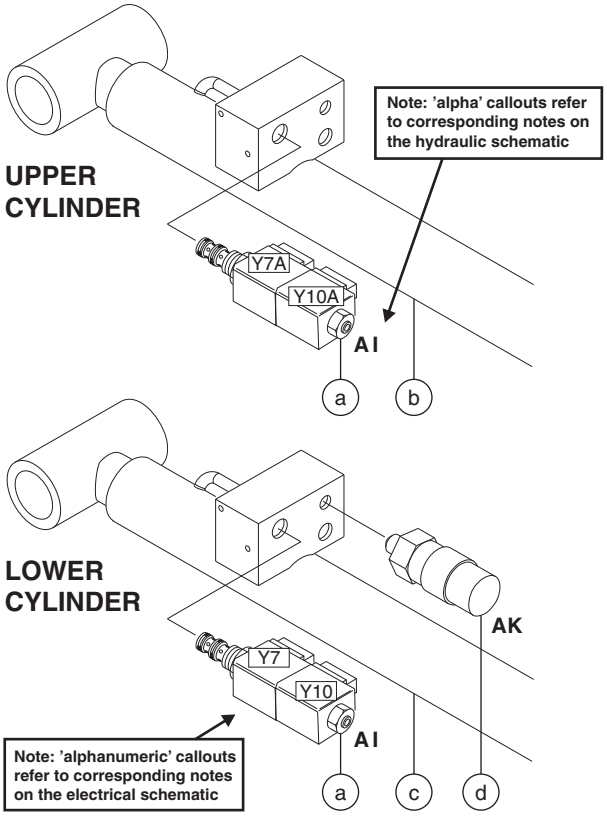
1 Start the engine and raise the platform approximately 10 feet / 3 m.

2 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.

3 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

SCISSOR COMPONENTS REV B



GS-3268 RT

a platform down solenoid valve
b upper lift cylinder
c lower lift cylinder
d pressure switch (CE models)

4 Tag and disconnect the wiring from the solenoid valve at the barrel end of the lift cylinder.

5 Tag, disconnect and plug the hydraulic hose from the lift cylinder. Cap the fitting on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Attach a lifting strap from an overhead crane or similar lifting device to the rod end of the lift cylinder for support.

7 Remove the external snap ring from the lift cylinder rod-end pivot pin. Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The lift cylinder will fall if not properly supported.

8 Lower the cylinder to a horizontal position.

If removing the upper lift cylinder, disregard step 9.

9 To remove the lower cylinder, support and secure the entry ladder to an appropriate lifting device. Remove the entry ladder mounting fasteners. Remove the entry ladder from the machine.

⚠WARNING Crushing hazard. The entry ladder could become unbalanced and fall if not properly supported and secured to the lifting device when removed from the machine.

10 Support and secure the lift cylinder to an appropriate lifting device.

11 Remove the external snap ring from the lift cylinder barrel-end pivot pin. Use a soft metal drift to remove the pin.

⚠WARNING Crushing hazard. The lift cylinder will fall if not properly supported.

12 Carefully pull the lift cylinder out the non-steer end of the machine through the scissor arms.

⚠WARNING Crushing hazard. The lift cylinder could become unbalanced and fall if not properly supported when removed from the machine.

NOTICE Component damage hazard. Be careful not to damage the valve or fittings on the cylinder while removing it from the machine.

REV C

Kubota D1105 and D905 Engines

4-1
Timing Adjustment

Complete information to perform this procedure is available in the *Kubota D1105 Workshop Manual* (Kubota part number 9Y111-00123) OR the *Kubota D905 Workshop Manual* (Kubota part number 97897-02432).

Kubota D1105 Workshop Manual	
Genie part number	131666
Kubota D905 Workshop Manual	
Genie part number	31742

4-2
Glow Plugs

How to Check the Glow Plugs

1 Connect the leads from an ohmmeter between the far left glow plug and ground.

⊙ Result: The resistance should be approximately 1Ω.

2 If the ohm reading is different than 1Ω, remove the wire and connector plate from the three individual glow plugs. Then, one glow plug at a time, measure the resistance between the glow plug and ground.

⊙ Result: The resistance should be approximately 1.8Ω for each individual glow plug.

3 Install the connector plate and wires to all three glow plugs.

4 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position.

5 Connect the red positive (+) lead from a volt meter to the number three glow plug. Connect the black negative (-) lead to ground.

6 Hold the glow plug switch in the on position.

⊙ Result: The volt meter should read 12V DC or more.

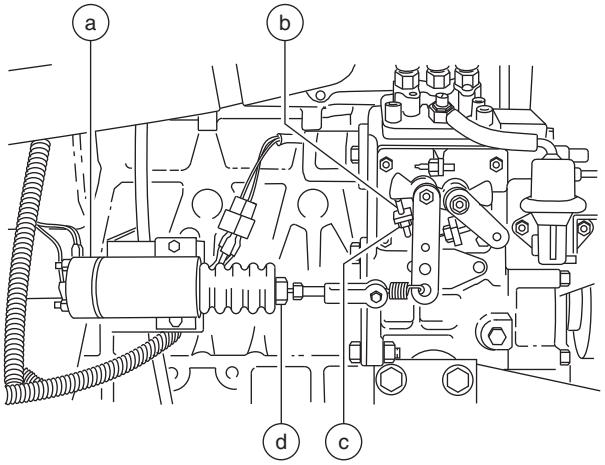
4-3
Engine RPM

How to Adjust the RPM

1 Start the engine from the ground controls.

2 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*. Proceed to step 4 if the low idle is correct.

3 To correct the low idle speed, loosen the lock nut, then turn the low idle adjustment screw clockwise to increase the rpm or counterclockwise to decrease the rpm. Tighten the lock nut and recheck the rpm.



a high idle solenoid
b low idle adjustment screw
c lock nut
d high idle adjustment nut

4 Move the engine idle control switch to high idle (rabbit symbol) from the ground controls.

5 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*.

6 To correct the high idle speed, loosen the lock nut on the solenoid, then turn the solenoid boot counterclockwise to increase the rpm or clockwise to decrease the rpm. Tighten the lock nut and recheck the rpm.

4-4
Flex Plate

The flex plate couples the engine to the pump. The flex plate is bolted to the engine flywheel and has a splined cut-out in the center to engage the pump coupler.

How to Remove the Flex Plate

1 Attach a lifting strap from an overhead crane to the pump assembly for support. Do not lift it.

2 Remove all of the pump mounting plate to engine fasteners.

3 Carefully pull the pump assembly away from the engine and secure it from moving.

NOTICE Component damage hazard. Hoses can be damaged if they are kinked or pinched.

4 Remove the flex plate mounting fasteners. Remove the flex plate from the flywheel.

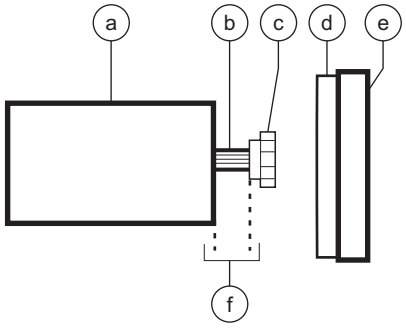
How to Install the Flex Plate

1 Install the flex plate onto the flywheel with the raised spline toward the pump.

Note: Install the coupler onto the pump shaft with the set screw towards the pump. Leave a 1/32 inch / 0.8 mm gap between the coupler and pump end plate. Apply Loctite® removable thread locker to the coupler set screw and torque the set screw to 65-70 ft-lbs / 88-95 Nm.

2 Apply Loctite® removable thread locker to the flex plate mounting fasteners. Torque the flex plate mounting fasteners to 36 ft-lbs / 49 Nm.

NOTICE Component damage hazard. Do not force the drive pump during installation or the flex plate splines may become damaged.



a pump
b pump shaft
c pump coupler
d flex plate
e flywheel
f 1/32 inch / 0.8 mm gap

4-5 Coolant Temperature and Oil Pressure Switches

The engine coolant temperature switch is a normally open switch. The switch contacts close at approximately 225˚F / 107˚C. If the coolant temperature rises above the switch point, the switch contacts close and the engine will shut off to prevent damage. The engine will not start until the temperature drops below the switch point. An over-temperature indicator light at the ground controls should turn on when the switch closes.

The engine oil pressure switch is a normally closed switch. The switch contacts open at approximately 7 psi / 0.48 bar. If the oil pressure drops below the switch point, the contacts open and the engine will shut off to prevent damage. A low oil pressure indicator light at the ground controls should turn on when the switch opens.

How to Replace the Coolant Temperature and Oil Pressure Switches

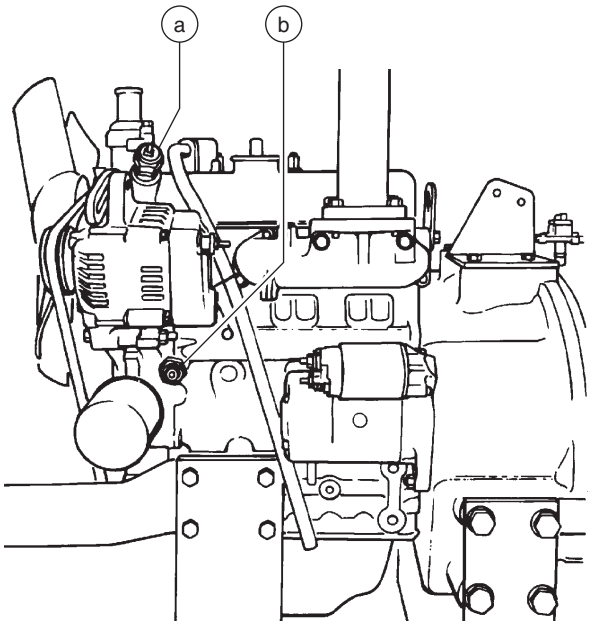
1 Open the engine side cover and pull up on the lock pin on the engine pivot tray located under the radiator. Swing the engine pivot tray out and away from the machine to access both switches.

2 Tag and disconnect the wiring from the switch. Remove the switch from the engine.

⚠CAUTION Bodily injury hazard. Contact with hot engine fluids or components may cause severe burns.

3 Install the new switch and tighten. Torque to 8-18 ft-lbs / 11-24 Nm.

Note: Always use pipe thread sealant when installing a new switch.



a coolant temperature switch
b oil pressure switch

How to Repair the Kubota D1105 and D905 Engines

Repair procedures and additional engine information are available in the *Kubota D1105 Operator's Manual* (Kubota part number 16622-89166) OR the *Kubota D905 Operator's Manual* (Kubota part number 16622-8916-5) OR the *Kubota D1105 Workshop Manual* (Kubota part number 9Y111-00123). *Kubota D905 Workshop Manual* (Kubota part number 97897-02432).

Kubota D1105 Operator's Manual	
Genie part number	131379
Kubota D905 Operator's Manual	
Genie part number	84240
Kubota D1105 Workshop Manual	
Genie part number	131666
Kubota D905 Workshop Manual	
Genie part number	31742

Kubota DF752 Engine

REV A

5-1 Timing Adjustment - Gasoline/LPG Models

Note: The ignition timing cannot be adjusted. The timing adjustment screw is factory sealed with a tamper resistant cap installed by the manufacturer. If service or repair is needed, contact your local Kubota dealer.

5-2 Carburetor Adjustment - Gasoline/LPG Models

Note: The carburetor cannot be adjusted. The carburetor mixture screws are factory sealed with tamper resistant caps installed by the manufacturer. If service or repair is needed, contact your local Kubota dealer.

5-3 Choke Adjustment - Gasoline/LPG Models

The choke is solenoid-operated and functions only in the gasoline mode. The choke will not operate in LPG mode.

5-4 Flex Plate

See 4-4, *Flex Plate*.

5-5 Coolant Temperature and Oil Pressure Switches

See 4-5, *Coolant Temperature and Oil Pressure Switches*.

5-6
Engine RPM

How to Adjust the RPM

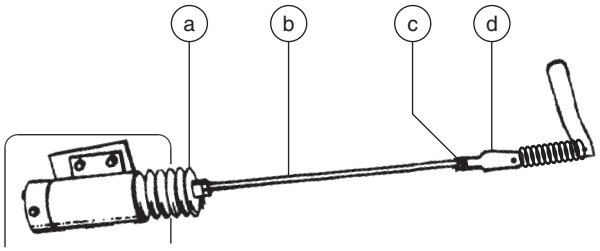
Note: The on-board self diagnostics incorporate a built-in engine tachometer. The first two digits of the engine rpm are displayed on the diagnostic display when the start toggle switch is moved to the start position with the engine running. Engine rpm equals the first two digits multiplied by 100.

Note: Perform this procedure in gasoline mode with the engine at normal operating temperature.

1 Start the engine from the ground controls.

2 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*. Proceed to step 4 if the low idle is correct.

3 To correct the low idle speed, turn the low idle adjustment screw on the carburetor clockwise to increase rpm or counterclockwise to decrease rpm.



a solenoid boot
b threaded rod
c yoke locknut
d yoke

4 Move the engine idle control switch to high idle (rabbit symbol) from the ground controls.

5 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*.

6 To correct the high idle speed, loosen the yoke lock nut on the high idle solenoid, then turn the high idle adjustment nut and solenoid boot counterclockwise to increase the rpm or clockwise to decrease the rpm. Tighten the yoke lock nut and recheck the rpm.

Note: Be sure the solenoid fully retracts when activating high idle.

How to Repair the Kubota DF752 Engine

Repair procedures and additional engine information are available in the *Kubota DF752 Operator's Manual* (Kubota part number EG601-8916-1) OR the *Kubota DF752 Workshop Manual* (Kubota part number 97897-02100).

Kubota DF752 Operator's Manual	
Genie part number	84250
Kubota DF752 Workshop Manual	
Genie part number	84249

REV B Perkins 403D-11 and 403C-11 Engines

6-1 Engine RPM

How to Adjust the RPM

1 Start the engine from the ground controls.

2 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*. Proceed to step 4 if the low idle is correct.

3 To correct the low idle speed, loosen the locknut on the low idle adjustment screw. Turn the low idle adjustment screw on the linkage clockwise to increase rpm or counterclockwise to decrease rpm. Tighten the lock nut and recheck the rpm. See the illustration.

4 Move the engine idle control switch to high idle (rabbit symbol) from the ground controls.

5 Hold the start toggle switch to the start position and check the engine RPM on the diagnostic display. Refer to Section 2, *Specifications*.

6 To correct the high idle speed, loosen the yoke lock nut on the high idle solenoid, then turn the high idle adjustment nut and solenoid boot counterclockwise to increase the rpm or clockwise to decrease the rpm. Tighten the yoke lock nut and recheck the rpm. See the illustration.

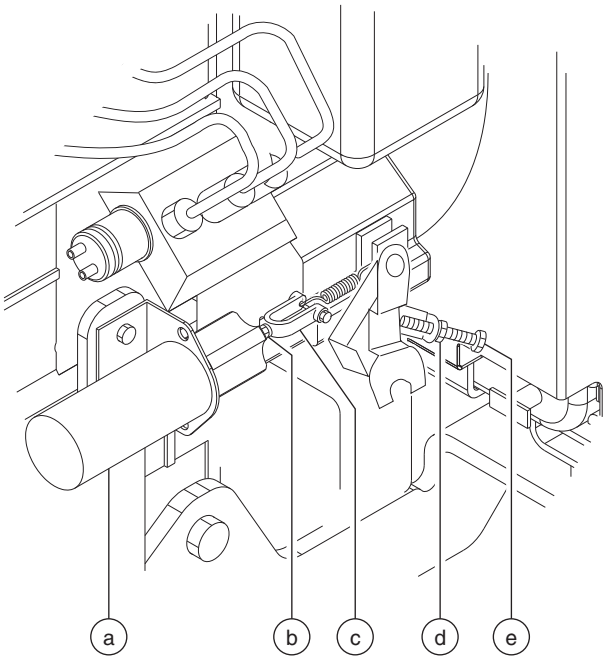
Note: Be sure the solenoid fully retracts when activating high idle.

6-2 Timing Adjustment

Complete information to perform this procedure is available in the *Perkins 403D-11 Workshop Manual* (Perkins part number KENR6942) OR the *Perkins 403C-11 Workshop Manual* (Perkins part number TPD1458).

Perkins 403D-11 Workshop Manual	
Genie part number	131662

Perkins 403C-11 Workshop Manual	
Genie part number	84817



a solenoid
b yoke locknut
c yoke
d low idle lock nut
e low idle adjustment screw

6-3
Flex Plate

See 4-4, *Flex Plate*.

6-4
Coolant Temperature and Oil Pressure Switches

The engine coolant temperature switch is a normally open switch. The switch contacts close at approximately 221˚F / 105˚C. If the coolant temperature rises above the switch point, the switch contacts close and the engine will shut off to prevent damage. The engine will not start until the temperature drops below the switch point.

The engine oil pressure switch is a normally open switch. The switch contacts close at approximately 4.27 psi / 0.3 bar. If the oil pressure drops below the switch point, the contacts close and the engine will shut off to prevent damage.

A fault code will be shown in the diagnostic display window at the ground controls when either switch closes.

How to Replace the Coolant Temperature and Oil Pressure Switches

1 Open the engine side cover and pull up on the lock pin on the engine pivot tray located under the radiator. Swing the engine pivot tray out and away from the machine to access both switches.

2 **Coolant temperature switch:** Tag and disconnect the wiring from the switch, located at the engine coolant outlet just above the alternator. Remove the switch from the engine.

Oil pressure switch: Tag and disconnect the wiring from the switch, located at the top of the engine just in front of the valve rocker cover. Remove the switch from the engine.

⚠CAUTION Bodily injury hazard. Contact with hot engine fluids or components may cause severe burns.

3 **Coolant temperature switch:** Install the new switch. Torque to 20 ft-lbs / 27 Nm.

Oil pressure switch: Install the new switch. Torque to 88 in-lbs / 10 Nm.

Note: Always use pipe thread sealant when installing a new switch.

How to Repair the Perkins 403D-11 and 403C-11 Engines

Repair procedures and additional engine information are available in the *Perkins 403D-11 User's Handbook* (Perkins part number SEBU8311-01) OR the *Perkins 403D-11 Workshop Manual* (Perkins part number KENR6942) OR the *Perkins 403C-11 User's Handbook* (Perkins part number 100816460) OR the *Perkins 403C-11 Workshop Manual* (Perkins part number TPD1458).

Perkins 403D-11 Operator's Manual	
Genie part number	131661
Perkins 403D-11 Workshop Manual	
Genie part number	131662
Perkins 403C-11 Operator's Manual	
Genie part number	97360
Perkins 403C-11 Workshop Manual	
Genie part number	84817

Ground Controls

REV B

7-1 Auxiliary Platform Lowering

Auxiliary Platform Lowering

In the event of a main power failure, activating the function enable and manual platform lowering buttons at the ground controls will lower the platform. There is no adjustment required.

The auxiliary platform lowering circuit uses the main 12V battery for its power source.

7-2 Function Speed Tuning

All machine function speeds are determined by the percentage of total ECM voltage output. The speeds of the following machine functions may be adjusted to compensate for wear in the hydraulic pump and drive motors.

- Stowed drive speed
- High torque drive speed
- Raised drive speed
- Platform lift speed

For further information or assistance, consult the Genie Industries Service Department.

⚠ DANGER Tip-over hazard. Do not adjust the lift and/or drive speed higher than specified in this procedure. Setting drive speed greater than specifications could cause the machine to tip over resulting in death or serious injury.

⚠ DANGER Tip-over hazard. This procedure must only be performed by a trained service professional. Attempting this procedure without the necessary skills will result in death or serious injury.

How to Determine the Revision Level

1 Turn the key switch to ground controls and pull out the red Emergency Stop buttons to the on position at both platform and ground controls.

⊙ Result: The revision level of the ECM will appear in the LED display window.

How to Adjust the Stowed Drive Speed

⚠ DANGER Tip-over hazard. Do not adjust the lift and/or drive speed higher than specified in this procedure. Setting drive speed greater than specifications could cause the machine to tip over resulting in death or serious injury.

1 Pull out the red Emergency Stop button to the on position at the platform controls.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Turn the key switch to ground control.

4 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

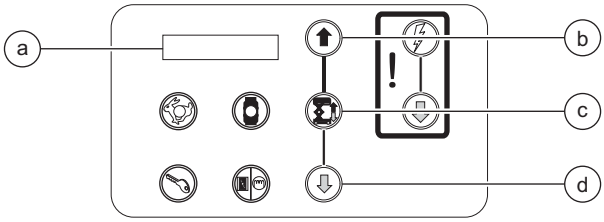
5 Press the lift function enable button.

6 Use the yellow platform down arrow to scroll to max fwd high speed drive.

⊙ Result: MAX FWD HIGH SPEED DRIVE is showing in the diagnostic display window.

7 Press the lift function enable button.

8 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

9 Press the lift function enable button.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

10 Press the lift function enable button.

11 Use the yellow platform down arrow to scroll to max rev high speed drive.

⊙ Result: MAX REV HIGH SPEED DRIVE is showing in the diagnostic display window.

12 Press the lift function enable button.

13 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.

14 Press the lift function enable button.

15 Push in the red Emergency Stop button to the off position at the ground controls.

16 Check the stowed drive speed of the machine. Refer to the Maintenance procedure B-10, *Test the Drive Speed - Stowed Position*.

GROUND CONTROLS REV B

How to Adjust the High Torque Drive Speed

⚠DANGER Tip-over hazard. Do not adjust the lift and/or drive speed higher than specified in this procedure. Setting drive speed greater than specifications could cause the machine to tip over resulting in death or serious injury.

1 Pull out the red Emergency Stop button to the on position at the platform controls.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Turn the key switch to ground control.

4 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

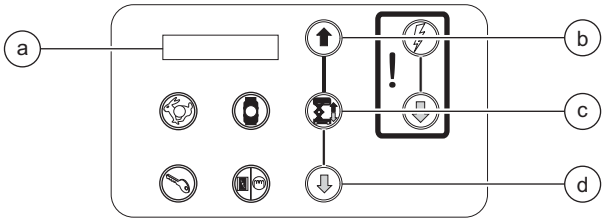
5 Press the lift function enable button.

6 Use the yellow platform down arrow to scroll to max fwd high torque drive.

⊙ Result: MAX FWD HIGH TORQUE DRIVE is showing in the diagnostic display window.

7 Press the lift function enable button.

8 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

9 Press the lift function enable button.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

10 Press the lift function enable button.

11 Use the yellow platform down arrow to scroll to max rev high speed drive.

⊙ Result: MAX REV HIGH TORQUE DRIVE is showing in the diagnostic display window.

12 Press the lift function enable button.

13 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.

14 Press the lift function enable button.

15 Push in the red Emergency Stop button to the off position at the ground controls.

How to Adjust the Raised Drive Speed

⚠ DANGER Tip-over hazard. Do not adjust the lift and/or drive speed higher than specified in this procedure. Setting drive speed greater than specifications could cause the machine to tip over resulting in death or serious injury.

1 Pull out the red Emergency Stop button to the on position at the platform controls.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Turn the key switch to ground control.

4 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

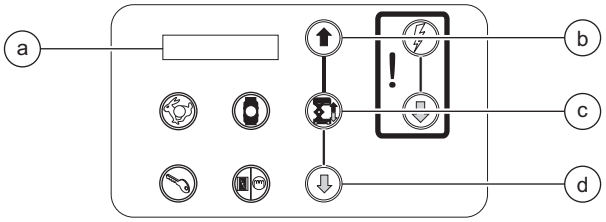
5 Press the lift function enable button.

6 Use the yellow platform down arrow to scroll to max fwd high torque drive.

⊙ Result: MAX FWD RAISED DRIVE SPEED is showing in the diagnostic display window.

7 Press the lift function enable button.

8 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

9 Press the lift function enable button.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

10 Press the lift function enable button.

11 Use the yellow platform down arrow to scroll to max rev high speed drive.

⊙ Result: MAX REV RAISED DRIVE SPEED is showing in the diagnostic display window.

12 Press the lift function enable button.

13 Press the yellow platform down button to decrease the drive speed or press the blue platform up button to increase the drive speed. Refer to Section 2, *Specifications*.

14 Press the lift function enable button.

15 Push in the red Emergency Stop button to the off position at the ground controls.

16 Check the raised drive speed of the machine. Refer to the Maintenance procedure B-11, *Test the Drive Speed - Raised Position*.

GROUND CONTROLS REV B

How to Adjust the Lift Speed

1 Pull out the red Emergency Stop button to the on position at the platform controls.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Turn the key switch to ground control.

4 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

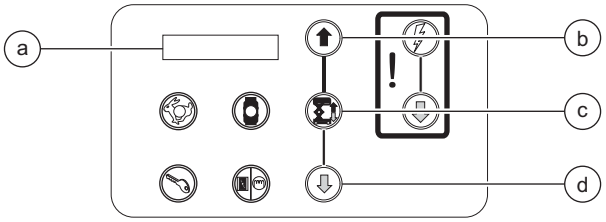
⊙ Result: TUNE SPEEDS is showing in the diagnostic display window. The ECM is now in programming mode.

5 Press the lift function enable button.

6 Use the yellow platform down arrow to scroll to lift speed.

⊙ Result: MAX LIFT SPEED is showing in the diagnostic display window.

7 Press the lift function enable button.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

8 Press the yellow platform down button to decrease the maximum lift speed or press the blue platform up button to increase the maximum lift speed. Refer to Section 2, *Specifications*.

9 Press the lift function enable button.

10 Push in the red Emergency Stop button to the off position at the ground controls.

11 Check the lift speed of the machine. Refer to Section 2, *Specifications*.

7-3 Software Configuration

How to Configure the Software

The Electronic Control Module (ECM) contains programming for all configurations of the GS-68. Machines can be adjusted to a different configuration using the buttons at the ground controls. To determine the software revision level, see 7-2, *How to Determine the Revision Level*.

ANSI and CSA models with all software revisions:

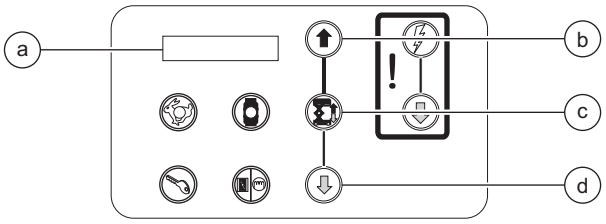
1 Turn the key switch to ground controls and pull out the red Emergency Stop buttons to the on position at both platform and ground controls.

⊙ Result: The revision level of the ECM will appear in the LED display window. Note the result.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

Machine Option Definitions

Descent Delay: This option halts descent at approximately 12 feet / 3.6 m. All controls must be released for 4 to 6 seconds before descent is re-enabled. Required for Europe.

Lift/Drive Cut Out: Lift and drive functions are disabled when the down limit switch is activated and the machine is on a slope exceeding the rating on the serial plate. Activated for all machines.

Motion Alarm: The motion alarm will sound when activating a function.

Motion Beacons: The flashing beacons operate only when activating a function.

Overload: This cuts out all functions when the platform overload pressure switch is tripped. The red Emergency Stop button must be cycled before any function can be resumed. Required for Europe.

Sim Operation: When enabled, this allows some machine functions to be activated simultaneously. Required to be disabled for European models.

Beacons: When installed on the machine, the flashing beacons operate continuously when the key switch is turned to ground or platform controls and both red Emergency Stop buttons are pulled out to the on position.

4 Use the yellow platform down arrow to scroll to select options.

⊙ Result: SELECT OPTIONS is showing in the diagnostic display window. The ECM is now in programming mode.

5 Press the lift function enable button.

⊙ Result: DESCENT DELAY is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the descent delay option.

6 **Models with software revisions F0, E0, D0 and lower:** Use the yellow platform down arrow to scroll to lift/drive cutout.

⊙ Result: LFT/DRV CUTOUT ON is showing in the diagnostic display window.

⊠ Result: LFT/DRV CUTOUT OFF is showing in the diagnostic display window. Press the lift function enable button to activate the lift/drive cutout option.

Note: The lift/drive cutout option should be activated or in the ON position.

7 Use the yellow platform down arrow to scroll to motion alarm.

⊙ Result: MOTION ALARM is showing in the diagnostic display window.

8 Press the lift function enable button to activate or deactivate the motion alarm option OR use the yellow platform down arrow to scroll to motion beacon.

⊙ Result: MOTION BEACON is showing in the diagnostic display window.

9 Press the lift function enable button to activate or deactivate the motion beacon option.

Note: For this option to function correctly, the machine must be equipped with flashing beacons.

10 **Models with platform overload (option):** Use the yellow platform down arrow to scroll to overload.

⊙ Result: OVERLOAD ON is showing in the diagnostic display window.

⊠ Result: OVERLOAD OFF is showing in the diagnostic display window. Press the lift function enable button to activate the overload option.

11 Use the yellow platform down arrow to scroll to sim operation.

⊙ Result: SIM OPERATION ON is showing in the diagnostic display window.

⊠ Result: SIM OPERATION OFF is showing in the diagnostic display window. Press the lift function enable button to activate the sim operation option.

Note: For all models except CE, the sim operation option should be activated or in the ON position.

Models with software revisions E0, D0 or lower, proceed to step 12.
Models with software revisions F0 and higher, proceed to step 15.

12 Use the yellow platform down arrow to scroll to beacons option.

⊙ Result: BEACONS AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the beacons option.

Note: For this option to function, the machine must be equipped with flashing beacons and the software set to BEACONS AUTO or BEACONS ON.

13 Use the yellow platform down arrow to scroll to generator option.

- Result: GENERATOR AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the generator option.

Note: For this option to function correctly, the machine must be equipped with the required generator components and the software set to GENERATOR AUTO or GENERATOR ON.

14 Use the yellow platform down arrow to scroll to outriggers option.

- Result: OUTRIGGERS AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the outrigger option. Proceed to step 18.

Note: For this option to function correctly, the machine must be equipped with the required outrigger components and the software set to OUTRIGGERS AUTO or OUTRIGGERS ON.

15 Use the yellow platform down arrow to scroll to beacons option.

- Result: BEACONS OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the beacons option.

Note: For this option to function, the machine must be equipped with flashing beacons.

16 Use the yellow platform down arrow to scroll to generator option.

- Result: GENERATOR OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the generator option.

Note: For this option to function correctly, the machine must be equipped with the required generator components.

17 Use the yellow platform down arrow to scroll to outriggers option.

- Result: OUTRIGGERS OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the outrigger option.

Note: For this option to function correctly, the machine must be equipped with the required outrigger components.

ANSI and CSA models with all software revisions:

18 Use the yellow platform down arrow to scroll to return to the main menu.

- Result: RETURN TO MAIN MENU is showing in the diagnostic display window.

19 Press the lift function enable button.

- Result: SELECT OPTIONS is showing in the diagnostic display window.

20 Push in the red Emergency Stop button to the off position at the ground controls.

CE models with all software revisions:

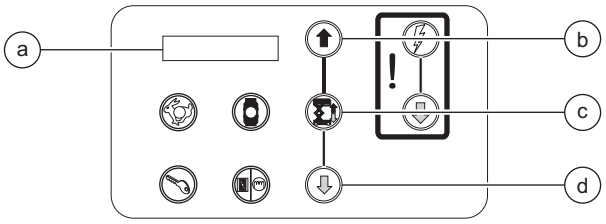
1 Turn the key switch to ground controls and pull out the red Emergency Stop buttons to the on position at both platform and ground controls.

⊙ Result: The revision level of the ECM will appear in the LED display window. Note the result.

2 Push in the red Emergency Stop button to the off position at the ground controls.

3 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

4 Use the yellow platform down arrow to scroll to select options.

⊙ Result: SELECT OPTIONS is showing in the diagnostic display window. The ECM is now in programming mode.

5 Press the lift function enable button.

⊙ Result: DESCENT DELAY ON is showing in the diagnostic display window.

⊗ Result: DESCENT DELAY OFF is showing in the diagnostic display window. Press the lift function enable button to activate the descent delay option.

Note: For CE models, the descent delay option should be activated or in the ON position.

6 **Models with software revisions F0, E0, D0 and lower:** Use the yellow platform down arrow to scroll to lift/drive cutout.

⊙ Result: LFT/DRV CUTOUT ON is showing in the diagnostic display window.

⊗ Result: LFT/DRV CUTOUT OFF is showing in the diagnostic display window. Press the lift function enable button to activate the lift/drive cutout option.

Note: The lift/drive cutout option should be activated or in the ON position.

7 Use the yellow platform down arrow to scroll to motion alarm.

⊙ Result: MOTION ALARM is showing in the diagnostic display window.

8 Press the lift function enable button to activate or deactivate the motion alarm option OR use the yellow platform down arrow to scroll to motion beacon.

⊙ Result: MOTION BEACON is showing in the diagnostic display window.

9 Press the lift function enable button to activate or deactivate the motion beacon option.

Note: For this option to function correctly, the machine must be equipped with flashing beacons.

10 Use the yellow platform down arrow to scroll to overload.

⊙ Result: OVERLOAD ON is showing in the diagnostic display window.

⊠ Result: OVERLOAD OFF is showing in the diagnostic display window. Press the lift function enable button to activate the overload option.

Note: For CE models, the overload option should be activated or in the ON position.

11 Use the yellow platform down arrow to scroll to sim operation.

⊙ Result: SIM OPERATION OFF is showing in the diagnostic display window.

⊠ Result: SIM OPERATION ON is showing in the diagnostic display window. Press the lift function enable button to deactivate the sim operation option.

Note: For CE models, the sim operation option should be deactivated or in the OFF position.

Models with software revisions E0, D0 or lower, proceed to step 12.
Models with software revisions F0 and higher, proceed to step 15.

12 Use the yellow platform down arrow to scroll to beacons option.

⊙ Result: BEACONS AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the beacons option.

Note: For this option to function, the machine must be equipped with flashing beacons and the software set to BEACONS AUTO or BEACONS ON.

13 Use the yellow platform down arrow to scroll to generator option.

⊙ Result: GENERATOR AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the generator option.

Note: For this option to function correctly, the machine must be equipped with the required generator components and the software set to GENERATOR AUTO or GENERATOR ON.

14 Use the yellow platform down arrow to scroll to outriggers option.

⊙ Result: OUTRIGGERS AUTO is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the outrigger option. Proceed to step 18.

Note: For this option to function correctly, the machine must be equipped with the required outrigger components and the software set to OUTRIGGERS AUTO or OUTRIGGERS ON.

15 Use the yellow platform down arrow to scroll to beacons option.

⊙ Result: BEACONS OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the beacons option.

Note: For this option to function, the machine must be equipped with flashing beacons.

16 Use the yellow platform down arrow to scroll to generator option.

⊙ Result: GENERATOR OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the generator option.

Note: For this option to function correctly, the machine must be equipped with the required generator components.

17 Use the yellow platform down arrow to scroll to outriggers option.

⊙ Result: OUTRIGGERS OFF is showing in the diagnostic display window. Press the lift function enable button to activate or deactivate the outrigger option.

Note: For this option to function correctly, the machine must be equipped with the required outrigger components.

CE models with all software revisions:

18 Use the yellow platform down arrow to scroll to return to the main menu.

⊙ Result: RETURN TO MAIN MENU is showing in the diagnostic display window.

19 Press the lift function enable button.

⊙ Result: SELECT OPTIONS is showing in the diagnostic display window.

20 Push in the red Emergency Stop button to the off position at the ground controls.

7-4 Level Sensor - Models without Outriggers

The Electronic Control Module (ECM) is programmed to deactivate the lift and drive functions and activate an alarm when a signal is received from the level sensor.

The tilt alarm sounds when the incline of the chassis exceeds 2° to the side and 3° to the front or rear.

How to Install and Calibrate the Level Sensor

⚠DANGER Tip-over hazard. Failure to install or calibrate the level sensor as instructed could result in the machine tipping over causing death or serious injury. Do not install or calibrate the level sensor other than specified in this procedure.

Note: Perform this procedure with the machine on a firm, level surface that is free of obstructions. Use a digital level to confirm.

1 Remove the platform controls from the platform.

If you are not installing a new level sensor, proceed to step 13.

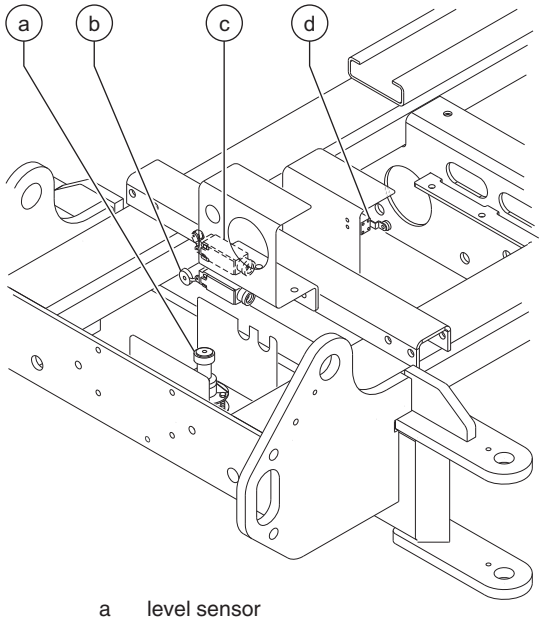
2 Raise the platform approximately 10 feet / 3 m.

3 Lift the safety arm, move to the center of the scissor arm and rotate to a vertical position.

4 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

5 Locate the level sensor enclosure on the chassis under the limit switches at the steer end of the machine. Remove the enclosure cover retaining fasteners and the cover.



a level sensor
b max height limit switch (CE models)
c down limit switch
d load sense delay limit switch (CE models)

6 Tag and disconnect the wire harness from the level sensor.

7 Remove the fasteners securing the level sensor to the chassis. Remove the level sensor from the machine.

GROUND CONTROLS REV B

8 Install the new level sensor onto the machine with the "Y" on the level sensor base closest to the steer end of the machine. Install and tighten the level sensor retaining fasteners.

⚠DANGER Tip-over hazard. The tilt level sensor must be installed with the "Y" on the level sensor base closest to the steer end of the machine. Failure to install the tilt level sensor as instructed will cause the machine to tip over resulting in death or serious injury.

9 Connect the wire harness to the level sensor.

10 Turn the key switch to platform control and pull out the red Emergency Stop buttons to the on position at both the ground and platform controls.

11 Tighten the level sensor adjusting fasteners until the bubble in the top of the level sensor is centered in the circles.

Note: Be sure there are threads showing through the top of the adjusting fasteners.

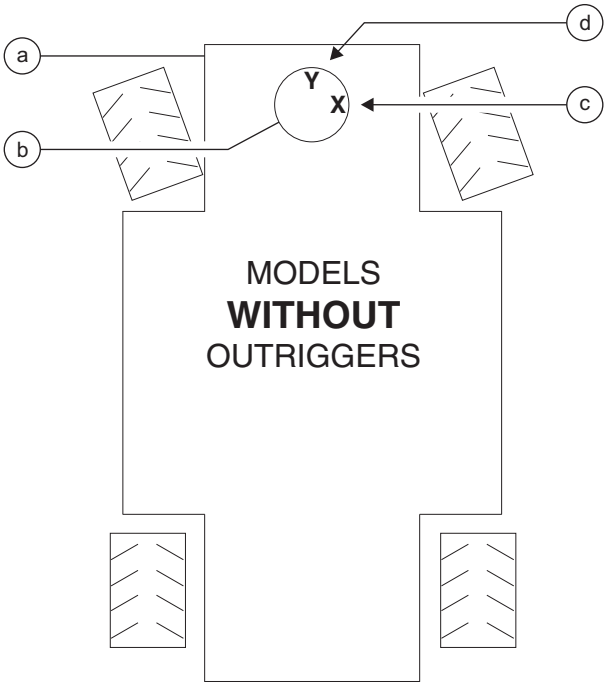
⊙ Result: The tilt sensor alarm should not sound.

12 Raise the platform and rotate the safety arm to the stowed position.

13 Lower the platform to the stowed position.

14 Center a lifting jack under the drive chassis at the ground controls side of the machine.

15 Raise the machine approximately 4 inches / 10 cm.



Level sensor - models without outriggers

a chassis
b level sensor
c "X" indicator
d "Y" indicator

16 **Models with RT tires:** Place a 1.85 x 10 x 10 inch / 4.7 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.
Models with non-marking tires: Place a 1.94 x 10 x 10 inch / 4.93 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.

17 Lower the machine onto the blocks.

18 Raise the platform at least 12 feet / 3.6 m.

⊙ Result: The tilt alarm does not sound and all functions will operate. Proceed to step 20.

⊠ Result - The drive function and the lift function will not operate and the tilt alarm will sound at 180 beeps per minute. Proceed to step 19.

19 Turn the level sensor adjusting nuts just until the level sensor alarm does not sound.

20 Lower the platform to the stowed position.

21 Raise the machine slightly.

22 Remove the blocks from under both wheels.

23 Lower the machine and remove the jack.

24 Center a lifting jack under the drive chassis at the engine side of the machine.

25 Raise the machine approximately 4 inches / 10 cm.

26 **Models with RT tires:** Place a 2.15 x 10 x 10 inch / 5.46 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.
Models with non-marking tires: Place a 2.25 x 10 x 10 inch / 5.72 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.

27 Lower the machine onto the blocks.

28 Raise the platform at least 12 feet / 3.6 m.

⊙ Result - The drive function and the lift function will not operate and the tilt alarm will sound at 180 beeps per minute.

⊠ Result: If the tilt sensor alarm does not sound, adjust the tilt level sensor until the alarm just begins to sound OR the down limit switch may need to be adjusted.

29 Lower the platform to the stowed position.

30 Push in the red Emergency Stop button to the off position at both the ground and platform controls.

31 Turn the key switch to the off position.

32 Raise the machine slightly.

33 Remove the blocks from under both wheels.

34 Lower the machine and remove the jack.

35 Install the cover onto the level sensor enclosure. Install and securely tighten the retaining fasteners. Do not over tighten.

7-5 Level Sensor - Models with Outriggers

The Electronic Control Module (ECM) is programmed to deactivate the lift and drive functions and activate an alarm when a signal is received from the level sensor.

When the outriggers are stowed, the tilt alarm sounds when the incline of the chassis exceeds 2° to the side.

When the outriggers are deployed, the tilt alarm sounds when the incline of the chassis exceeds 0.8° to the side.

At all times, the tilt alarm sounds when the incline of the chassis exceeds 3° to the front or rear.

How to Install and Calibrate the Level Sensor

⚠DANGER Tip-over hazard. Failure to install or calibrate the level sensor as instructed could result in the machine tipping over causing death or serious injury. Do not install or calibrate the level sensor other than specified in this procedure.

Note: Perform this procedure with the machine on a firm, level surface that is free of obstructions. Use a digital level to confirm.

1 Remove the platform controls from the platform.

If you are not installing a new level sensor, proceed to step 7.

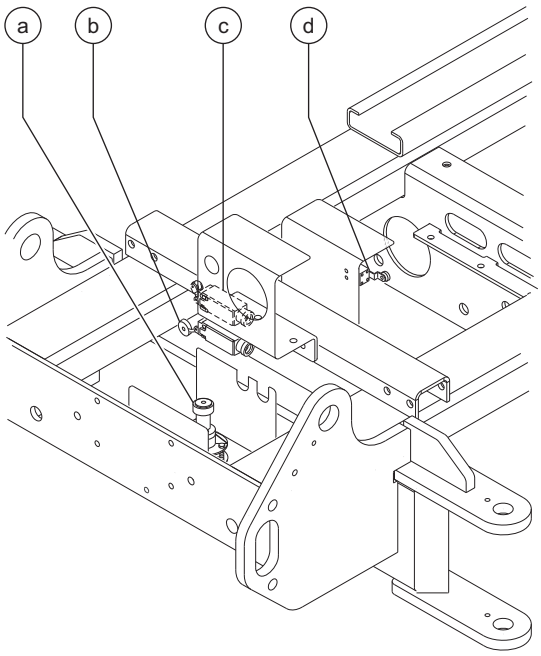
2 Raise the platform approximately 10 feet / 3 m.

3 Lift the safety arm, move to the center of the scissor arm and rotate to a vertical position.

4 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

5 Locate the level sensor enclosure on the chassis under the limit switches at the steer end of the machine. Remove the enclosure cover retaining fasteners and the cover.



a level sensor
b max height limit switch (CE models)
c down limit switch
d load sense delay limit switch (CE models)

Install the level sensor:

6 Tag and disconnect the wire harness from the level sensor.

7 Remove the fasteners securing the level sensor to the chassis. Remove the level sensor from the machine.

8 Install the new level sensor onto the machine with the "X" on the level sensor base closest to the steer end of the machine. Install and tighten the level sensor retaining fasteners.

⚠DANGER Tip-over hazard. The tilt level sensor must be installed with the "X" on the level sensor base closest to the steer end of the machine. Failure to install the tilt level sensor as instructed could result in the machine tipping over causing death or serious injury.

9 Connect the wire harness to the level sensor.

10 Turn the key switch to platform control and pull out the red Emergency Stop buttons to the on position at both the ground and platform controls.

11 Set a multimeter to read DC voltage.

Adjust the side-to-side axis:

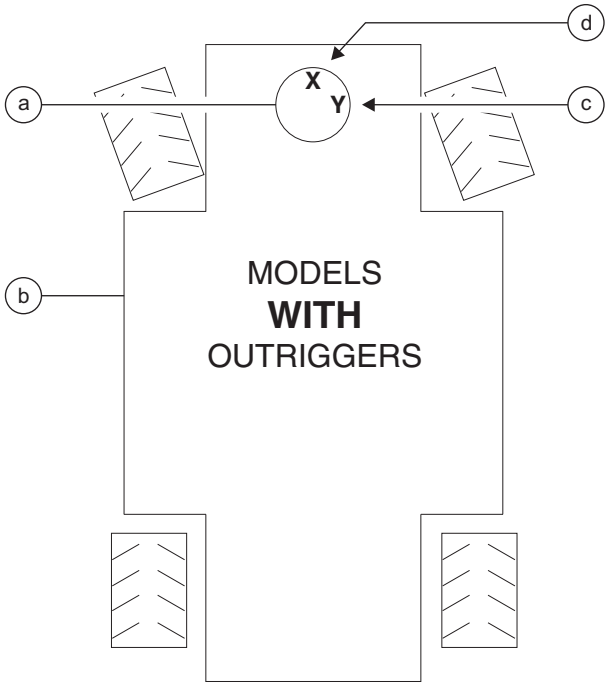
12 Without disconnecting the wire harness from the level sensor, connect the negative lead of the multimeter to the black wire at the level sensor.

13 Without disconnecting the wire harness from the level sensor, connect the positive lead of the multimeter to the yellow wire at the level sensor.

14 Adjust the "Y" axis (side-to-side) to 2.5V DC. Tap the top of the level sensor lightly with fingers after each turn of an adjusting nut.

⚠DANGER Tip-over hazard. Do not adjust the potentiometers on the bottom of the level sensor or calibrate the level sensor other than specified in this procedure. Failure to calibrate the tilt level sensor as instructed will cause the machine to tip over resulting in death or serious injury.

Note: Be sure there are threads showing through the top of each adjusting nut.



Level sensor - models without outriggers

a chassis
b level sensor
c "Y" indicator
d "X" indicator

15 Disconnect the positive lead.

Adjust the front-to-back axis:

16 Without disconnecting the wire harness from the level sensor, connect the positive lead of the multimeter to the blue wire at the level sensor.

17 Adjust the "X" axis (front-to-back) to 2.43V DC. Tap the top of the level sensor lightly with fingers after each turn of an adjusting nut.

⚠DANGER Tip-over hazard. Do not adjust the potentiometers on the bottom of the level sensor or calibrate the level sensor other than specified in this procedure. Failure to calibrate the tilt level sensor as instructed will cause the machine to tip over resulting in death or serious injury.

Note: Be sure there are threads showing through the top of each adjusting nut.

18 Disconnect the positive and negative leads.

19 Apply Sentry Seal to the adjusting nuts.

20 Push in the red Emergency Stop button to the off position at the platform controls.

21 Press and hold the auto level button and press and hold the left front outrigger button. Pull out the red Emergency Stop button to the on position at the platform controls. Continue to hold the auto level button and left front outrigger button for approximately 3 seconds or until a beep is heard. Release the buttons.

22 Push in the red Emergency Stop button to the off position at the platform controls.

Confirm the side-to-side level sensor setting:

23 Center a lifting jack under the drive chassis at the ground control side of the machine.

24 Raise the machine approximately 6 inches / 15 cm.

25 **Models with RT tires:** Place a 2.15 x 10 x 10 inch / 5.46 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.
All other models: Place a 2.25 x 10 x 10 inch / 5.72 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.

26 Lower the machine onto the blocks.

27 Pull out the red Emergency Stop button to the on position at platform controls. Start the engine.

28 Raise the platform at least 12 feet / 3.6 m.

⊙ Result: The platform stops raising and the tilt alarm will sound at 180 beeps per minute.

⊠ Result: The platform does not stop raising and the tilt alarm does not sound. The level sensor must be replaced. Repeat this procedure beginning with step 2.

Note: For reference only, the output of the level sensor should be approximately 1.7V DC. To confirm, connect the positive lead of a multimeter to the yellow wire at the level sensor, and the negative lead to the black wire.

29 Raise the machine slightly.

30 Remove the blocks from under both wheels.

31 Lower the machine and remove the jack.

32 Center a lifting jack under the drive chassis at the tank side of the machine.

33 Raise the machine approximately 6 inches / 15 cm.

34 **Models with RT tires:** Place a 2.15 x 10 x 10 inch / 5.46 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.
All other models: Place a 2.25 x 10 x 10 inch / 5.72 x 25 x 25 cm thick steel block under both wheels at the ground controls side of the machine.

35 Lower the machine onto the blocks.

36 Raise the platform at least 12 feet / 3.6 m.

⊙ Result: The platform stops raising and the tilt alarm will sound at 180 beeps per minute.

⊠ Result: The platform does not stop raising and the tilt alarm does not sound. The level sensor must be replaced. Repeat this procedure beginning with step 2.

Note: For reference only, the output of the level sensor should be approximately 3.3V DC. To confirm, connect the positive lead of a multimeter to the yellow wire at the level sensor, and the negative lead to the black wire.

37 Lower the platform to the stowed position.

38 Raise the machine slightly.

39 Remove the blocks from under both wheels.

40 Lower the machine and remove the jack.

Confirm the front-to-back level sensor setting:

41 Center a lifting jack under the drive chassis at the steer end of the machine.

42 Raise the machine approximately 6 inches / 15 cm.

43 Place a 4.08 x 10 x 10 inch / 10.36 x 25 x 25 cm thick steel block under both wheels at the steer end of the machine.

44 Lower the machine onto the blocks.

45 Raise the platform at least 12 feet / 3.6 m.

⊙ Result: The platform stops raising and the tilt alarm will sound at 180 beeps per minute.

⊠ Result: The platform does not stop raising and the tilt alarm does not sound. The level sensor must be replaced. Repeat this procedure beginning with step 2.

Note: For reference only, the output of the level sensor should be approximately 1.5V DC. To confirm, connect the positive lead of a multimeter to the blue wire at the level sensor, and the negative lead to the black wire.

46 Lower the platform to the stowed position.

47 Raise the machine slightly.

48 Remove the blocks from under both wheels.

49 Lower the machine and remove the jack.

50 Center a lifting jack under the drive chassis at the non-steer end of the machine.

51 Raise the machine approximately 6 inches / 15 cm.

52 Place a 4.08 x 10 x 10 inch / 10.36 x 25 x 25 cm thick steel block under both wheels at the non-steer end of the machine.

53 Lower the machine onto the blocks.

54 Raise the platform at least 12 feet / 3.6 m.

⊙ Result: The platform stops raising and the tilt alarm will sound at 180 beeps per minute.

⊠ Result: The platform does not stop raising and the tilt alarm does not sound. The level sensor must be replaced. Repeat this procedure beginning with step 2.

Note: For reference only, the output of the level sensor should be approximately 3.4V DC. To confirm, connect the positive lead of a multimeter to the blue wire at the level sensor, and the negative lead to the black wire.

55 Lower the platform to the stowed position.

56 Raise the machine slightly.

57 Remove the blocks from under both wheels.

58 Lower the machine and remove the jack.

59 Turn the key switch to the off position.

Hydraulic Pump

REV A

8-1
Hydraulic Pump

The hydraulic pump is a 2-section, gear-type pump. Pump number 1 is the pump section which is closer to the engine and pump number 2 is the pump section that is farther from the engine. Each section of the pump has its own relief valve in the function manifold.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

How to Test the Hydraulic Pump

1 Tag, disconnect and plug the high pressure hydraulic hoses from both sections of the hydraulic pump.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

2 Connect a 0 to 5000 psi / 0 to 350 bar pressure gauge to the high pressure port on each section of the pump.

3 **Gasoline/LPG models:** Disconnect the ignition coil wire from the center of the ignition coil.

Diesel models: Hold the manual fuel shutoff lever clockwise in the closed position.

4 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

5 Observe the pressure gauge while cranking the engine. Immediately stop if the pressure reaches or exceeds 3000 psi / 206 bar in either one of the gauges.

⊙ Result: If both of the pressure gauges read 3000 psi / 206 bar, immediately stop. The pump is good.

⊙ Result: If pressure fails to reach 3000 psi / 206 bar in one or both sections of the pump, one of the pump sections or the pump coupling is bad and will need to be serviced or replaced.

6 Remove the pressure gauges and connect the hydraulic hoses.

How to Remove the Hydraulic Pump

1 Tag, disconnect and plug the hydraulic hoses on the pump.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

2 Remove the pump mounting bolts. Carefully remove the pump.

⚠WARNING After replacing the hydraulic pump, it is critical to return the lift and drive speed settings to original factory specifications. Refer to Section 3, *Scheduled Maintenance Procedures*.

How to Prime the Pump

NOTICE Component damage hazard. Be sure that the hydraulic tank shutoff valves (if equipped) are in the open position before priming the pump. The engine must not be started with the hydraulic tank shutoff valves in the closed position or component damage will occur.

1 Connect a 0 to 600 psi / 0 to 50 bar pressure gauge to either diagnostic test port on the function manifold.

2 Turn the key switch to ground controls and pull out the red Emergency Stop buttons to the on position at both the ground and platform controls.

3 **Gasoline/LPG models:** Close the valve on the LPG tank, then disconnect the hose from the tank (if equipped). Move the fuel select toggle switch at the ground controls to the LPG position.

Diesel models: Disconnect the wiring from the fuel shutoff solenoid.

4 Crank the engine with the starter motor for 15 seconds, wait 15 seconds, then crank the engine an additional 15 seconds or until the pressure reaches 300 psi / 20.7 bar.

5 **Gasoline/LPG models:** Connect the hose to the LPG tank and open the valve (if equipped). Move the fuel select toggle switch at the ground controls to the gasoline position.
Diesel models: Connect the wiring to the fuel shutoff solenoid.

6 Start the engine from the ground controls and check for hydraulic leaks.

Manifolds

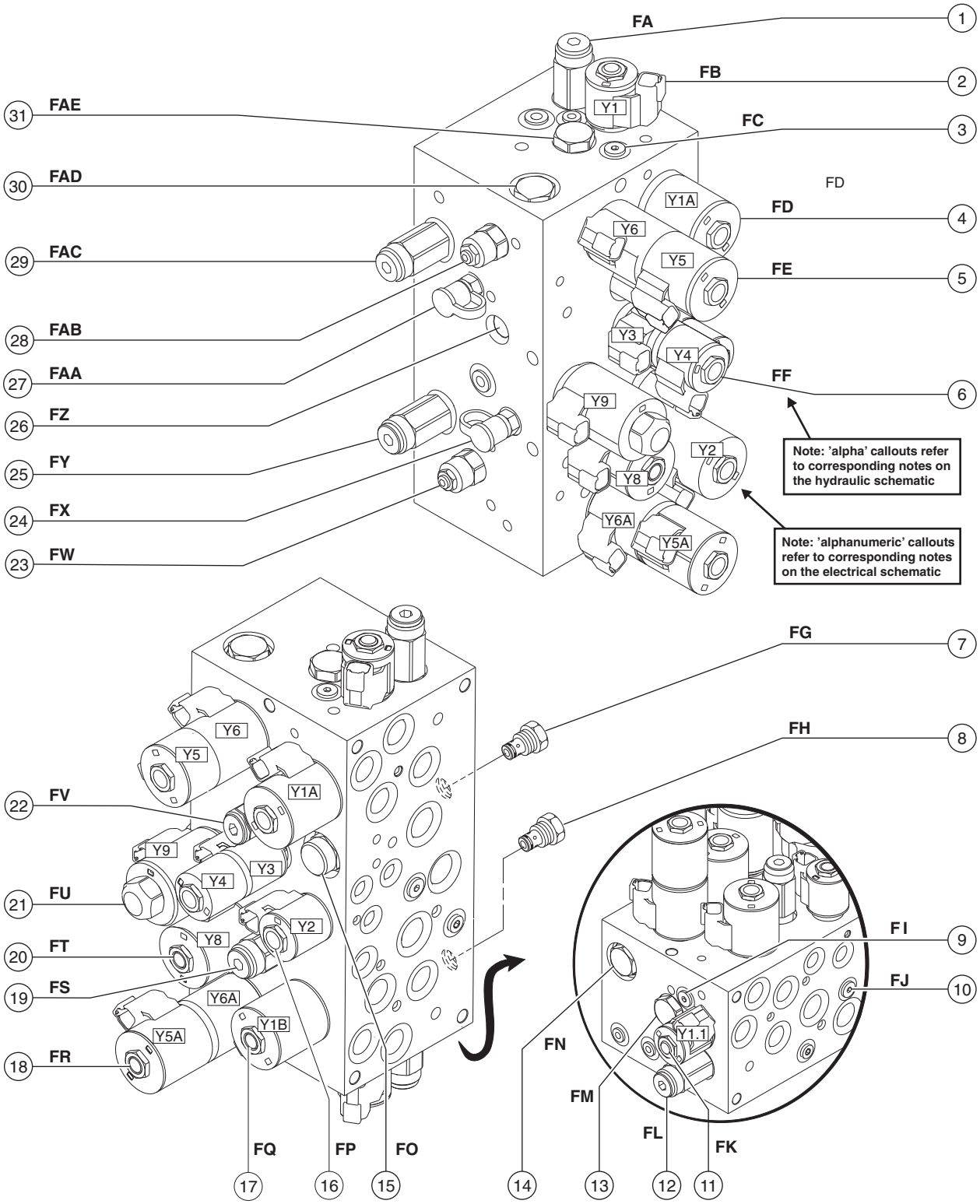
REV B

9-1
Function Manifold Components

The function manifold is located inside the hydraulic tray.

Index No.	Description	Schematic Item	Function	Torque
1	Relief valve, 3500 psi / 241.3 bar	FA	Anti-cavitation for rear drive circuit	15-25 ft-lbs / 20-34 Nm
2	Solenoid valve, 2 position 2 way N.C.	FB	Drive speed select circuit at the non-steer end of the machine	25-30 ft-lbs / 34-41 Nm
3	Orifice - plug, 0.030 in / 0.76 mm	FC	Balances flow from flow divider/combiner (item FAE) to non-steer end drive motors	
4	Solenoid valve, 2 position 4 way N.O.	FD	Drive speed select circuit at the non-steer end of the machine	25-30 ft-lbs / 34-41 Nm
5	Solenoid valve, 3 position 4 way	FE	Controls flow to the non-steer end drive motors in forward and reverse	25-30 ft-lbs / 34-41 Nm
6	Solenoid valve, 3 position 4 way	FF	Steer left/right	25-30 ft-lbs / 34-41 Nm
7	Check valve	FG	Proportional circuit	25-30 ft-lbs / 34-41 Nm
8	Check valve	FH	Proportional circuit	25-30 ft-lbs / 34-41 Nm
9	Orifice - plug, 0.030 in / 0.76 mm	FI	Balances flow from flow divider/combiner (item FM) to steer end drive motors	
10	Orifice - plug, 0.035 in / 0.89 mm	FJ	Controls brake release speed	
11	Solenoid valve, 2 position 2 way N.C.	FK	Drive speed select circuit at the steer end of the machine	25-30 ft-lbs / 34-41 Nm
12	Relief valve, 3500 psi / 241.3 bar	FL	Anti-cavitation for front drive circuit	15-25 ft-lbs / 20-34 Nm
13	Flow divider/combiner valve	FM	Controls flow to the steer end drive motors in forward and reverse	30-35 in-lbs / 3-4 Nm
14	Check valve	FN	Steer end drive circuit	25-30 ft-lbs / 34-41 Nm

This list continues. Please turn the page.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Y1
Y1A
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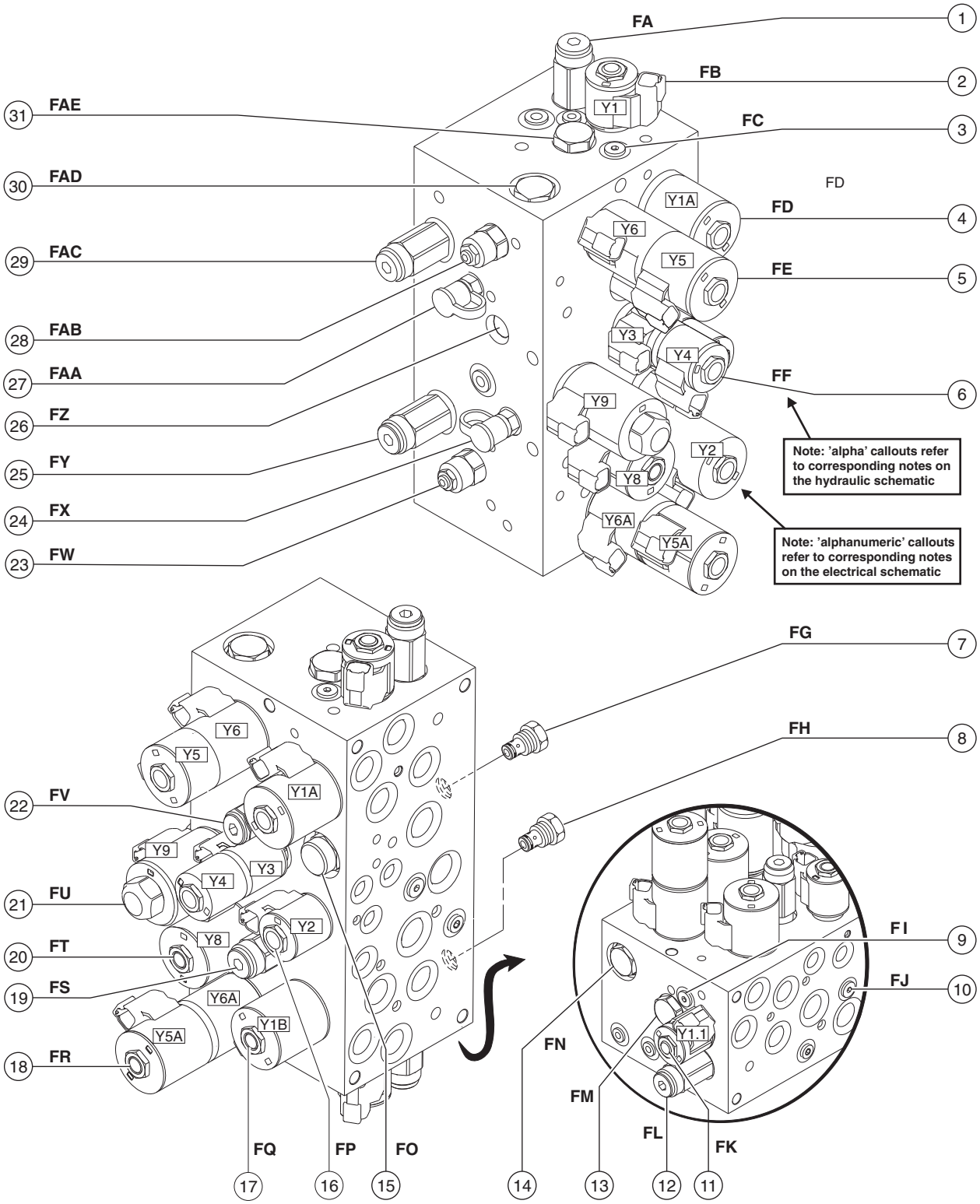
Y9
Y2
Y8
Y6A
Y5A
Y1B
Y1.1
Note: 'alpha' callouts refer to corresponding notes on the hydraulic schematic
Note: 'alphanumeric' callouts refer to corresponding notes on the electrical schematic

Function Manifold Components, continued

Index No.	Description	Schematic Item	Function	Torque
15	Priority flow regulator, 2 gpm / 7.6 L/min	FO	Steer circuit	25-30 ft-lbs / 34-41 Nm
16	Solenoid valve, 2 position 3 way	FP	Brake circuit	20-25 ft-lbs / 27-54 Nm
17	Solenoid valve, 2 position 4 way N.O.	FQ	Drive speed select circuit at the steer end of the machine	25-30 ft-lbs / 34-41 Nm
18	Solenoid valve, 3 position 4 way	FR	Controls flow to the steer end drive motors in forward and reverse	25-30 ft-lbs / 34-41 Nm
19	Relief valve, 3500 psi / 241 bar	FS	Lift circuit	15-25 ft-lbs / 20-34 Nm
20	Solenoid valve, 2 position 4 way	FT	Platform up	25-30 ft-lbs / 34-41 Nm
21	Proportional solenoid valve N.O.	FU	Drive/lift circuit	25-30 ft-lbs / 34-41 Nm
22	Relief valve, 2800 psi / 193 bar	FV	Steer left/right	25-30 ft-lbs / 34-41 Nm
23	Counterbalance valve, 1000 psi / 68.9 bar	FW	Improves braking performance	30-35 ft-lbs / 41-47 Nm
24	Diagnostic nipple - Test port #2	FX	Testing	
25	Relief valve, 3000 psi / 207 bar	FY	Relief valve for number two section of pump	15-25 ft-lbs / 20-34 Nm
26	Check valve	FZ	Steer circuit	25-30 ft-lbs / 34-41 Nm
27	Diagnostic nipple - Test port #1	FAA	Testing	
28	Counterbalance valve, 2500 psi / 172 bar	FAB	Improves braking performance	30-35 ft-lbs / 41-47 Nm
29	Relief valve, 3500 psi / 241 bar	FAC	Relief valve for number one section of pump	15-25 ft-lbs / 20-34 Nm
30	Check valve	FAD	Non-steer end drive circuit	25-30 ft-lbs / 34-41 Nm
31	Flow divider/combiner valve	FAE	Controls flow to the non-steer end drive motors in forward and reverse	30-35 in-lbs / 3-4 Nm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FAD
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FAE
31
Y1
Y1A
Y6
Y5
Y3
Y4
Y9
Y2
Y8
Y6A
Y5A
Y1B
Y1.1
Note: 'alpha' callouts refer to corresponding notes on the hydraulic schematic
Note: 'alphanumeric' callouts refer to corresponding notes on the electrical schematic

9-2
Valve Adjustments - Function Manifold

How to Adjust the System Relief Valves

The function manifold contains two system relief valves, one for each section of the pump.

1 Connect a 0 to 5000 psi / 0 to 350 bar pressure gauge to test port #2 (item FX) and test port #1 (item FAA) on the function manifold.

2 Place wheel chocks in front of all four wheels.

3 Remove the platform controls from the platform and place the controls near the function manifold on the tank side of the machine.

4 Start the engine from platform controls and press the high torque button (BN6).

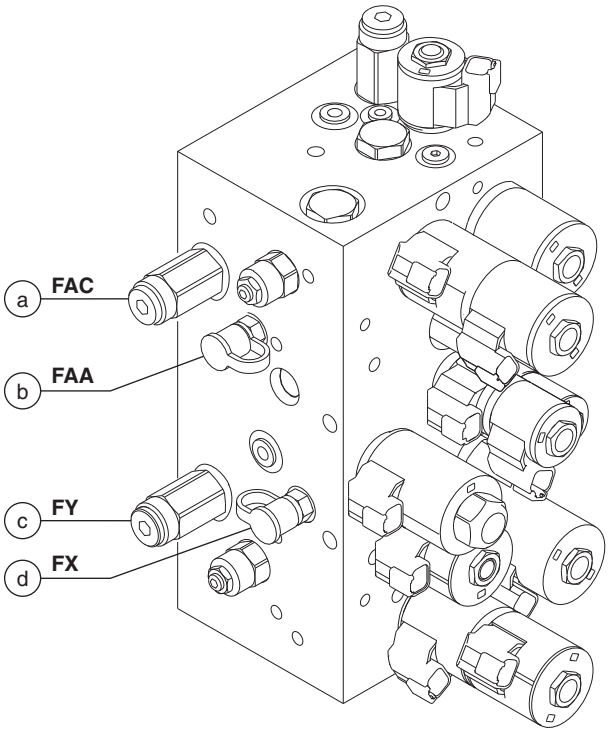
5 Move the joystick full stroke in the forward direction. Note the pressure readings on both pressure gauges. Refer to Section 2, *Specifications*.

6 Turn the engine off. Use a wrench to hold the P2 system relief valve (item FY) or P1 system relief valve (item FAC) and remove the cap .

7 Adjust the internal hex socket. Turn it clockwise to increase the pressure or counterclockwise to decrease the pressure. Install the relief valve cap.

⚠ DANGER Tip-over hazard. Failure to adjust the relief valve as instructed will cause the machine to tip over resulting in death or serious injury. Do not adjust the relief valve higher than specified.

8 Repeat this procedure beginning with step 4 to confirm the relief valve pressures.



a P1 system relief valve
b test port #1
c test port #2
d P2 system relief valve

How to Adjust the Steer Relief Valve

1 Connect a 0 to 5000 psi / 0 to 350 bar pressure gauge to test port #1 (item FAA) on the function manifold.

2 Turn the key switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

3 Start the engine from the platform controls.

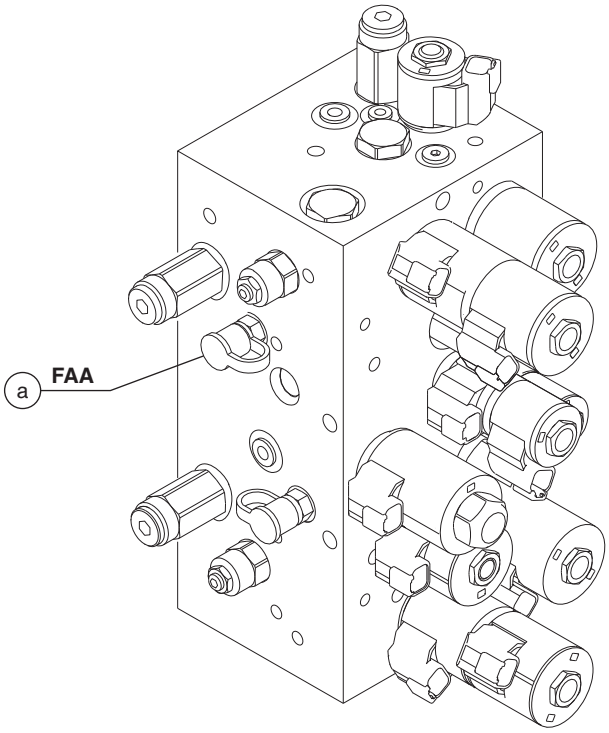
4 Press and hold the function enable toggle switch and hold the steer thumb rocker switch in the right direction. Allow the wheels to completely turn to the right, then continue holding the switch while observing the pressure reading on the pressure gauge. Note the pressure. Refer to Section 2, *Specifications*.

5 Turn the engine off. Use a wrench to hold the steer relief valve and remove the cap (item FV).

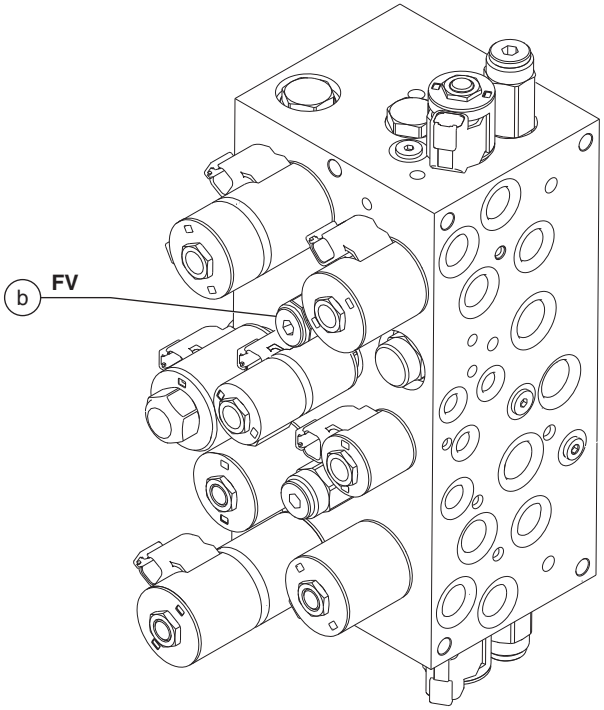
6 Adjust the internal hex socket. Turn it clockwise to increase the pressure or counterclockwise to decrease the pressure. Install the relief valve cap.

NOTICE Component damage hazard. Do not adjust the relief valve higher than specified.

7 Repeat this procedure beginning with step 3 to confirm the relief valve pressure.



a test port #1
b steer relief valve



How to Adjust the Lift Relief Valve

Note: Be sure that the hydraulic oil level is within the top 2 inches / 5 cm of the sight gauge.

1 Connect a 0 to 5000 psi / 0 to 350 bar pressure gauge to test port #2 (item FX) on the function manifold.

2 Place the maximum rated load in the platform. Secure the load to the platform. Refer to Section 2, *Specifications*.

3 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at both the ground and platform controls.

4 Start the engine from the ground controls.

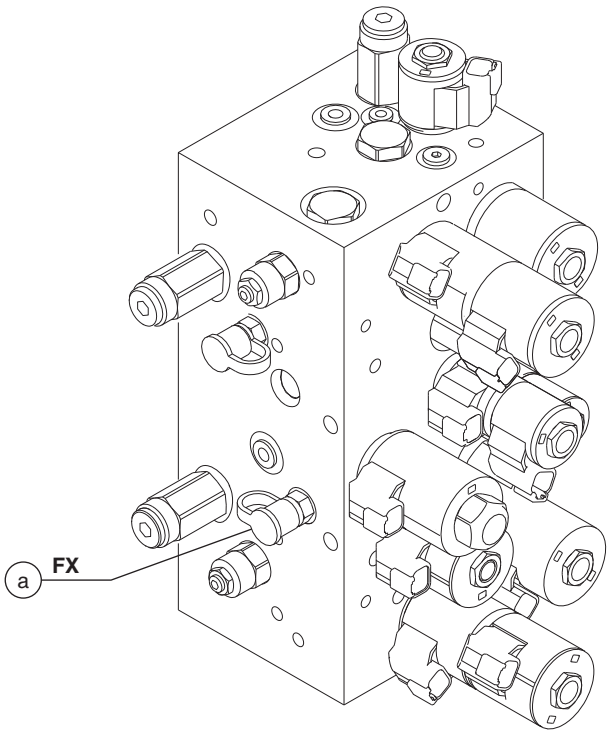
5 Press and hold the lift function enable button and move the platform up/down toggle switch in the up direction. Allow the platform to raise completely, then continue activating the lift function while observing the pressure reading on the pressure gauge. Note the pressure. Refer to Section 2, *Specifications*.

6 Turn the engine off. Hold the lift relief valve with a wrench and remove the cap (item FS).

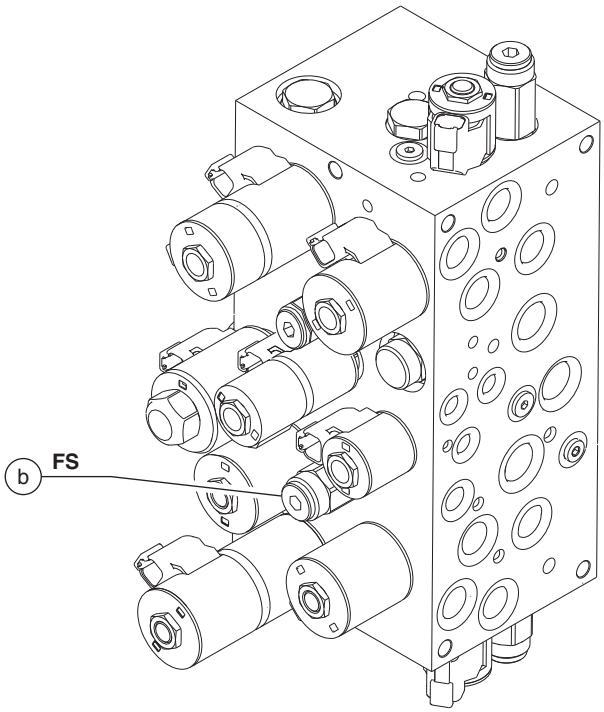
7 Adjust the internal hex socket. Turn it clockwise to increase the pressure or counterclockwise to decrease the pressure. Install the relief valve cap.

⚠ DANGER Tip-over hazard. Failure to adjust the relief valve as instructed will cause the machine to tip over resulting in death or serious injury. Do not adjust the relief valve higher than specified.

8 Repeat this procedure beginning with step 4 to confirm the relief valve pressure.



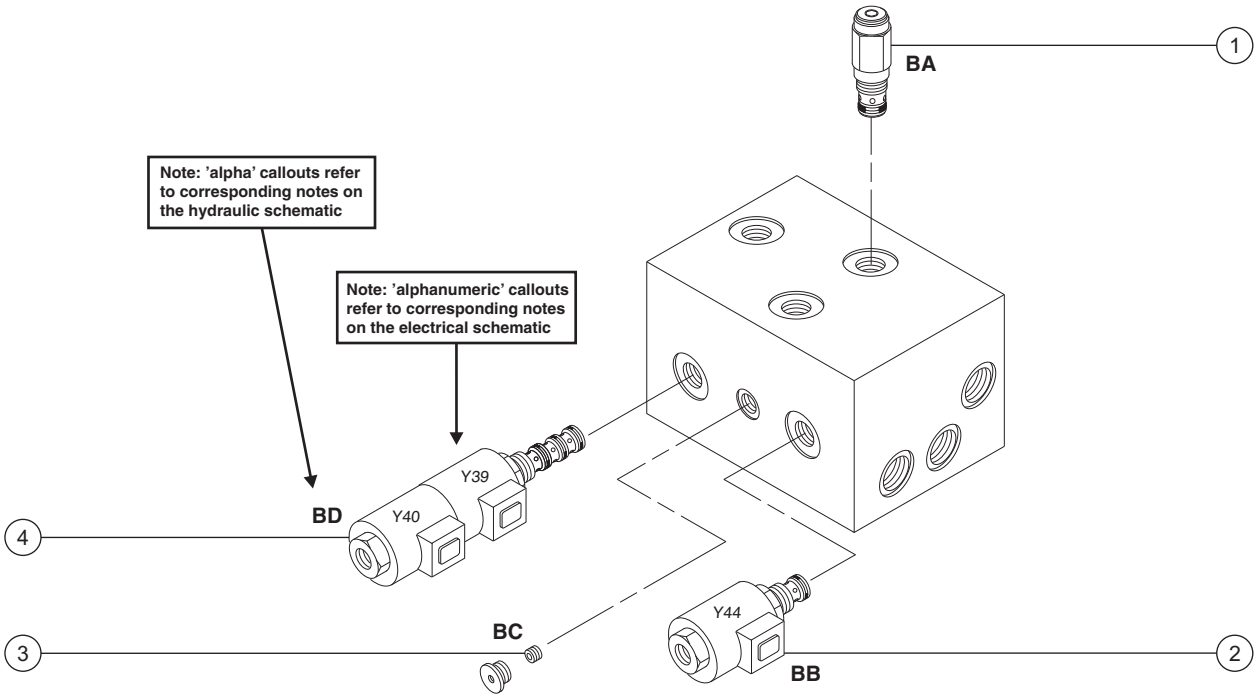
a test port #2
b lift relief valve



9-3
Outrigger Manifold Components

The outrigger manifold is located beneath the hose cover panel on top of the drive chassis

Index No.	Description	Schematic Item	Function	Torque
1	Relief valve, 2000 psi / 137.8 bar	BA	Outrigger circuit	20 ft-lbs / 27.1 Nm
2	Solenoid valve, 2 position 2 way	BB	Outrigger slow extend	25 ft-lbs / 34 Nm
3	Orifice - plug, 0.063 inch / 1.6 mm	BC	Outrigger retract	
4	Solenoid valve, 3 position 4 way	BD	Outrigger extend/retract	25 ft-lbs / 34 Nm



9-4
Valve Adjustments - Outrigger Manifold

How to Adjust the Outrigger Relief Valve

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Disconnect the platform controls from the quick disconnect plug at the bottom of the platform. Remove the platform controls from the platform.

NOTICE Component damage hazard. The platform controls wiring can be damaged if it is kinked or pinched.

2 Open the hydraulic tank cover at the ground controls side of the machine and disconnect the platform controls harness at the quick disconnect plug above the hydraulic tank.

3 Connect the platform controls to the quick disconnect plug above the hydraulic tank.

4 Turn the key switch to platform control and pull out the red Emergency Stop buttons to the ON position at both the ground and platform controls.

5 Start the engine and raise the platform approximately 10 feet / 3 m.

6 Lift the safety arm, move to the center of the scissor arm and rotate down to a vertical position.

7 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

8 Stop the engine.

9 Disconnect the hydraulic supply hose from the IN port of the outrigger manifold.

Note: The IN port of the outrigger manifold is located next to the outrigger extend/retract valve (item BD) and is labeled as IN.

10 Install a tee into the in port and install the outrigger manifold supply hose into the tee. Connect a 0 to 5000 psi / 0 to 350 bar pressure gauge to the tee of the outrigger manifold. Torque to specification. Refer to Section 2, *Specifications*.

11 Start the engine from the platform controls.

12 Push and hold the auto level button and activate the outrigger extend/retract toggle switch in the down direction and note the pressure reading on the pressure gauge. Refer to Section 2, *Specifications*.

13 Turn the engine off. Use a wrench to hold the outrigger relief valve (item BA) and remove the cap.

14 Adjust the internal hex socket. Turn it clockwise to increase the pressure or counterclockwise to decrease the pressure. Install the relief valve cap.

15 Repeat steps 11 through 12 to confirm the relief valve pressure.

16 Remove the pressure gauge and tee from the manifold and install the outrigger manifold supply line into the outrigger manifold. Torque to specification. Refer to Section 2, *Specifications*.

17 Raise the platform and return the safety arm to the stowed position.

18 Lower the platform the stowed position and turn the machine off.

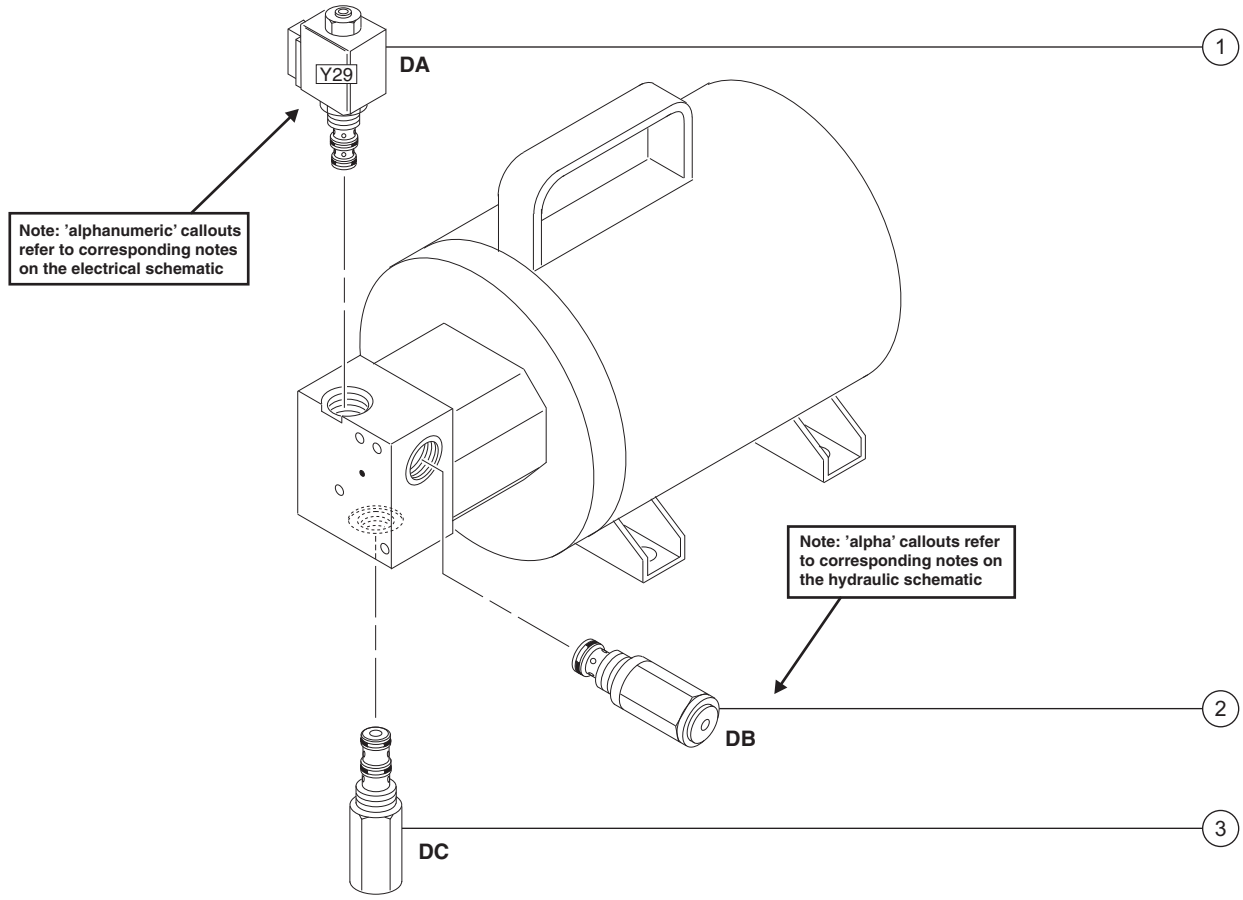
19 Disconnect the platform controls from the quick disconnect plug above the hydraulic tank and connect the platform controls harness to the quick disconnect plug above the hydraulic tank.

20 Install the platform controls into the platform and connect the platform controls to the quick disconnect plug at the bottom of the platform.

9-5
Generator Manifold Components

The generator manifold is located above the function manifold.

Index No.	Description	Schematic Item	Function	Torque
1	Solenoid valve, 2 position 3 way	DA	Generator on/off	25 ft-lbs / 34 Nm
2	Flow regulator, 4.3 gpm / 16.3 L/min	DB	Generator speed	20 ft-lbs / 27.1 Nm
3	Relief valve, 3000 psi / 206.8 bar	DC	Generator circuit	20 ft-lbs / 27.1 Nm



9-6 Valve Adjustments - Generator Manifold

How to Adjust the Generator Voltage

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

1 Disconnect all electrical tools from the machine.

2 Start the engine from the platform controls.

3 Press the generator select switch.

⊙ Result: The generator should activate and the engine should go to high rpm.

4 Connect an electrical tool, which does not draw more than 15A, to the electrical outlet at the platform controls and run the tool at full speed.

5 Connect the positive and negative leads from a multimeter of sufficient capacity to the electrical outlet at the generator.

⊙ Result: The reading on the multimeter should be 112V to 118V AC.

⊠ Result: If the reading on the multimeter is not 112V to 118V AC, proceed to step 6.

6 Turn the key switch to the off position.

7 Use a wrench to hold the generator flow regulator valve (item DB) and remove the cap.

8 Adjust the internal hex socket. Turn it clockwise to increase the AC voltage or counterclockwise to decrease the AC voltage. Install the flow regulator valve cap.

NOTICE Component damage hazard. Failure to adjust the generator as instructed may result in damage to the generator or other electrical equipment. Do not adjust the generator to other than specified.

9 Repeat steps 2 through 5 to confirm the generator AC voltage.

9-7 Valve Coils

How to Test a Coil

A properly functioning coil provides an electromagnetic force which operates the solenoid valve. Critical to normal operation is continuity within the coil. Zero resistance or infinite resistance indicates the coil has failed.

Since coil resistance is sensitive to temperature, resistance values outside specification can produce erratic operation. When coil resistance decreases below specification, amperage increases. As resistance rises above specification, voltage increases.

While valves may operate when coil resistance is outside specification, maintaining coils within specification will help ensure proper valve function over a wide range of operating temperatures.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

Note: If the machine has been in operation, allow the coil to cool at least 3 hours before performing this test.

1 Tag and disconnect the wiring from the coil to be tested.

2 Test the coil resistance using a multimeter set to resistance (Ω). Refer to the Valve Coil Resistance Specification table.

⊠ Result: If the resistance is not within the adjusted specification, plus or minus 10%, replace the coil.

Valve Coil Resistance Specification

Note: The following coil resistance specifications are at an ambient temperature of 68°F / 20°C. As valve coil resistance is sensitive to changes in air temperature, the coil resistance will typically increase or decrease by 4% for each 18°F / 20°C that your air temperature increases or decreases from 68°F / 20°C.

Description	Specification
Solenoid valve, 2 position 2 way 12V DC with diode (schematic item AI)	9Ω
Solenoid valve, 2 position 2 way 12V DC (schematic item BB)	7.5Ω
Solenoid valve, 3 position 4 way 12V DC (schematic item BD)	7.5Ω
Solenoid valve, 2 position 2 way 10V DC (schematic items CA, CB, CC and CD)	8.2Ω
Solenoid valve, 2 position 3 way 12V DC (schematic item DA)	6Ω
Solenoid valve, 2 position 2 way 12V DC with diode (schematic items FB and FK)	8.8Ω
Solenoid valve, 2 position 4 way 12V DC with diode (schematic items FD, FQ and FT)	5Ω
Solenoid valve, 3 position 4 way 12V DC with diode (schematic items FE and FR)	5Ω
Solenoid valve, 3 position 4 way 12V DC with diode (schematic item FF)	8.8Ω
Solenoid valve, 2 position 3 way 12V DC with diode (schematic item FP)	8.8Ω
Proportional valve, 12V DC (schematic item FU)	5Ω

How to Test a Coil Diode

Genie incorporates spike suppressing diodes in many valve coils. Properly functioning coil diodes protect the electrical circuit by suppressing voltage spikes. Voltage spikes naturally occur within a function circuit following the interruption of electrical current to a coil. Faulty diodes can fail to protect the electrical system, resulting in a tripped circuit breaker or component damage.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

1 Test the coil for resistance. See 9-3, *How to Test a Coil.*

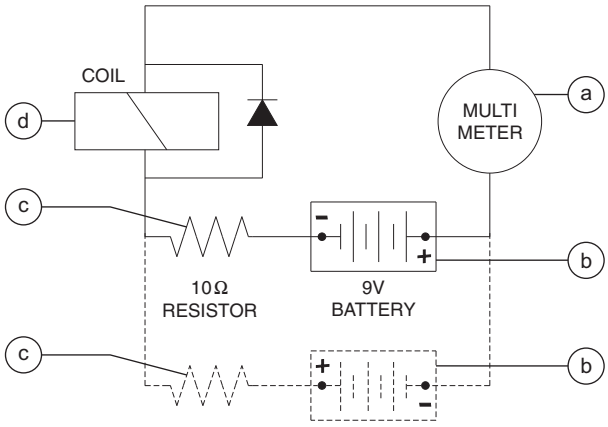
2 Connect a 10Ω resistor to the negative terminal of a known good 9V DC battery. Connect the other end of the resistor to a terminal on the coil.

Note: The battery should read 9V DC or more when measured across the terminals.

Resistor, 10Ω
Genie part number 27287

3 Set a multimeter to read DC current.

Note: The multimeter, when set to read DC current, should be capable of reading up to 800 mA.



a multimeter
b 9V DC battery
c 10Ω resistor
d coil

Note: Dotted lines in illustration indicate a reversed connection as specified in step 6

4 Connect the negative lead to the other terminal on the coil.

Note: If testing a single-terminal coil, connect the negative lead to the internal metallic ring at either end of the coil.

5 Momentarily connect the positive lead from the multimeter to the positive terminal on the 9V DC battery. Note the current reading.

6 At the battery or coil terminals, reverse the connections. Note the current reading.

⊙ Result: Both current readings are greater than 0 mA and are different by a minimum of 20%. The coil is good.

⊙ Result: If one or both of the current readings are 0 mA, or if the two current readings do not differ by a minimum of 20%, the coil and/or its internal diode are faulty and the coil should be replaced.

Fuel and Hydraulic Tanks

REV A

10-1
Fuel Tank

How to Remove the Fuel Tank

⚠DANGER Explosion and fire hazard. Engine fuels are combustible. Remove the fuel tank in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach.

⚠DANGER Explosion and fire hazard. When transferring fuel, connect a grounding wire between the machine and pump or container.

⚠DANGER Explosion and fire hazard. Never drain or store fuel in an open container due to the possibility of fire.

1 Remove the fuel filler cap from the tank.

2 Using an approved hand-operated pump, drain the fuel tank into a suitable container. See capacity specifications.

Note: Be sure to only use a hand operated pump suitable for use with gasoline and/or diesel fuel.

3 **Models with fuel shutoff valves:** Close the fuel tank shutoff valves.

4 Tag, disconnect and plug the fuel supply and return hoses from the fuel tank.

5 Clean up any fuel that may have spilled.

6 Remove the fuel tank mounting fasteners.

7 Remove the fuel tank from the machine.

NOTICE Component damage hazard. The fuel tank is plastic and may become damaged if allowed to fall.

NOTICE Component damage hazard. During installation, do not overtighten the fuel tank mounting fasteners. Torque the fuel tank mounting fasteners to 54 in-lbs / 6.1 Nm.

Note: Clean the fuel tank and inspect for cracks or other damage before installing.

10-2 Hydraulic Tank

The primary functions of the hydraulic tank are to cool, clean and deaerate the hydraulic fluid during operation. It utilizes internal suction strainers for the pump supply lines and has an external return line filter.

How to Remove the Hydraulic Tank

NOTICE Component damage hazard. The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system and cause severe component damage. Dealer service is recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Raise the platform approximately 10 feet / 3 m.

2 Lift the safety arm, move it to the center of the scissor arm and rotate down to a vertical position.

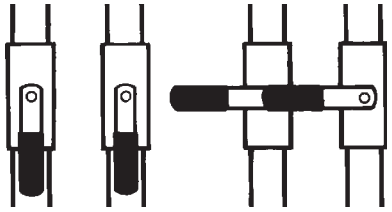
3 Lower the platform onto the safety arm.

⚠WARNING Crushing hazard. Keep hands clear of the safety arm when lowering the platform.

4 Remove the hose cover plate mounting fasteners. Remove the cover.

5 Close the two hydraulic shutoff valves located at the hydraulic tank.

NOTICE Component damage hazard. The engine must not be started with the hydraulic tank shutoff valves in the closed position or component damage will occur. If the tank valves are closed, remove the key from the key switch and tag the machine to inform personnel of the condition.



open closed

6 Open the hydraulic tank side cover.

7 Remove the drain plug from the hydraulic tank and completely drain the tank into a container of suitable capacity. Refer to Section 2, *Specifications*.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

8 Tag and disconnect the two suction hoses from the hydraulic tank.

9 Disconnect and plug the hydraulic hose at the return filter. Cap the fitting on the filter.

10 Remove the tank strap retaining fasteners. Remove the tank strap.

11 Remove the hydraulic tank from the machine.

Steer Axle Components

REV A

11-1
Yoke and Drive Motor

How to Remove the Yoke and Drive Motor

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Block the non-steer wheels and center a lifting jack under the drive chassis at the steer end of the machine.

2 Loosen the wheel lug bolts. Do not remove them.

3 Raise the machine approximately 6 inches / 5 cm. Place blocks under the chassis for support.

⚠WARNING Crushing hazard. The chassis will fall if not properly supported.

4 Remove the wheel lug bolts. Remove the tire and wheel assembly.

5 Tag, disconnect and plug the hoses from the drive motor. Cap the fittings on the drive motor.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Support and secure the yoke and drive motor assembly to a lifting jack.

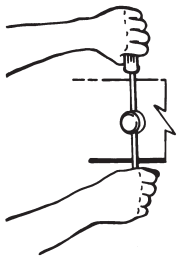
7 Remove the cotter pin from the tie rod clevis pin.

Note: Always use a new cotter pin when installing a clevis pin.

8 Remove the retaining fastener from the lower yoke pivot pin.

9 Place a rod through the pin and twist to remove the pin.

10 Repeat steps 7 through 9 for the upper yoke pivot pin.



11 Remove the yoke and drive motor assembly from the machine.

⚠CAUTION Crushing hazard. The yoke and drive motor assembly may become unbalanced and fall if not properly supported and secured to the lifting jack when it is removed from the machine.

How to Remove a Drive Motor

NOTICE Component damage hazard. Repairs to the motor should only be performed by an authorized dealer.

NOTICE Component damage hazard. The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system and cause severe component damage. Dealer service is recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section Two, *Hydraulic Hose and Fitting Torque Specifications*.

1 Loosen the wheel lug bolts. Do not remove them.

2 Block the non-steer end wheels and center a lifting jack under the steer end of the machine.

3 Raise the machine approximately 2 inches / 5 cm. Place blocks under the chassis for support.

⚠WARNING Crushing hazard. The chassis will fall if not properly supported.

4 Remove the wheel lug bolts. Remove the tire and wheel assembly.

5 Tag, disconnect and plug the hoses from the drive motor. Cap the fittings on the drive motor.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Remove the drive motor mounting fasteners. Remove the drive motor from the machine.

11-2 Steer Cylinder

How to Remove the Steer Cylinder

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*.

1 Tag, disconnect and plug the hydraulic hoses from the steer cylinder. Cap the fittings on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

2 Remove the pin retaining fasteners from the barrel-end pivot pin. Use a soft metal drift to remove the pivot pin.

3 Remove the pin retaining fasteners from the rod-end pivot pin. Use a soft metal drift to remove the pin.

4 Remove the steer cylinder from the machine.

11-3 Tie Rod

How to Remove the Tie Rod

1 Remove the cotter pin from each tie rod clevis pin. Remove the clevis pins.

Note: Always use a new cotter pin when installing a clevis pin.

2 Remove the tie rod.

Non-steer Axle Components

REV A

12-1
Drive Motor and Brake

How to Remove a Drive Motor and Brake

NOTICE Component damage hazard. Repairs to the motor should only be performed by an authorized dealer.

NOTICE Component damage hazard. The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system and cause severe component damage. Dealer service is recommended.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*

1 Block the steer wheels and center a lifting jack under the drive chassis at the non-steer end of the machine.

2 Loosen the wheel lug bolts. Do not remove them.

3 Raise the machine approximately 2 inches / 5 cm and place blocks under the drive chassis for support.

4 Remove the wheel lug bolts. Remove the tire and wheel assembly.

5 Tag, disconnect and plug the hydraulic hoses from the drive motor and brake. Cap the fittings on the drive motor and brake.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Support and secure the drive motor and brake assembly to a lifting jack.

7 Remove the drive motor and brake mounting fasteners.

8 Remove the drive motor and brake assembly from the machine.

⚠CAUTION Crushing hazard. The drive motor and brake assembly may become unbalanced and fall if not properly supported and secured to the lifting jack when removed from the machine.

Outrigger Components

REV A

13-1
Outrigger Cylinder

How to Remove an Outrigger Cylinder (if equipped)

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose must be replaced and then torqued to specification during installation. Refer to Section 2, *Hydraulic Hose and Fitting Torque Specifications*

1 Lower the outrigger cylinder to be removed until the foot pad is resting on the ground. Do not apply any downward pressure.

2 Remove the outrigger limit switch. Do not disconnect the wiring.

3 Remove the mounting fasteners from the outrigger cover. Remove the cover.

4 Tag and disconnect the wiring from the outrigger cylinder solenoid valve.

5 Tag, disconnect and plug the hydraulic hoses from the outrigger cylinder. Cap the fittings on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

6 Attach a lifting strap from an overhead crane to the barrel end of the outrigger cylinder for support. Do not apply any lifting pressure.

7 Remove the outrigger mounting fasteners. Slide the outrigger cylinder away from the machine.

⚠CAUTION Crushing hazard. The outrigger cylinder may become unbalanced and fall if not properly supported when removed from the machine.

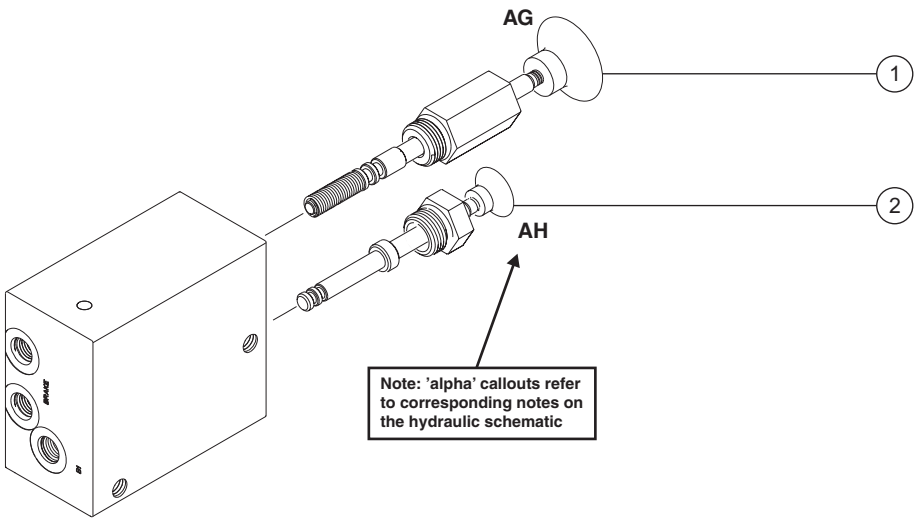
Note: If the outrigger cylinder is being replaced, remove the shoulder pin from the barrel end of the outrigger cylinder and install it onto the new cylinder.

REV A Brake Release Hand Pump Components

14-1
Brake Release Hand Pump Components

The brake release hand pump manifold is mounted at the non-steer end of the chassis on the ground controls side of the machine.

Index No.	Description	Schematic Item	Function	Torque
1	Hand pump	AG	Manual brake release	30 ft-lbs / 41 Nm
2	Needle valve	AH	Manual brake release enable	45-50 in-lbs / 5 Nm



Platform Overload Components

REV A

15-1
Platform Overload System

How to Calibrate the Platform Overload System (if equipped)

On machines with platform overload systems, proper calibration is essential to safe machine operation. An improperly calibrated platform overload system could result in the system failing to sense an overloaded platform. The stability of the machine is compromised and it could tip over.

1 **Models with outriggers:** Deploy the outriggers and level the machine.

2 Apply a thin layer of dry film lubricant to the area of the chassis where the scissor arm wear pads make contact.

3 Disconnect the platform controls from the machine at the platform.

4 Open the side cover at the ground controls side of the machine and locate the Electronic Control Module (ECM) wire harness to platform controls wire harness connection above the hydraulic tank.

5 Tag and disconnect the platform controls wire harness from the ECM wire harness.

6 Securely connect the platform controls to the ECM wire harness.

7 Using a suitable lifting device, place a test weight, corresponding to the maximum load as indicated on the capacity indicator decal, in the center of the platform floor. Secure the weight to the platform. Refer to the chart below.

GS-2668	975 kg
GS-3268	919 kg

8 Turn the key switch to platform control and pull out the red Emergency Stop button to the on position at both the ground and platform controls. Start the engine.

9 Raise the platform to approximately 4 m.

10 Rotate the safety arm away from the machine and let it hang down.

11 Loosen the retaining ring and remove the switch adjustment cover from the pressure switch.

Note: The pressure switch is located on the lower lift cylinder.

12 Using a small slotted screwdriver, turn the adjustment screw of the platform overload pressure switch one-quarter turn into the hydraulic line.

13 Push in the red Emergency Stop button to the off position at the ground controls.

14 Pull out the red Emergency Stop button to the on position at the ground controls. Wait 3 seconds and start the engine.

⊙ Result: The alarm doesn't sound and the engine will start and run. Proceed to step 15.

⊠ Result: The engine will not start and an alarm is sounding. Repeat this procedure beginning with step 12.

Note: The red Emergency Stop button must be cycled after each quarter turn of the nut to allow the platform overload system to reset.

Note: Wait a minimum of 3 seconds between each quarter turn of the nut to allow the platform overload system to reset.

15 Raise the platform until the position indicator corresponds to the maximum load position of the capacity indicator decal.

⚠ DANGER Tip-over hazard. Raising the platform with maximum load above the maximum load position, as shown on the capacity indicator decal on the side of the platform, could result in the machine tipping over, resulting in death or serious injury. Do not raise the platform above the maximum load position of the capacity indicator decal.

Note: To perform this step, the lift relief valve will need to be adjusted.

Note: Before raising the platform, applying a piece of tape onto the underside of the platform, at a point which corresponds to the maximum load position of the capacity indicator decal, may help complete this part of the procedure.

⊙ Result: The engine continues to run. Proceed to step 16.

⊠ Result: The engine has stopped and an alarm is sounding. Proceed to step 17.

PLATFORM OVERLOAD COMPONENTS REV A

Set the pressure switch:

16 Using a wrench, turn the nut of the platform overload pressure switch out of the hydraulic line until the overload alarm sounds and the engine stops running.

Note: Turning the nut out of the hydraulic line will activate the alarm; turning the nut into the hydraulic line will deactivate the alarm.

17 Slowly turn the nut of the platform overload pressure switch one-quarter turn into the hydraulic line.

18 Push in the red Emergency Stop button to the off position at the ground controls.

19 Pull out the red Emergency Stop button to the on position at the ground controls. Wait 3 seconds and start the engine.

⊙ Result: The alarm doesn't sound and the engine will start and run. Proceed to step 20.

⊠ Result: The engine will not start and an alarm is sounding. Repeat this procedure beginning with step 17.

Note: The red Emergency Stop button must be cycled after each quarter turn of the nut to allow the platform overload system to reset.

Note: Wait a minimum of 3 seconds between each quarter turn of the nut to allow the platform overload system to reset.

20 Return the safety arm to the stowed position. Lower the platform to the stowed position.

Note: After returning the safety arm to the stowed position, use the auxiliary down function to lower the platform.

Set the maximum height limit switch:

21 Using a suitable lifting device, place a test weight in the center of the platform floor. Secure the weight to the platform. Refer to the chart below.

GS-2668 RT	567 kg
GS-3268 RT	454 kg

22 Raise the platform to approximately 4 m.

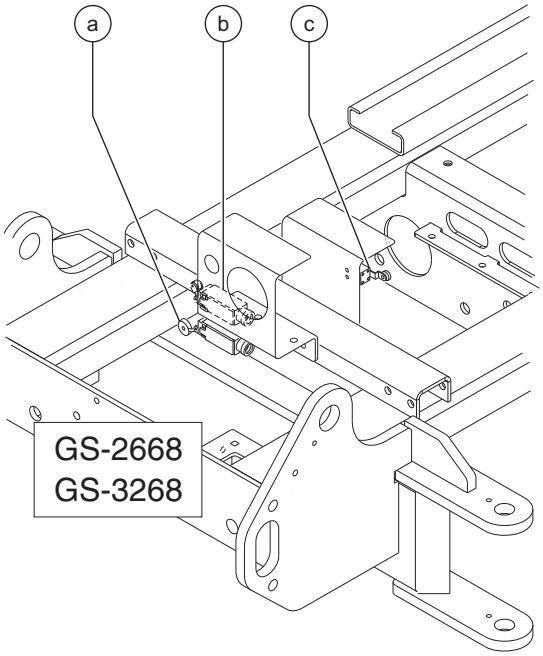
23 Rotate the safety arm away from the machine and let it hang down.

24 Remove the maximum height limit switch fasteners. Remove the maximum height limit switch and set it to the side so that the limit switch will not be activated.

25 Raise the platform until it is approximately 65 cm less than full height.

26 Raise the platform in 5 cm increments until the overload alarm sounds and the engine stops running. Proceed to step 27.

⊠ Result: The alarm does not sound and the engine continues to run when the platform reaches full height. Repeat this procedure beginning with step 7.



Limit switch legend

a maximum height limit switch
b down limit switch
c load sense delay limit switch

27 Install and adjust the maximum height limit switch until it activates just before the point reached in step 26. Securely tighten the fasteners. Do not over tighten.

28 Use the auxiliary down function to lower the platform approximately 15 cm.

29 Start the engine and fully raise the platform.

⊙ Result: The engine continues to run. Proceed to step 30.

⊠ Result: An alarm sounds and the engine stops running. Repeat this procedure beginning with step 24.

30 Lower the platform to approximately 4 m.

31 Return the safety arm to the stowed position.

Disable the descent delay function:

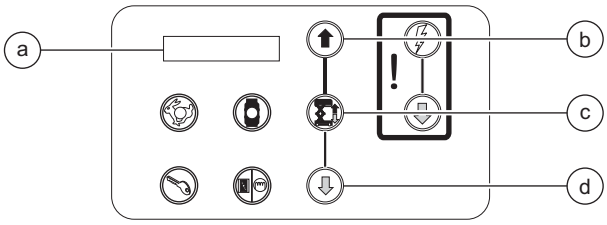
32 Push in the red Emergency Stop button to the off position at the ground controls.

33 Turn the key switch to ground control.

PLATFORM OVERLOAD COMPONENTS REV A

34 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window.



a diagnostic display
b blue platform up button
c lift function enable button
d yellow platform down button

35 Use the yellow platform down arrow to scroll to SELECT OPTIONS.

⊙ Result: SELECT OPTIONS is showing in the diagnostic display window. The ECM is now in programming mode.

36 Press the lift function enable button.

⊙ Result: DESCENT DELAY ON is showing in the diagnostic display window.

37 Press the lift function enable button to deactivate the descent delay option.

⊙ Result: DESCENT DELAY OFF is showing in the diagnostic display window.

38 Push in the red Emergency Stop button to the off position at the ground controls.

39 Pull out the red Emergency Stop button to the on position at the ground controls.

Note: For more information on programming, refer to Section 4, *Repair*.

Calibrate the load sense delay limit switch:

40 Turn the key switch to platform control. Start the engine.

41 Lower the platform until the load sense delay limit switch activates and the platform stops lowering. Release the joystick.

⊙ Result: The alarm does not sound and the engine continues to run. Proceed to step 49.

⊗ Result: The alarm sounds and the engines stops running. The load sense delay limit switch needs to be calibrated. Proceed to step 42.

42 Raise the platform to approximately 4 m.

43 Rotate the safety arm away from the machine and let it hang down.

44 Loosen the fasteners securing the load sense delay limit switch just enough to allow movement of the limit switch.

45 Move the roller head of the load sense delay limit switch 1 mm upwards. Tighten the fasteners. Do not over tighten.

46 Return the safety arm to the stowed position.

47 Raise the platform approximately 1 m.

48 Repeat this procedure beginning with step 41.

Enable the descent delay function:

49 Push in the red Emergency Stop button to the off position at the ground controls.

50 Turn the key switch to ground control.

51 Press and hold both the blue platform up and yellow platform down buttons. Pull out the red Emergency Stop button to the on position at the ground controls.

⊙ Result: TUNE SPEEDS is showing in the diagnostic display window.

52 Use the yellow platform down arrow to scroll to select options.

⊙ Result: SELECT OPTIONS is showing in the diagnostic display window. The ECM is now in programming mode.

53 Press the lift function enable button.

⊙ Result: DESCENT DELAY OFF is showing in the diagnostic display window.

54 Press the lift function enable button to activate the descent delay option.

⊙ Result: DESCENT DELAY ON is showing in the diagnostic display window.

55 Push in the red Emergency Stop button to the off position at the ground controls.

56 Pull out the red Emergency Stop button to the on position at the ground controls.

Calibrate the down limit switch:

57 Turn the key switch to platform control. Start the engine.

58 Raise the platform approximately 1 m.

59 Lower the platform until the down limit switch activates and the platform stops lowering. Quickly release the controls and then **immediately** attempt to lower the platform to the stowed position.

⊙ Result: The platform stops for 4 to six seconds. Release the joystick and proceed to step 67.

⊠ Result: The platform stops and then will immediately begin to lower again. The down limit switch needs to be calibrated. Proceed to step 60.

60 Raise the platform to approximately 4 m.

61 Rotate the safety arm away from the machine and let it hang down.

62 Loosen the fasteners securing the down limit switch just enough to allow movement of the limit switch.

63 Move the roller head of the down limit switch 1 mm upwards. Tighten the fasteners. Do not over tighten.

64 Raise the platform approximately 1 m.

65 Return the safety arm to the stowed position.

66 Repeat this procedure beginning with step 59.

PLATFORM OVERLOAD COMPONENTS REV A

67 Lower the platform to the stowed position and remove the weight from the platform.

⊙ Result: The platform lowers to the stowed position. Proceed to step 72.

⊠ Result: The platform stops lowering. The down limit switch needs to be calibrated. Proceed to step 68.

68 Raise the platform to approximately 4 m.

69 Rotate the safety arm away from the machine and let it hang down..

70 Loosen the fasteners securing the down limit switch just enough to allow movement of the limit switch.

71 Move the roller head of the down limit switch 1 mm downwards. Tighten the fasteners. Do not over tighten.

72 Raise the platform to approximately 4 m.

73 Rotate the safety arm away from the machine and let it hang down.

74 Install the cover onto the platform overload pressure switch or switch box and securely tighten the cover retaining fasteners. Do not over tighten.

75 Apply Sentry Seal to one of the cover retaining fasteners where it contacts the platform overload pressure switch box.

76 Return the safety arm to the stowed position.

77 Lower the platform to the stowed position.

78 Calibrate the lift relief valve. See 9-2, *How to Adjust the Lift Relief Valve.*

TROUBLESHOOTING THE PLATFORM OVERLOAD SYSTEM

CONDITION	POSSIBLE CAUSE	SOLUTION
CANNOT LIFT RATED LOAD	RELIEF VALVE SET TOO LOW	INCREASE RELIEF VALVE PRESSURE
AT MAXIMUM HEIGHT WITH RATED LOAD IN PLATFORM, THE PRESSURE SWITCH ALARM CONTINUES TO SOUND	SYSTEM NEEDS TO BE RESET	TURN OFF RED EMERGENCY STOP BUTTON, WAIT THREE SECONDS AND TURN BACK ON
	MAXIMUM HEIGHT LIMIT SWITCH OUT OF ADJUSTMENT -OR- FAULTY	LOWER THE UP LIMIT SWITCH SLIGHTLY -OR- REPLACE CONTACTS
	TOO MUCH WEIGHT IN PLATFORM	PUT CORRECT RATED LOAD IN PLATFORM
	PRESSURE SWITCH OUT OF ADJUSTMENT	TURN THE PRESSURE SWITCH NUT 1/4 TURN INTO THE HYDRAULIC LINE
	BATTERIES ARE NOT FULLY CHARGED	CHARGE BATTERIES
	OVERLOAD SYSTEM NOT ADJUSTED PROPERLY	REPEAT CALIBRATION PROCEDURE
	SLIDER CHANNEL NOT LUBRICATED	LUBRICATE SLIDER CHANNELS
AT DOWN LIMIT WITH RATED LOAD IN PLATFORM, THE PRESSURE SWITCH ALARM CONTINUES TO SOUND	SYSTEM NEEDS TO BE RESET	TURN OFF RED EMERGENCY STOP BUTTON, WAIT THREE SECONDS AND TURN BACK ON
	DOWN LIMIT SWITCH OUT OF ADJUSTMENT	RAISE THE DOWN LIMIT SWITCH
	TOO MUCH WEIGHT IN PLATFORM	PUT CORRECT RATED LOAD IN PLATFORM
	OVERLOAD SYSTEM NOT ADJUSTED PROPERLY	TURN THE PRESSURE SWITCH NUT 1/4 TURN INTO THE HYDRAULIC LINE -OR- REPEAT CALIBRATION PROCEDURE

Fault Codes

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Platform in the stowed position
  - Key switch in the off position with the key removed
  - The red Emergency Stop button in the off position at both ground and platform controls
  - Wheels chocked
  - All external AC power supply disconnected from the machine

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

⚠DANGER Crushing hazard. When testing or replacing any hydraulic component, always support the structure and secure it from movement.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

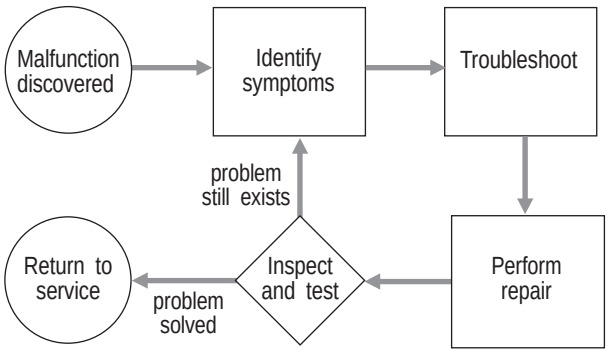
⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

FAULT CODES

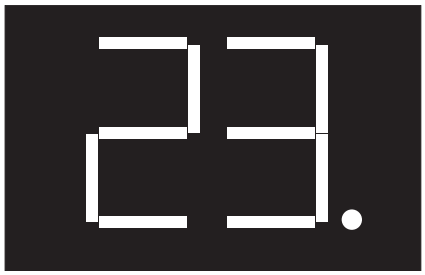
About This Section

When a malfunction is discovered, the fault code charts in this section will help a service professional pinpoint the cause of the problem. To use this section, basic hand tools and certain pieces of test equipment are required—voltmeter, ohmmeter, pressure gauges.

General Repair Process



LED Diagnostic Readout



The diagnostic readout displays numerical codes that provide information about the machine operating status and about malfunctions. The dot to the right of the numbers remain on when a fault code is displayed.

The codes listed in the Fault Code Chart describe malfunctions and can aid in troubleshooting the machine by pinpointing the area or component affected.

REV B

Fault Code Chart
(from serial number GS6805-44771)

Fault Code	LED	Condition	Result	Solution
SYSTEM READY	Green	Normal operation		
01 INTERNAL ECU FAULT	Red	Internal ECM error.	System shutdown.	Replace ECM.
02 PLATFORM ECU FAULT	Red	Platform/ECM communication error.	System shutdown.	Troubleshoot control cable OR troubleshoot platform controls.
20 CHASSIS START SW FAULT	Red	Engine start button fault at ground controls.	Engine will not start.	Replace ECM.
21 CHASSIS CHOKE SW FAULT	Red	Starting aid button fault at ground controls.	Starting aid disabled.	Replace ECM.
22 CHASSIS UP SW FAULT	Red	Up switch fault at ground controls.	Platform up function inoperable.	Replace ECM.
23 CHASSIS LIFT SW FAULT	Red	Platform up/down enable button fault at ground controls.	Platform up/down functions disabled.	Replace ECM.
24 DOWN SW FAULT	Red	Down switch fault at ground controls.	Platform down function disabled.	Replace ECM.
25 LEFT TURN SW FAULT	Red	Left turn switch fault.	Malfunctioning steer left microswitch.	Troubleshoot steer left microswitch.
26 RIGHT TURN SW FAULT	Red	Right turn switch fault.	Malfunctioning steer right microswitch.	Troubleshoot steer right microswitch.
27 DRIVE ENABLE SW FLT	Red	Function enable switch on joystick is activated when machine is turned on.	Machine functions disabled.	Release function enable switch on joystick before power up OR replace joystick.
28 OFF NEUTRAL DRIVE JOYSTICK	Red	Drive joystick off neutral when machine is turned on.	Machine functions disabled.	Release joystick before power up OR replace joystick.
29 PLATFORM LIFT SW FAULT	Red	Lift enable button fault at the platform controls.	Lift function disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
30 OFF NEUTRAL LIFT JOYSTICK	Red	Up/down switch off neutral.	Up/down function disabled.	Replace up/down switch at platform controls.
31 PLATFORM CHOKE SW FAULT	Red	Starting aid fault at the platform controls.	Starting aid disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
32 PLATFORM START SW FAULT	Red	Engine start button fault at platform controls.	Engine will not start.	Troubleshoot button OR replace printed circuit board at platform controls.
33 LEFT FRONT OUTRIG SW FLT	Red	Left front outrigger enable button fault at platform controls.	Outriggers disabled.	Troubleshoot button OR replace printed circuit board at platform controls.

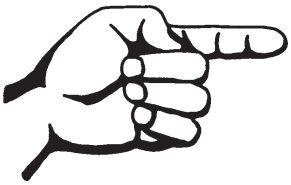
FAULT CODE CHART REV B
(FROM SERIAL NUMBER GS6805-44771)

Fault Code	LED	Condition	Result	Solution
34 **RIGHT FRONT OUTRIG SW FLT**	Red	Right front outrigger enable button fault at platform controls.	Outriggers disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
35 **LEFT REAR OUTRIG SW FLT**	Red	Left rear outrigger enable button fault at platform controls.	Outriggers disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
36 **RIGHT REAR OUTRIG SW FLT**	Red	Right rear outrigger enable button fault at platform controls.	Outriggers disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
37 **AUTO LEVEL SWITCH FAULT**	Red	Outrigger autolevel enable button fault at platform controls.	Outriggers disabled.	Troubleshoot button OR replace printed circuit board at platform controls.
49 **DRIVE COIL 1 FAULT**	Red	Drive coil 1 (Y1) fault.	High speed drive function will not operate.	Troubleshoot coil OR wiring.
50 **DRIVE COIL 2 FAULT**	Red	Drive coil 2 (Y1A) fault.	High speed drive function will not operate.	Troubleshoot coil OR wiring.
51 **DRIVE COIL 3 FAULT**	Red	Drive coil 3 (Y1B) fault.	High speed drive function will not operate.	Troubleshoot coil OR wiring.
52 **FUNC PROP COIL FAULT**	Red	Proportional coil (Y9) fault.	Lift and outrigger functions are disabled.	Troubleshoot coil OR wiring.
54 **UP COIL FAULT**	Red	Up coil (Y8) fault.	Platform will not raise.	Troubleshoot coil OR wiring.
55 **DOWN COIL FAULT**	Red	Down coil (Y7) fault.	Platform will not lower.	Troubleshoot coil OR wiring.
56 **RIGHT TURN COIL FAULT**	Red	Right turn coil (Y3) fault.	Machine will not turn right.	Troubleshoot coil OR wiring.
57 **LEFT TURN COIL FAULT**	Red	Left turn coil (Y4) fault.	Machine will not turn left.	Troubleshoot coil OR wiring.
58 **BRAKE COIL FAULT**	Red	Brake release coil (Y2) fault.	Brakes will not release.	Troubleshoot coil OR wiring.
60 **FORWARD 1 COIL FAULT**	Red	Forward 1 coil (Y6) fault.	Drives slow or not at all when elevated.	Troubleshoot coil OR wiring.
61 **REVERSE 1 COIL FAULT**	Red	Reverse 1 coil (Y5) fault.	Drives slow or not at all when elevated.	Troubleshoot coil OR wiring.
62 **FORWARD 2 COIL FAULT**	Red	Forward 2 coil (Y6A) fault.	Drives slow or not at all when elevated.	Troubleshoot coil OR wiring.
63 **REVERSE 2 COIL FAULT**	Red	Reverse 2 coil (Y5A) fault.	Drives slow or not at all when elevated.	Troubleshoot coil OR wiring.

REV B

FAULT CODE CHART
(FROM SERIAL NUMBER GS6805-44771)

Fault Code	LED	Condition	Result	Solution
66 **LOW OIL PRESSURE**	Red	Low oil pressure.	Engine stops.	Check the engine oil level OR check wiring from the oil pressure switch to ECM OR replace the oil pressure switch.
67 **HIGH COOLANT TEMPERATURE**	Red	High coolant temperature.	High engine temperature OR defective engine coolant or oil temperature switch.	**Gasoline/LPG models:** Check the engine radiator coolant level OR check the wiring from the water temperature switch to ECM OR replace the water temperature switch. **Diesel models:** Check the engine oil level OR check the wiring from the oil temperature switch to ECM OR replace the oil temperature switch.
68 **LOW ECU VOLTAGE**	Red	Low ECM voltage.	System shutdown.	Charge battery.
69 **LOW ENGINE RPM**	Red	Low RPM.	Engine idle RPM too low.	Consult Genie Industries Service Department.
70 **HIGH ENGINE RPM**	Red	High RPM.	Engine RPM too high.	Consult Genie Industries Service Department.
80 **LEFT FRONT OTRG COIL FLT**	Red	Left front outrigger coil (Y35) fault.	Left front outrigger disabled.	Troubleshoot coil OR wiring.
81 **LEFT REAR OTRG COIL FLT**	Red	Left rear outrigger coil (Y33) fault.	Left rear outrigger disabled.	Troubleshoot coil OR wiring.
82 **RIGHT FRONT OTRG COIL FLT**	Red	Right front outrigger coil (Y36) fault.	Right front outrigger disabled.	Troubleshoot coil OR wiring.
83 **RIGHT REAR OTRG COIL FLT**	Red	Right rear outrigger coil (Y34) fault.	Right rear outrigger disabled.	Troubleshoot coil OR wiring.
84 **OUTRIGGER EXT COIL FLT**	Red	Outrigger extend coil (Y40) fault.	Outrigger extend function disabled.	Troubleshoot coil OR wiring.
85 **OUTRIGGER RET COIL FLT**	Red	Outrigger retract coil (Y39) fault.	Outrigger retract function disabled.	Troubleshoot coil OR wiring.
86 **OUTRIGGER SLOW COIL FLT**	Red	Outrigger slowdown coil (Y44) fault.	Outrigger slow extend function disabled.	Troubleshoot coil OR wiring.
90 **2 SPEED COIL FAULT**	Red	2 speed coil (Y1) fault	High torque drive function disabled.	Troubleshoot coil OR wiring.
92 **DRIVE FWD PROP COIL FAULT**	Red	Drive pump forward proportional coil (Y51) fault	Drive forward function disabled.	Troubleshoot coil OR wiring.
93 **DRIVE REV PROP COIL FAULT**	Red	Drive pump reverse proportional coil (Y51) fault	Drive reverse function disabled.	Troubleshoot coil OR wiring.
94 **MACHINE TYPE FAULT**	Red	Wrong machine type selected	Machine will not operate.	Correct selection.



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Schematics

Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

About This Section

There are two groups of schematics in this section. An illustration legend precedes each group of drawings.

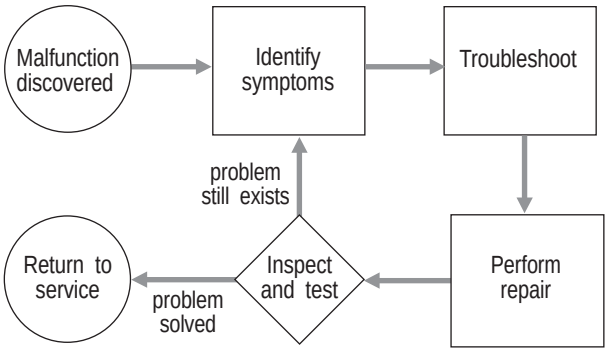
Electrical Schematics

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

Hydraulic Schematics

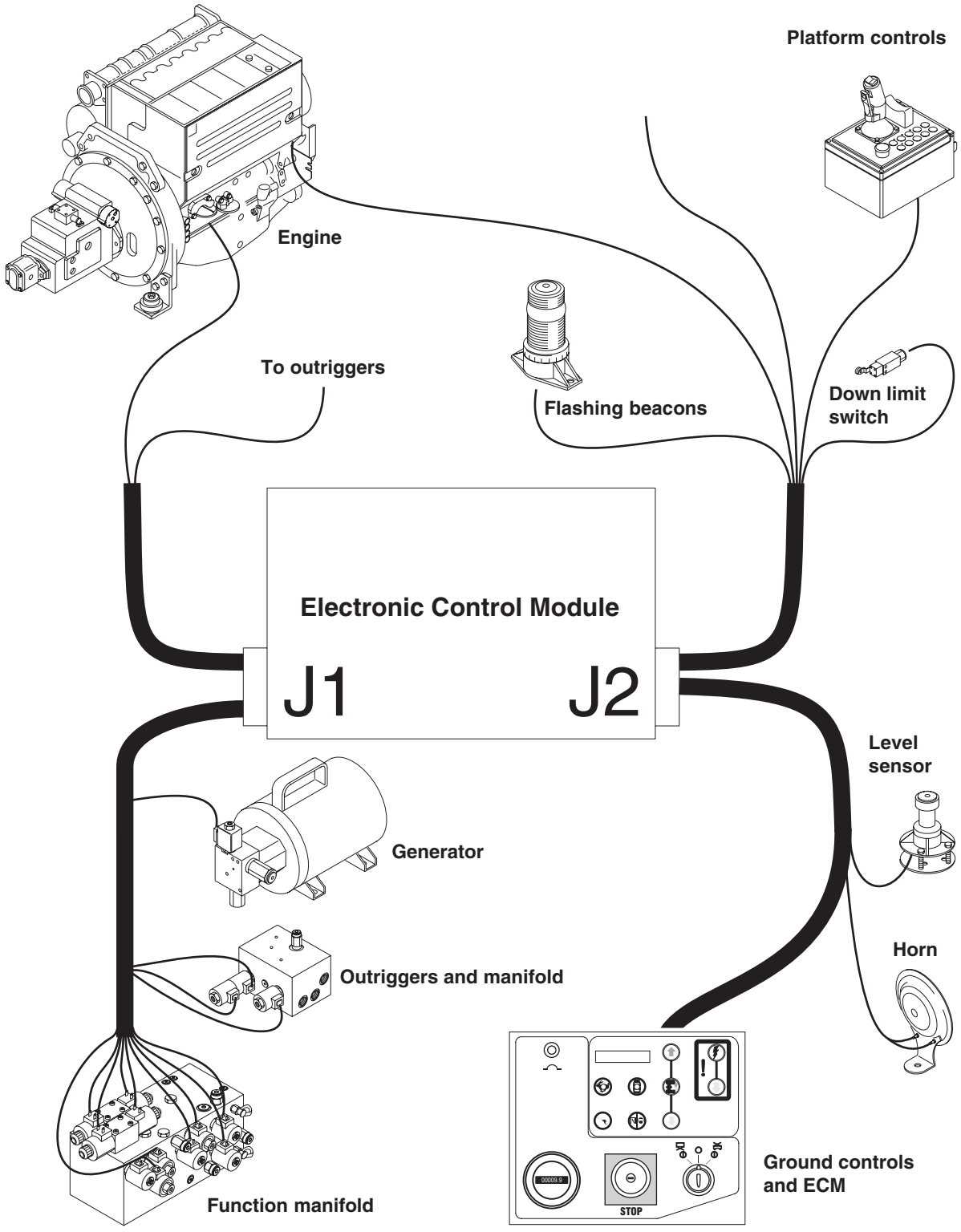
⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

General Repair Process



Electronic Control Module Layout

(from serial number GS6805-44771) REV A

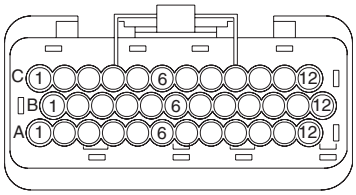


Electronic Control Module Pin-Out Legend

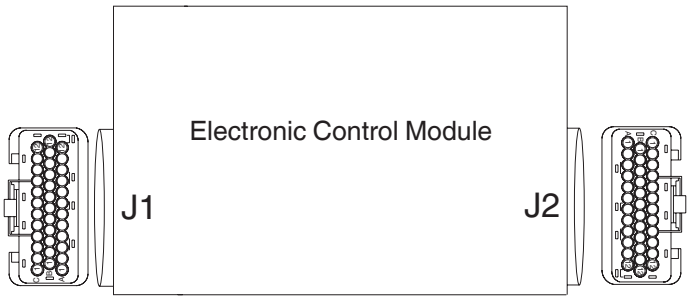
REV A (from serial number GS6805-44771)

J1 Connector (36 pin)	
A1	Right turn - Y3 (output)
A2	Left turn - Y4 (output)
A3	Platform up - Y8 (output)
A4	Brake - Y2 (output)
A5	Drive forward 1 - Y6 (output) (GS-68)
A6	Drive reverse 1 - Y5 (output) (GS-68)
A7	Drive forward 2 - Y6A (output) (GS-68)
A8	Drive reverse 2 - Y5A (output) (GS-68)
A9	Platform down - Y7 (output)
A10	Drive coil - Y1 (output)
A11	Drive coil - Y1A (output)
A12	Drive coil - Y1B (output)
B1	Generator - Y29 (output)
B2	Drive reverse - Y51 (output) (GS-84/90)
B3	Proportional flow control - Y9 (output) (GS-68)
B3	Drive forward - Y51 (output) (GS-84/90)
B4	Proportional flow control - Y9 (output) (GS-84/90)
B5	Right front outrigger - Y36 (output)
B6	Outrigger extend - Y40 (output)
B7	Outrigger retract - Y39 (output)
B8	Outrigger extend slow - Y44 (output) (GS-68)
B9	Left front outrigger - Y35 (output)
B10	Left rear outrigger - Y33 (output)
B11	Right rear outrigger - Y34 (output)
B12	LPG select/diesel shutoff (output)
C1	Plug
C2	Platform overload (input)
C3	Right front outrigger limit switch LS13 (input)
C4	Right rear outrigger limit switch LS12 (input)
C5	Left front outrigger limit switch LS12 (input)
C6	Left rear outrigger limit switch LS14 (input)
C7	Alternator (input)
C8	Engine oil pressure SW2 (input)
C9	Engine water temp SW1 OR oil temp SW3 (input)
C10	Plug
C11	Fuel coil (output)
C12	Plug

J2 Connector (36 pin)	
A1	Up limit switch LS5 (input)
A2	Down limit switchLS6 (input)
A3	Aux down power (input)
A4	Aux down relay CR23-86 (output)
A5	Key switch KS1-3 (input)
A6	Level sensor S7 (white) (input)
A7	Plug
A8	Plug
A9	Plug
A10	Platform controls (ground) (input)
A11	Platform controls data high (+) (input)
A12	Platform controls data low (-) (input)
B1	Level sensor S8 (blue) (input)
B2	Level sensor S8 (black) (input)
B3	Level sensor S8 (yellow) (input)
B4	Plug
B5	Plug
B6	Plug
B7	Engine start relay CR1-86 (output)
B8	Ignition relay CR8-86 (output)
B9	Engine high idle (output)
B10	Level sensor S8 (red) (output)
B11	Horn relay CR5-86 (output)
B12	Alarm (output)
C1	System power (input)
C2	System power (input)
C3	System power (input)
C4	Engine starting aid (output)
C5	Oscillate stowed relay CR84-86 (output)
C6	Oscillate raised relay CR85-86 (output)
C7	Ground (output)
C8	Plug
C9	Plug
C10	Aux down relay CR23-87 (output) (GS-84/90)
C11	Flashing beacons FS1 (output)
C12	ECM power (input)

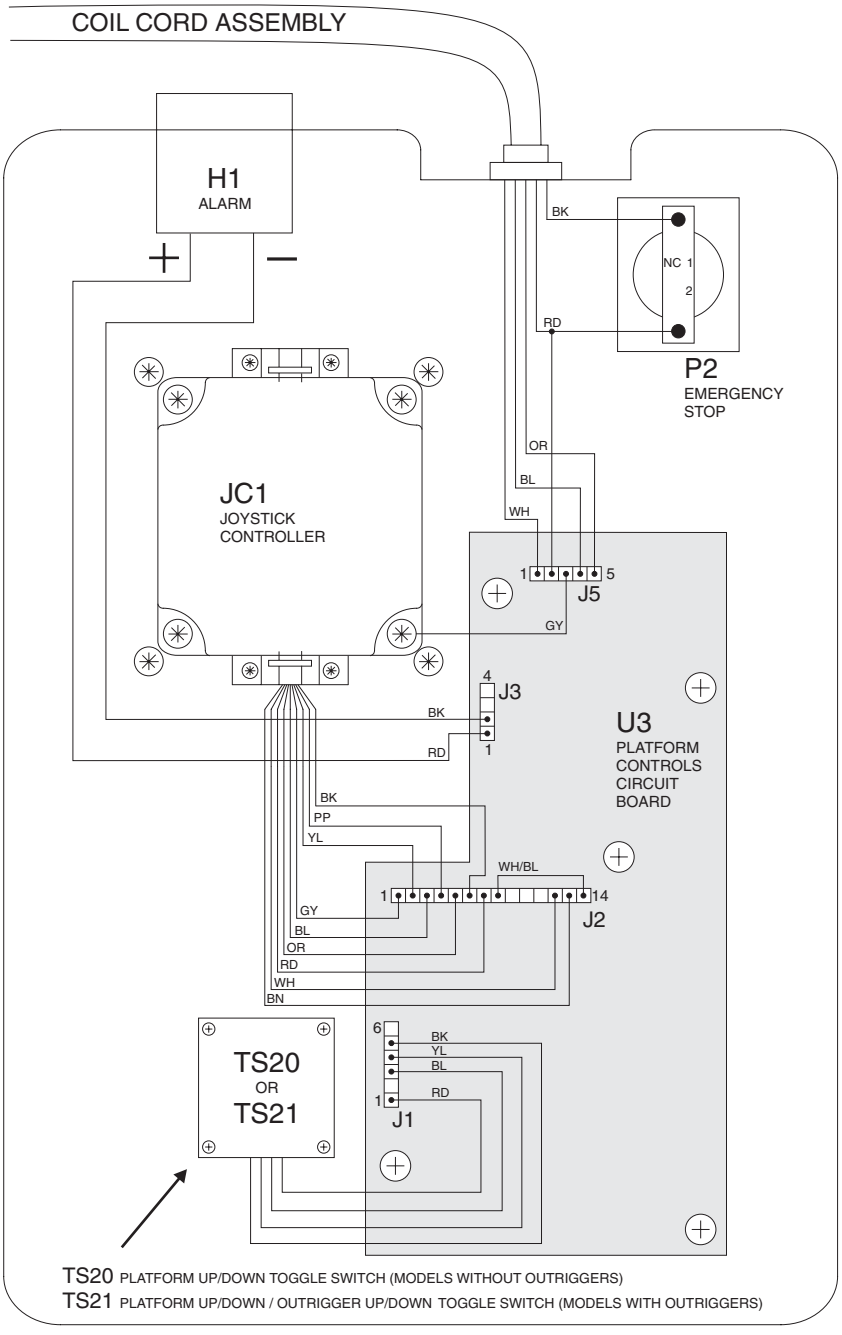


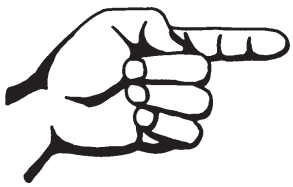
36 pin connector



Wiring Diagram - Platform Control Box

(from serial number GS6805-44771) REV A





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Electrical Schematics Abbreviation and Wire Color Legends

REV B

ELECTRICAL SCHEMATIC LEGEND	
Item	**Description**
B	Battery
	B1 = Engine start
	B4 = Auxiliary platform down
BN	Button
	BN1 = Engine stop
	BN2 = Engine start
	BN3 = Glow plug
	BN4 = High idle
	BN5 = Horn
	BN6 = High torque
	BN7 = Generator
	BN11 = Driving lights
	BN12 = High speed lift enable
	BN13 = Low speed lift enable
	BN15 = Horn/left front outrigger
	BN16 = Outrigger function enable
	BN17 = High torque/left front outrigger
	BN18 = Generator/right front outrigger
	BN20 = Outrigger auto level
	BN22 = Right rear outrigger
	BN23 = Auxiliary platform down
C5	Capacitor, 4700 uf
CB	Circuit breaker
	CB1 = 20 amp
	CB2 = 1 amp (before serial number 24000)
	CB2 = 7 amp (after serial number 23999)
CR	Control relay
	CR1 = Engine start
	CR4 = High idle
	CR5 = Horn relay
	CR8 = Ignition
	CR15 = Glow plug
	CR17 = Hydraulic oil cooling fan
	CR25 = Engine run
	CR34 = Driving lights
	CR43 = Power to ECM
D	Power supply
	D1 = Alternator
	D2 = Generator (option)
	D7 = Voltage regulator – 12V DC to 5V DC
EN1	Platform control box enclosure
FB1	Flashing beacons (option)
F9	30A fuse
G	Gauge
	G6 = Hour meter
	G8 = Diagnostic display
GND	Ground
H	Horn or alarm
	H1 = Alarm, level sensor
	H2 = Automotive-style horn
JC4	Joystick controller- drive, steer, platform up/down
KS1	Key switch
L	LED or light
	L18 = Emergency stop
	L19 = Power
	L21 = High torque selected
	L23 = High idle selected
	L25 = Fault
	L27 = Generator selected
	L29 = Driving lights
	L41 = Coolant temperature
	L42 = Oil pressure
LS	Limit switch
	LS1 = Extension deck
	LS5 = Platform up
	LS6 = Platform down
	LS12 = Left front outrigger
	LS13 = Right front outrigger
	LS14 = Left rear outrigger
	LS15 = Right rear outrigger
M	Motor or pump
	M1 = Hydraulic oil cooling fan
	M3 = Engine starter

ELECTRICAL SCHEMATIC LEGEND	
Item	**Description**
*N	Note
N.C.	Normally closed
N.O.	Normally open
P	Power
	P1 = Emergency stop button at ground controls
	P2 = Emergency stop button at platform controls
PS2	Platform overload pressure switch
Q	Electro-mechanical solenoid
	Q1 = LPG lockout
	Q2 = Gasoline lockout
	Q3 = High idle
	Q8 = Fuel shut off
QD	Quick disconnect
	QD3 = Control cable to ground
	QD4 = Control cable to platform
R	Resistor
	R7 = 2000Ω resistor
	R15 = 0 to 5000 ohm potentiometer
S	Sensor
	S7 = Tilt sensor (models without outriggers)
	S8 = Tilt sensor (models with outriggers)
SW	Switch
	SW1 = Engine coolant temperature
	SW2 = Engine oil pressure
	SW5 = Function enable
	SW6 = Steer left/right
	SW25 = DIP switch
TS	Toggle switch
	TS6 = Glow plug
	TS20 = Platform up/down
	TS21 = Platform up/down & outrigger extend/retract
	TS52 = Engine start
	TS53 = Fuel select
	TS54 = Engine high idle
	TS55 = Function enable
	TS56 = Glow plug
	TS66 = Platform up/down
	TS67 = Function enable
U	Electronic component
	U3 = Printed circuit board
	U5 = Electronic control module
	U19 = Ignition coil
	U20 = Spark plug(s)
	U26 = Distributor
	U32 = Glow plug
Y	Valve coil
	Y1 = Drive parallel
	Y1A = Drive parallel
	Y1B = Drive parallel
	Y2 = Brake release
	Y3 = Steer right
	Y4 = Steer left
	Y5 = Drive reverse
	Y5A = Drive reverse
	Y6 = Drive forward
	Y6A = Drive forward
	Y7 = Platform down
	Y7A = Platform down (GS-3268 only)
	Y8 = Platform up
	Y9 = Proportional flow control
	Y10 = Auxiliary platform down(GS-3268 only before serial number 40207)
	Y10A = Auxiliary platform down (GS-3268 only)
	Y29 = Generator on (option)
	Y33 = Left rear outrigger
	Y34 = Right rear outrigger
	Y35 = Left front outrigger
	Y36 = Right front outrigger
	Y39 = Outrigger retract
	Y40 = Outrigger extend
	Y44 = Outrigger extend slow

WIRE COLOR LEGEND	
Item	**Description**
BL	Blue
BK	Black
BR	Brown
GN	Green
OR	Orange
PP	Purple
RD	Red
WH	White
YL	Yellow
BL/RD	Blue/Red
BL/WH	Blue/White
BK/RD	Black/Red
OR/WH	Orange/White
RD/BK	Red/Black
RD/WH	Red/White
WH/BL	White/Blue
WH/BK	White/Black
WH/RD	White/Red
WH/YL	White/Yellow
YL/BK	Yellow/Black

Electrical Symbols Legend

REV A

Emergency Stop button

Wire connection

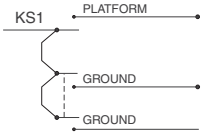
No connection (circuits crossing)

Diode

Circuit breaker

LED

12V DC Battery



Key switch

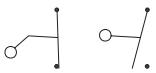
Control relay

Button

Pressure switch

Temperature switch

Capacitor



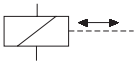
Limit switch

Work lights

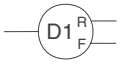
Solenoid valve with spike supression diode

Solenoid valve no diode

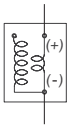
Solenoid valve with redundant coils



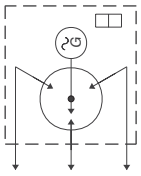
Electro-mechanical solenoid



Alternator



Ignition coil

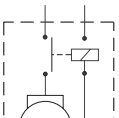


Distributor

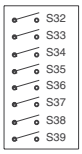
Motor or pump

Spark plugs

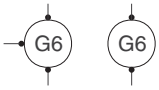
Glow plug(s)



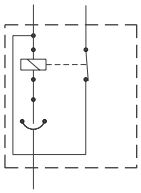
Starter motor



DIP switch



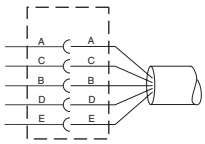
Hour meter



Level sensor
(models without outriggers)

Flashing beacon

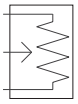
Horn or alarm



Quick disconnect

Toggle switch

Voltage regulator



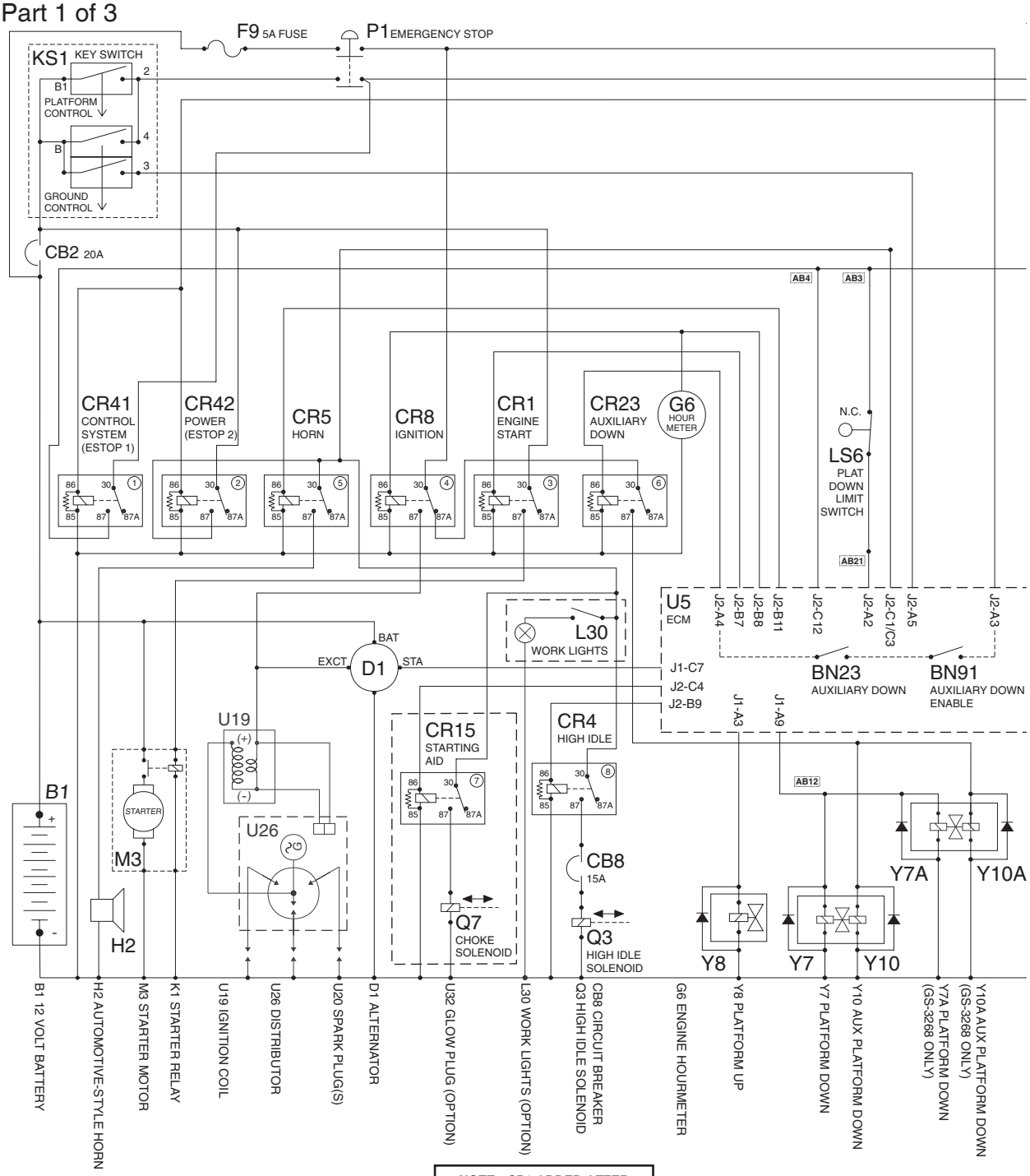
Potentiometer

Resistor

Electrical Schematic

ANSI Models with Gasoline/LPG Power (from serial number GS6805-44771)
Part 1 of 3

REV D



NOTE: CB8 ADDED AFTER SERIAL NUMBER GS6806-45220

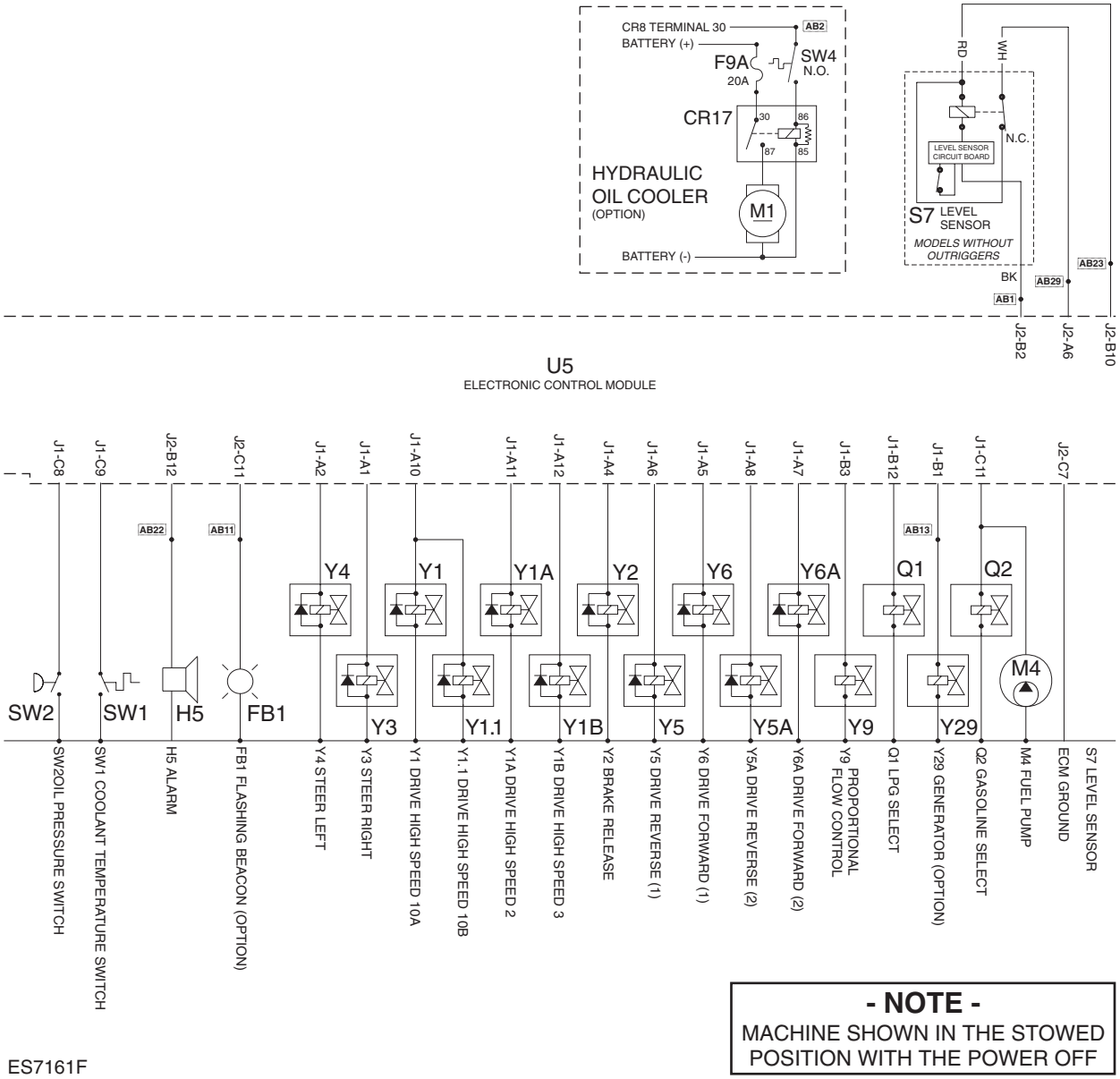
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7161F

Electrical Schematic

REV D

ANSI Models with Gasoline/LPG Power
(from serial number GS6805-44771)
Part 2 of 3



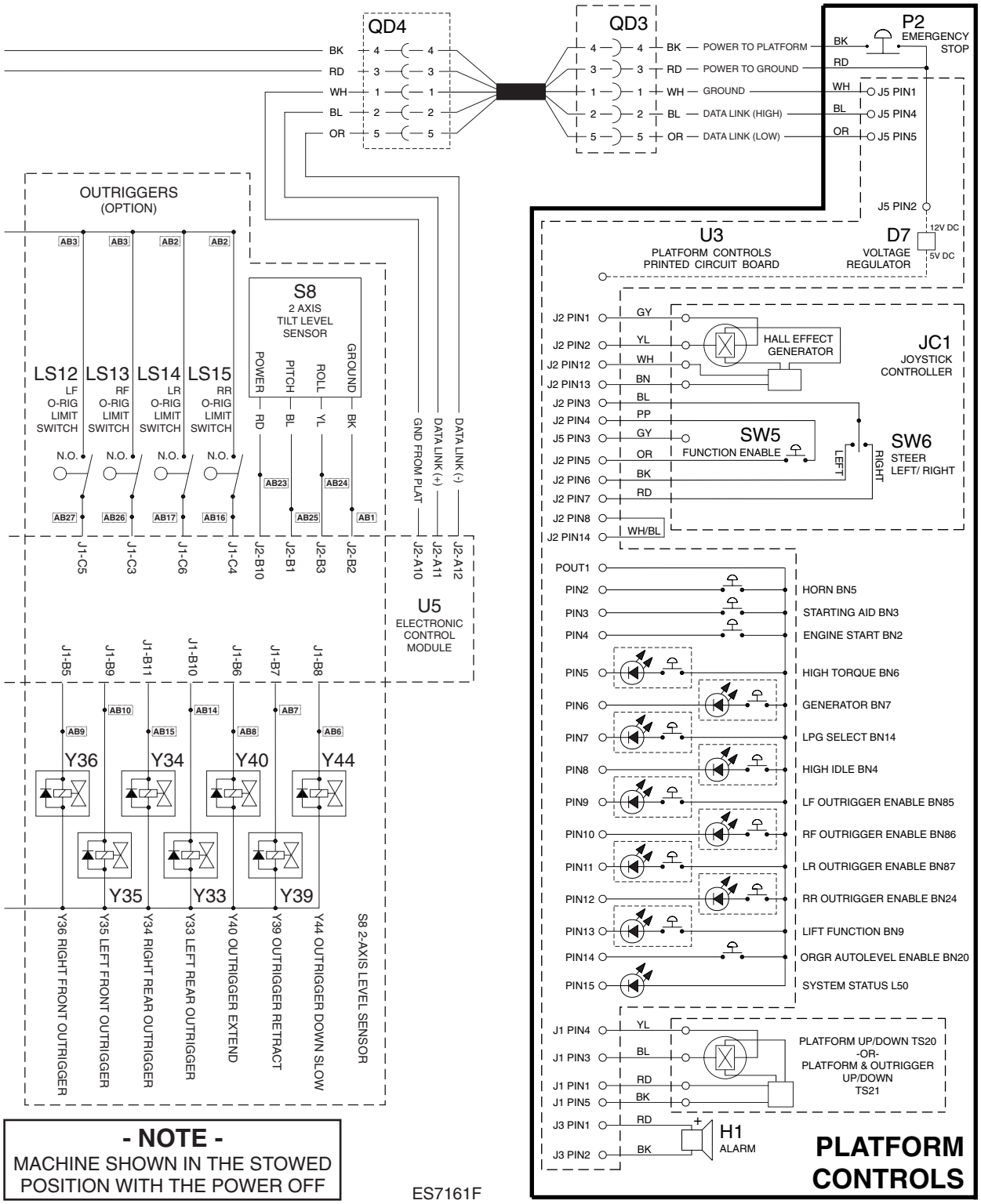
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7161F

Electrical Schematic

ANSI Models with Gasoline/LPG Power
(from serial number GS6805-44771)
Part 3 of 3

REV D



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7161F

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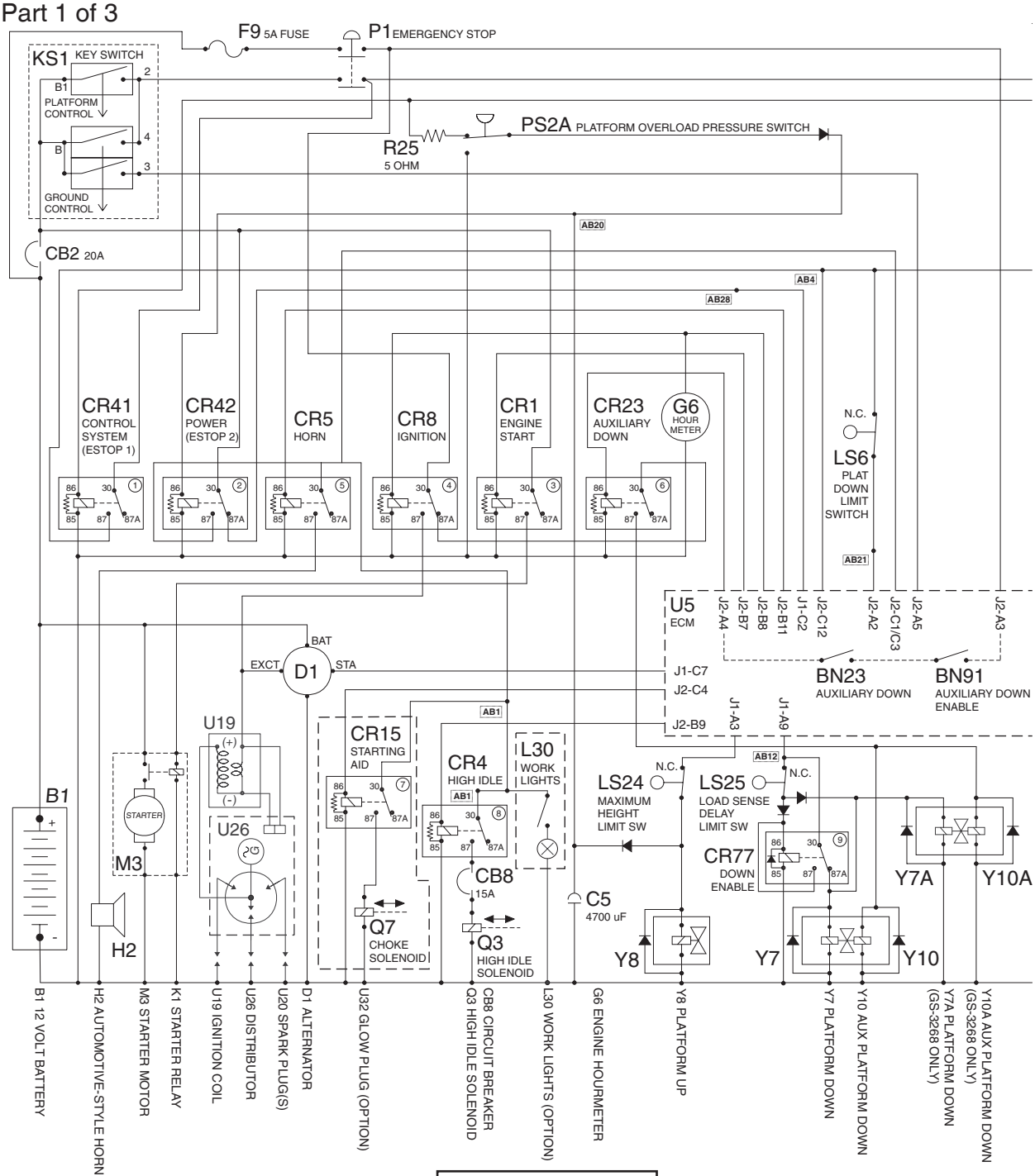
Electrical Schematic

CE Models with Gasoline/LPG Power
(from serial number GS6805-44771)
Part 1 of 3

REV D



NOTE: CB8 ADDED AFTER SERIAL NUMBER GS6806-45220

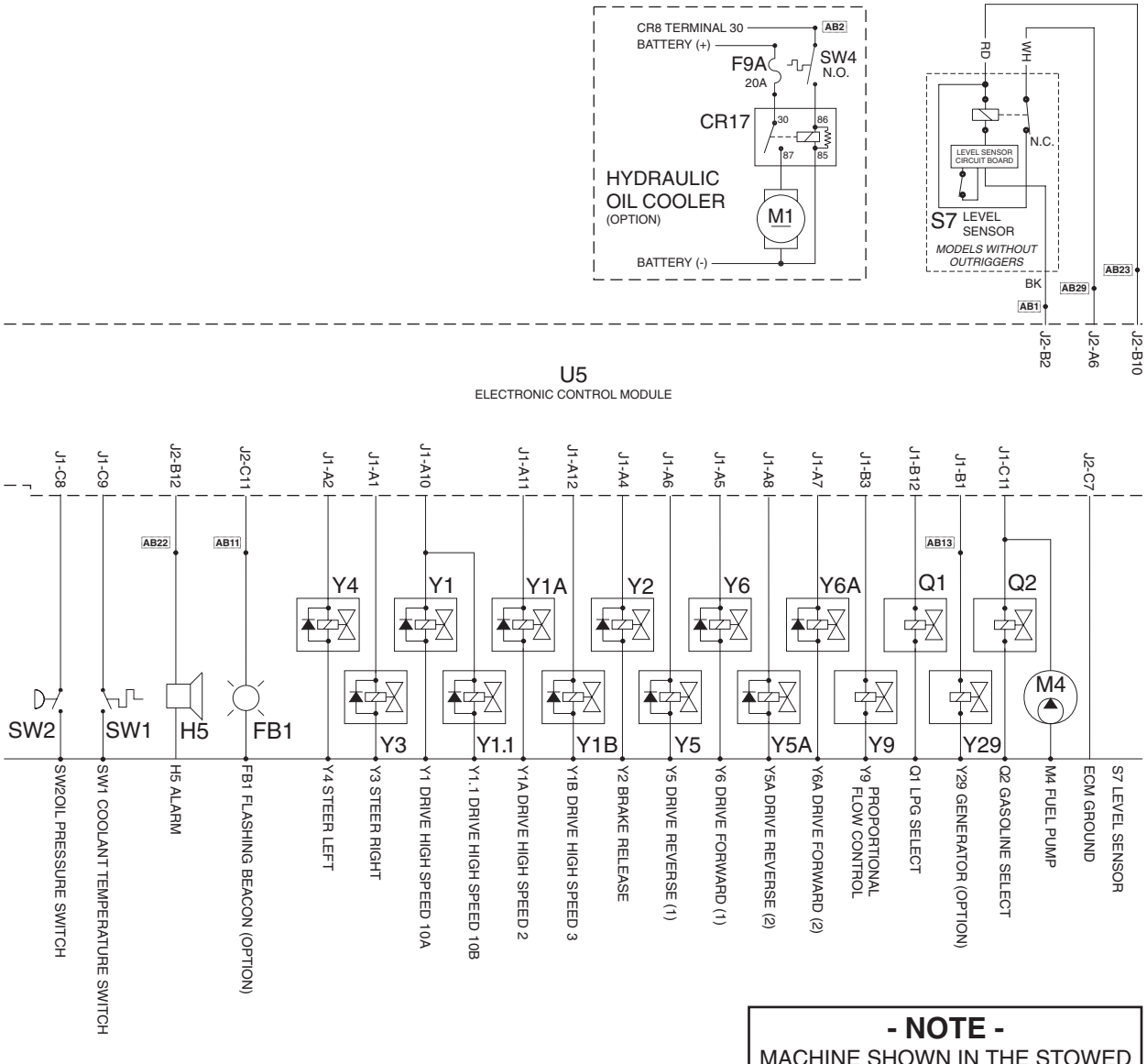
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7183G

Electrical Schematic

REV D

CE Models with Gasoline/LPG Power
(from serial number GS6805-44771)
Part 2 of 3



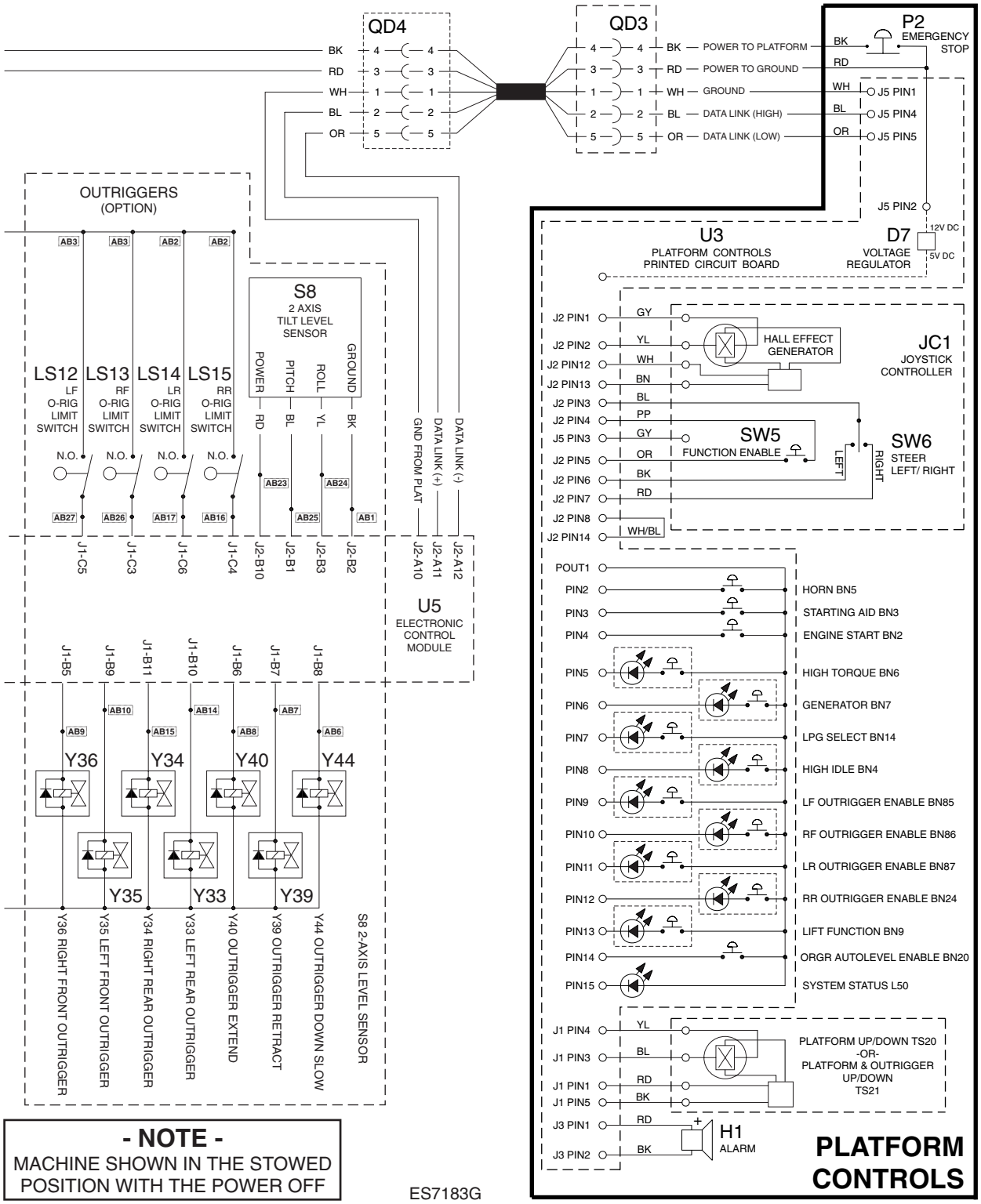
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7183G

Electrical Schematic

CE Models with Gasoline/LPG Power
(from serial number GS6805-44771)
Part 3 of 3

REV D



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7183G

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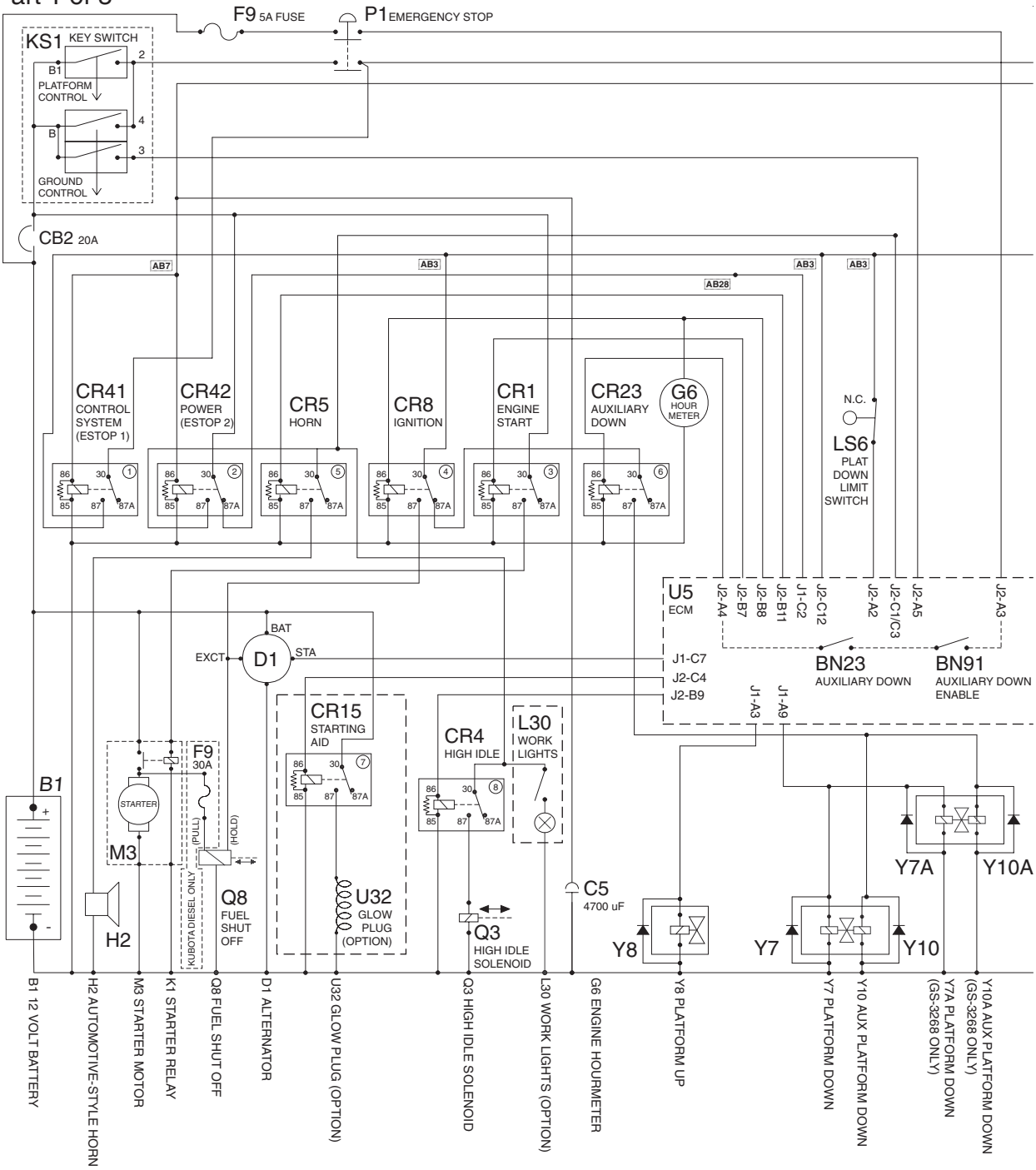
Electrical Schematic

ANSI Models with Diesel Power REV D
(from serial number GS6805-44771 to GS6806-45204)
Part 1 of 3



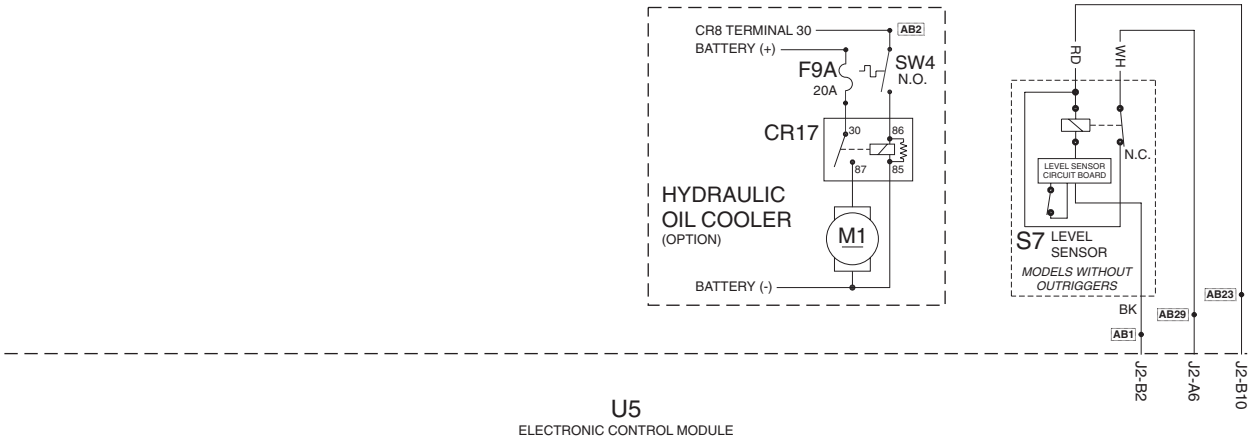
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162E

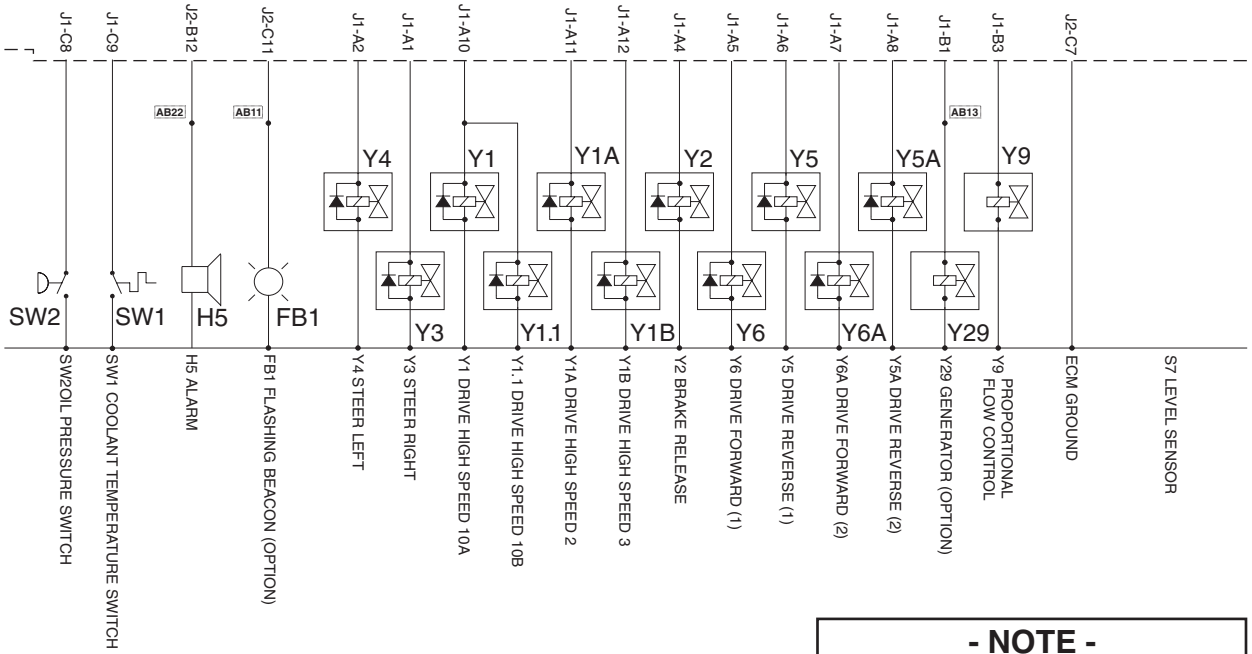
Electrical Schematic

REV D

ANSI Models with Diesel Power
(from serial number GS6805-44771 to GS6806-45204)
Part 2 of 3



U5
ELECTRONIC CONTROL MODULE

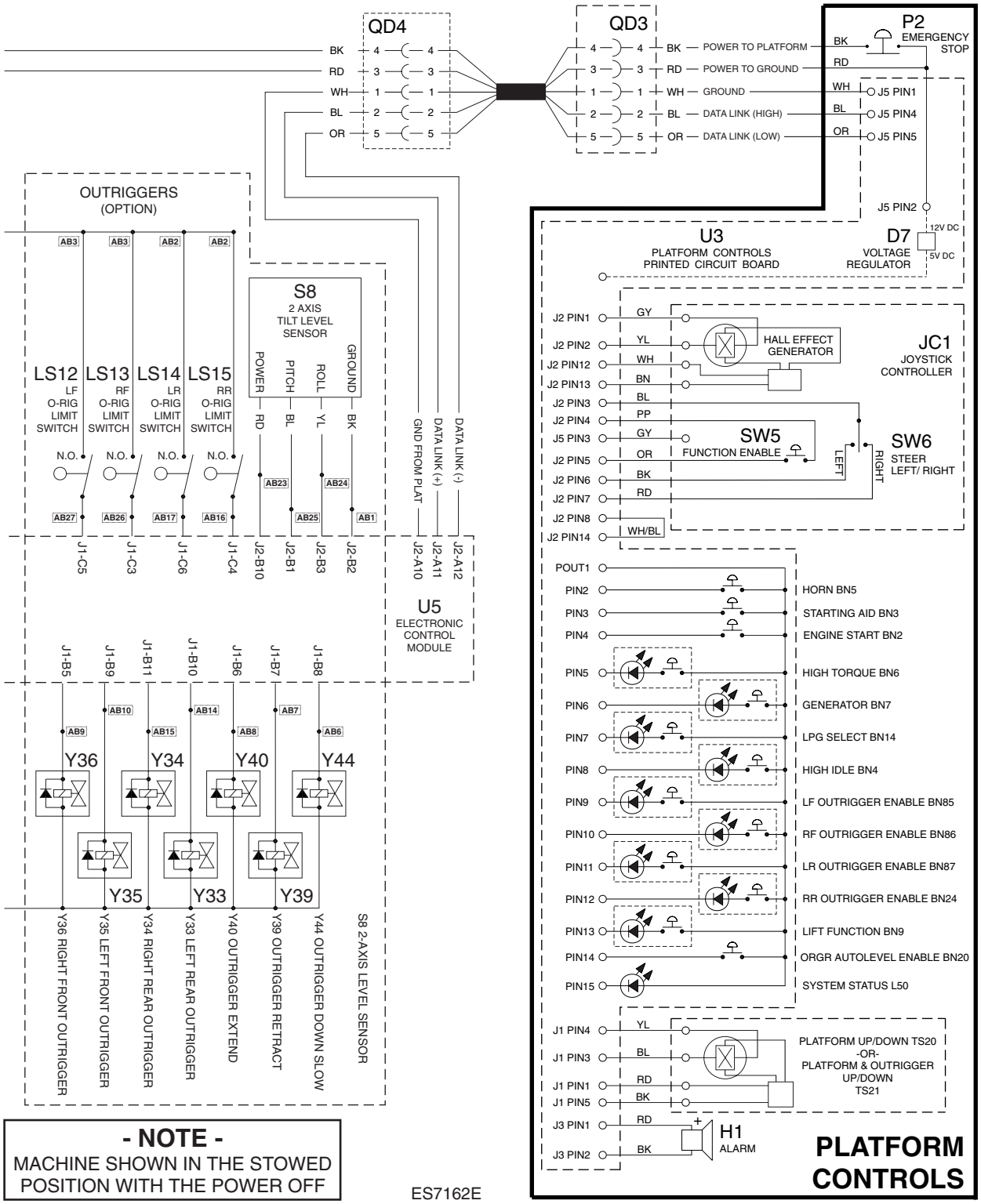


- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162E

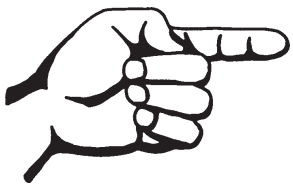
Electrical Schematic

ANSI Models with Diesel Power REV D
(from serial number GS6805-44771 to GS6806-45204)
Part 3 of 3



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162E



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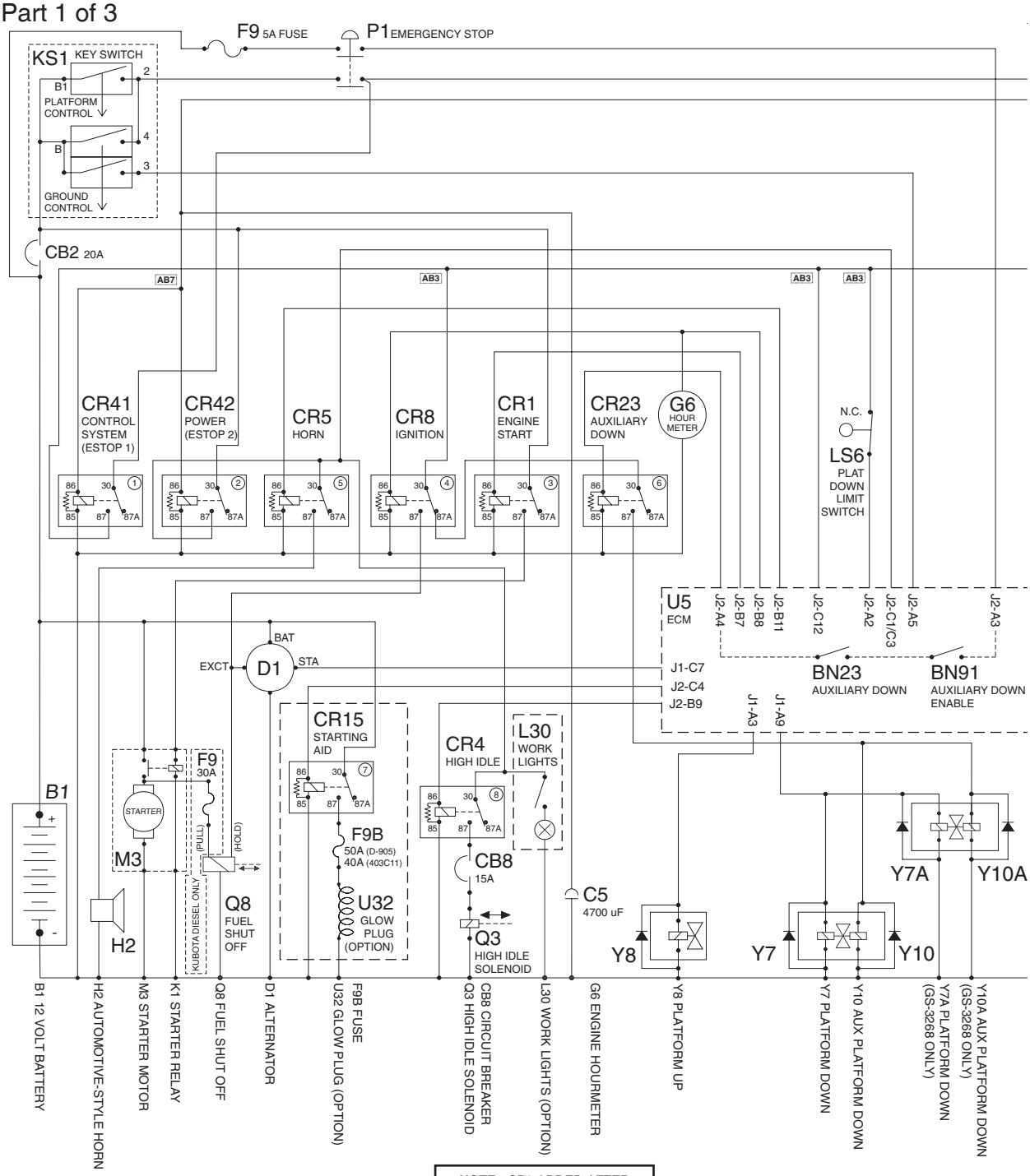
Electrical Schematic

ANSI Models with Diesel Power
(from serial number GS6806-45205)
Part 1 of 3

REV D



NOTE: CB8 ADDED AFTER SERIAL NUMBER GS6806-45220

NOTE: F9B ADDED AFTER SERIAL NUMBER GS6806-47220

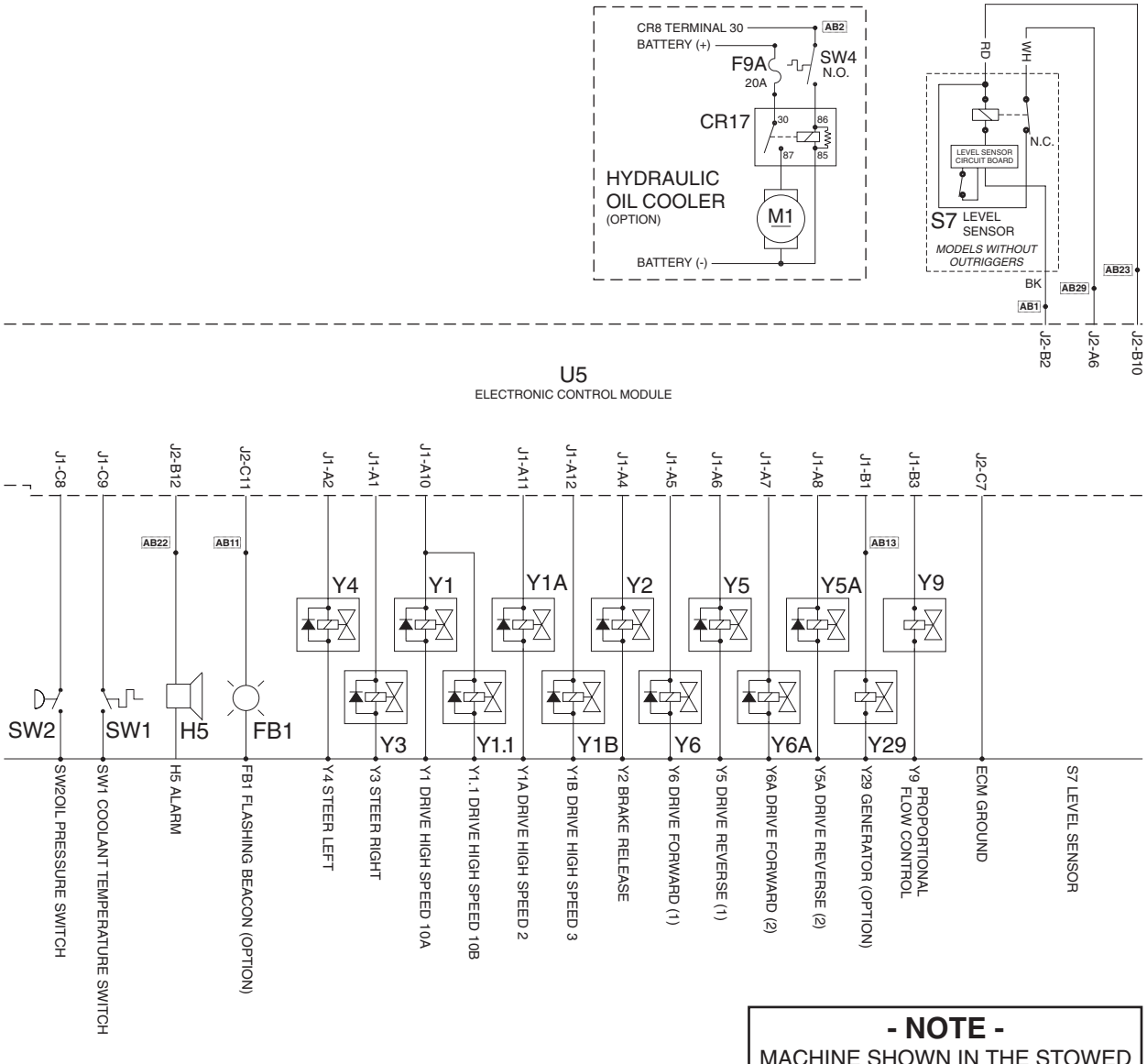
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162G

Electrical Schematic

REV D

ANSI Models with Diesel Power
(from serial number GS6806-45205)
Part 2 of 3



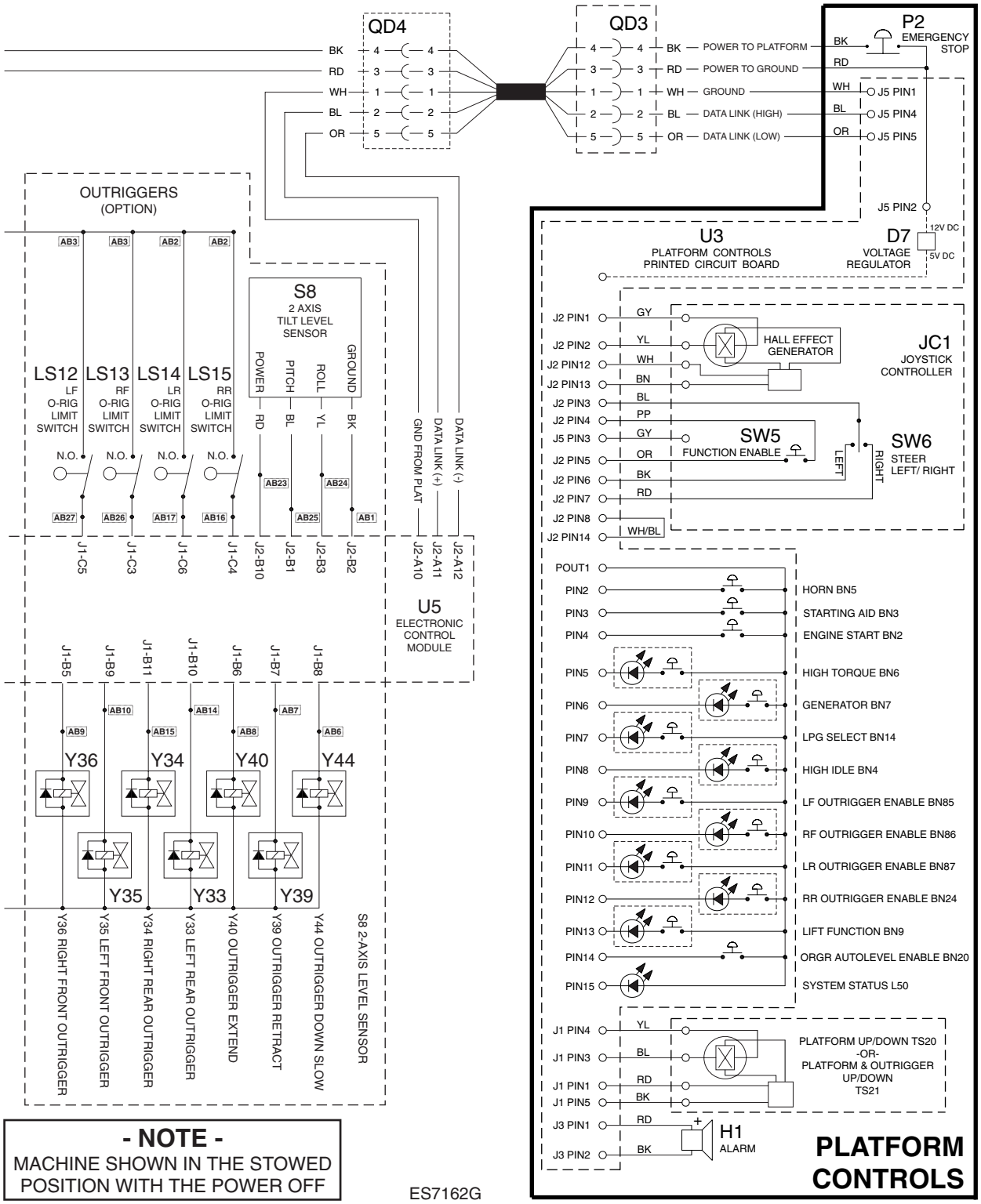
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162G

Electrical Schematic

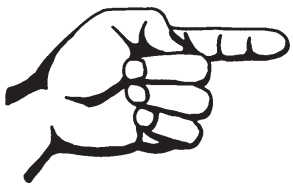
ANSI Models with Diesel Power
(from serial number GS6806-45205)
Part 3 of 3

REV D



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7162G



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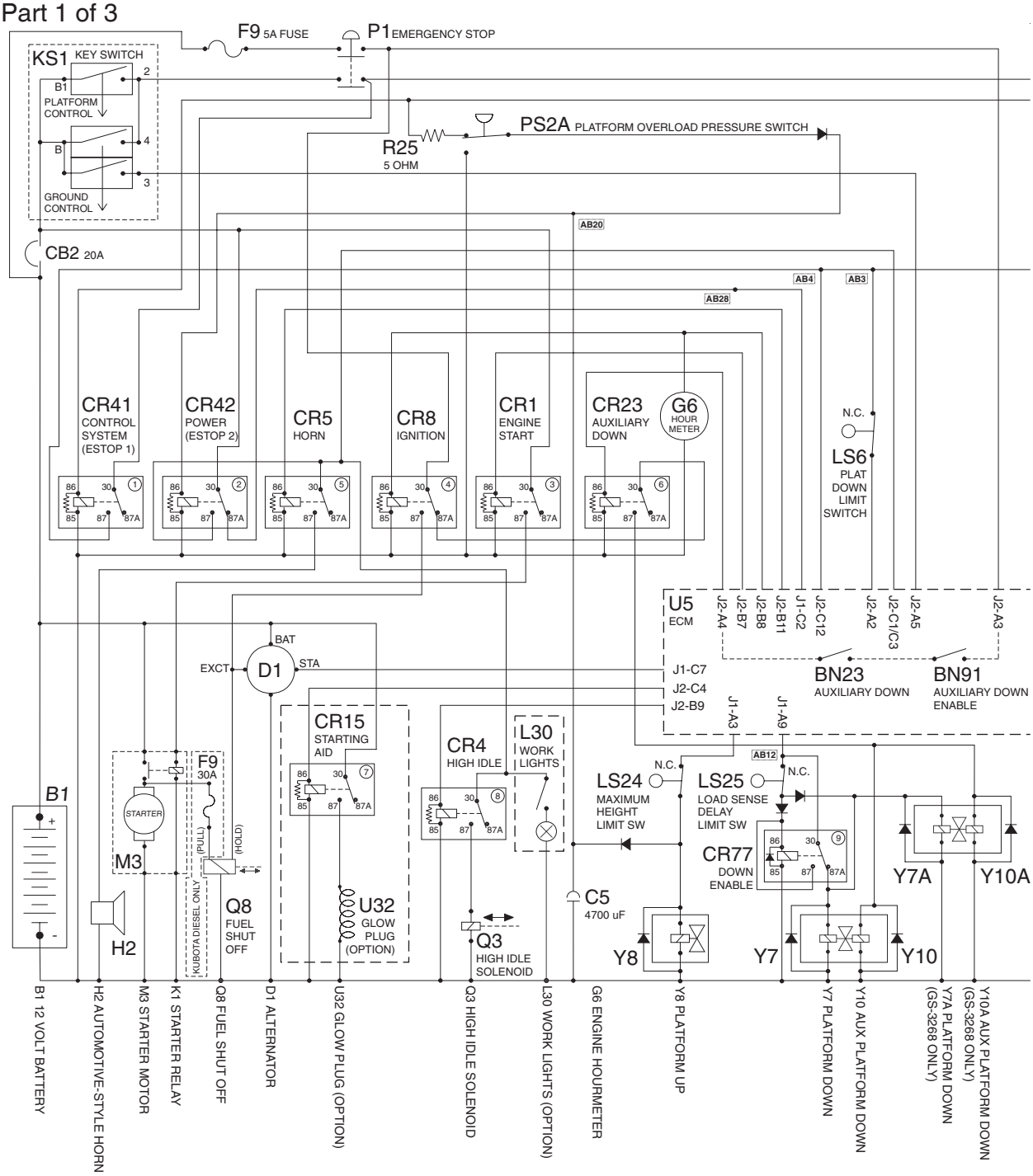
Electrical Schematic

CE Models with Diesel Power REV D
(from serial number GS6805-44771 to GS6806-45204)
Part 1 of 3



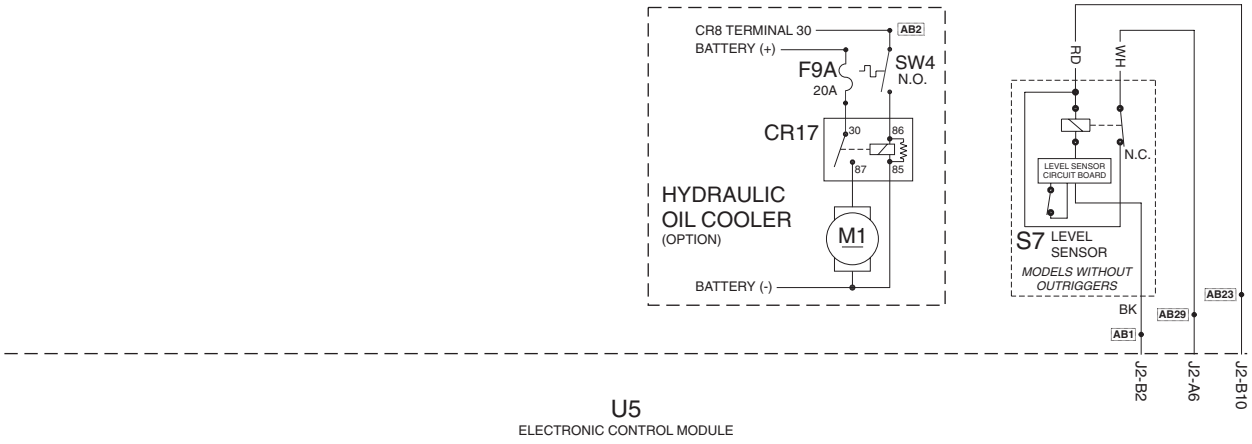
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184D

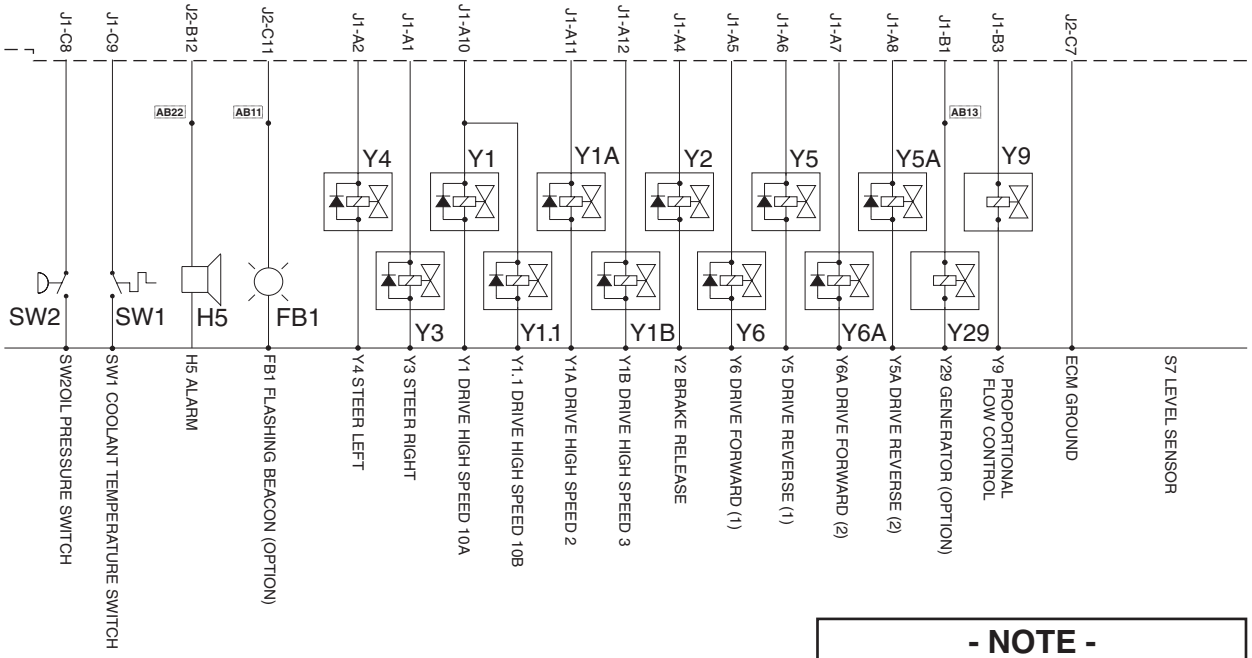
Electrical Schematic

REV D

CE Models with Diesel Power
(from serial number GS6805-44771 to GS6806-45204)
Part 2 of 3



U5
ELECTRONIC CONTROL MODULE

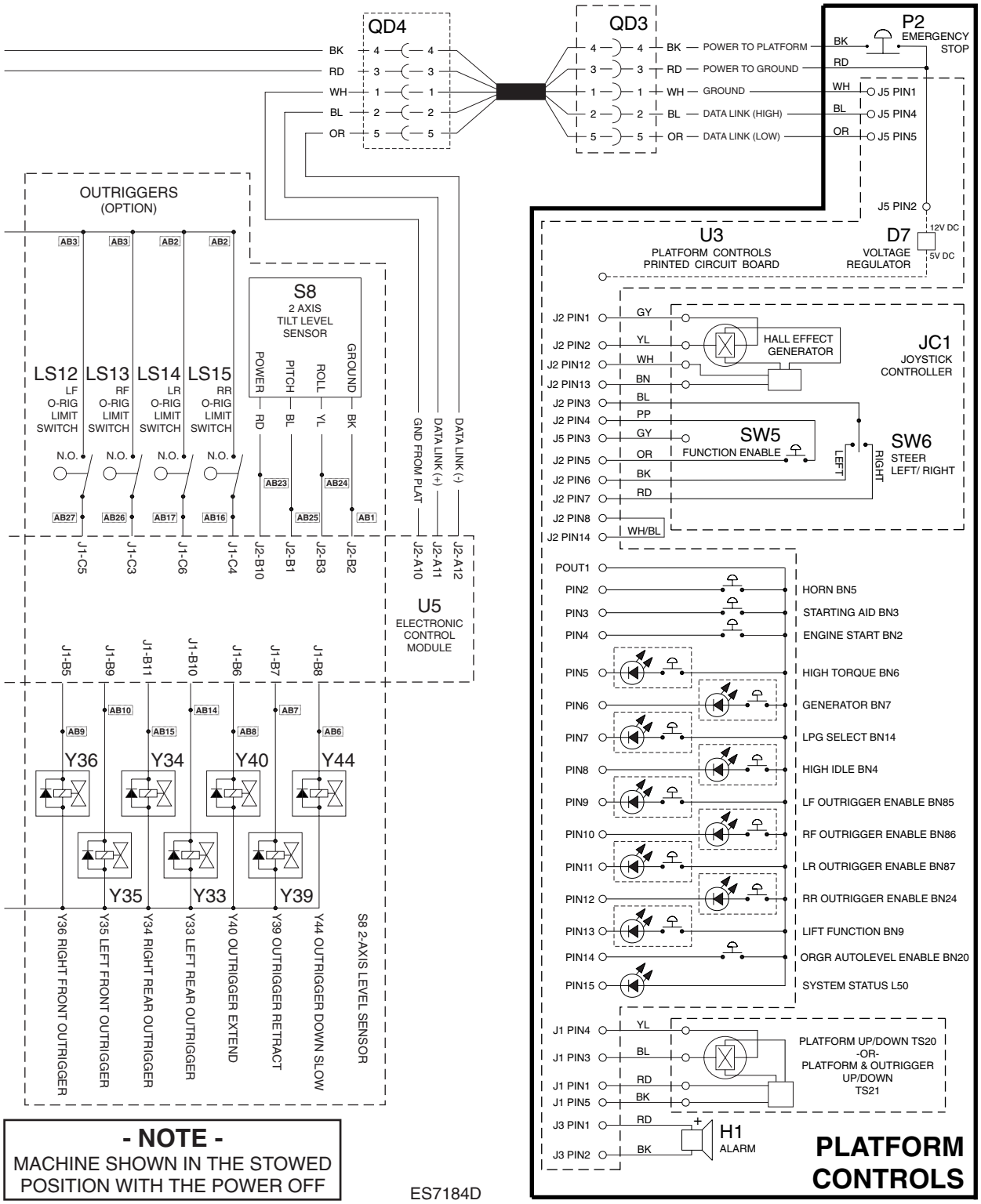


- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184D

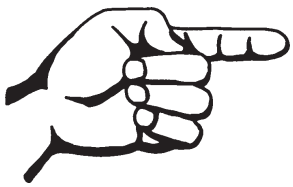
Electrical Schematic

CE Models with Diesel Power REV D
(from serial number GS6805-44771 to GS6806-45204)
Part 3 of 3



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184D



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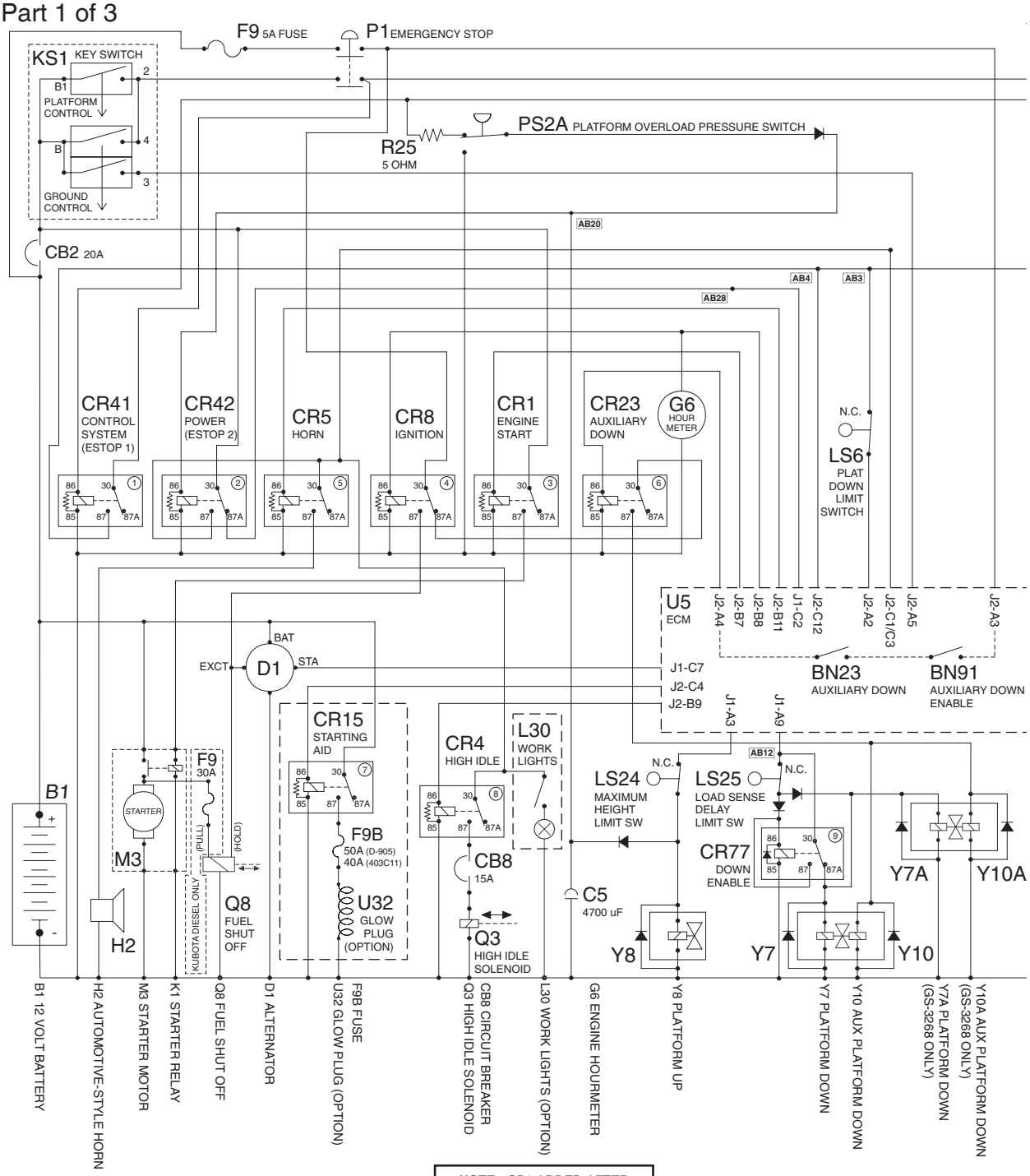
Electrical Schematic

CE Models with Diesel Power
(from serial number GS6806-45205)
Part 1 of 3

REV D



NOTE: CB8 ADDED AFTER SERIAL NUMBER GS6806-45220

NOTE: F9B ADDED AFTER SERIAL NUMBER GS6806-47220

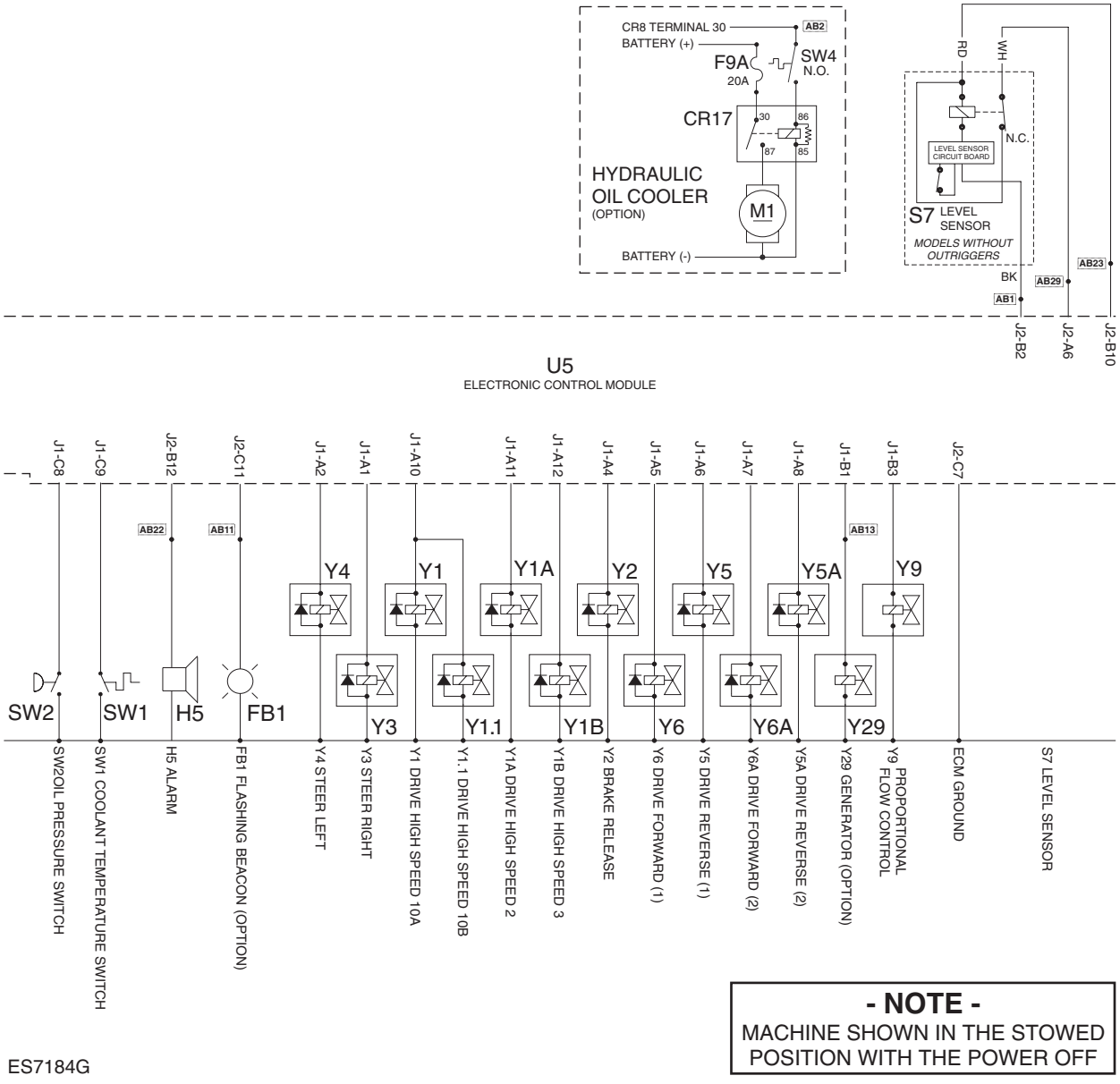
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184G

Electrical Schematic

REV D

CE Models with Diesel Power
(from serial number GS6806-45205)
Part 2 of 3



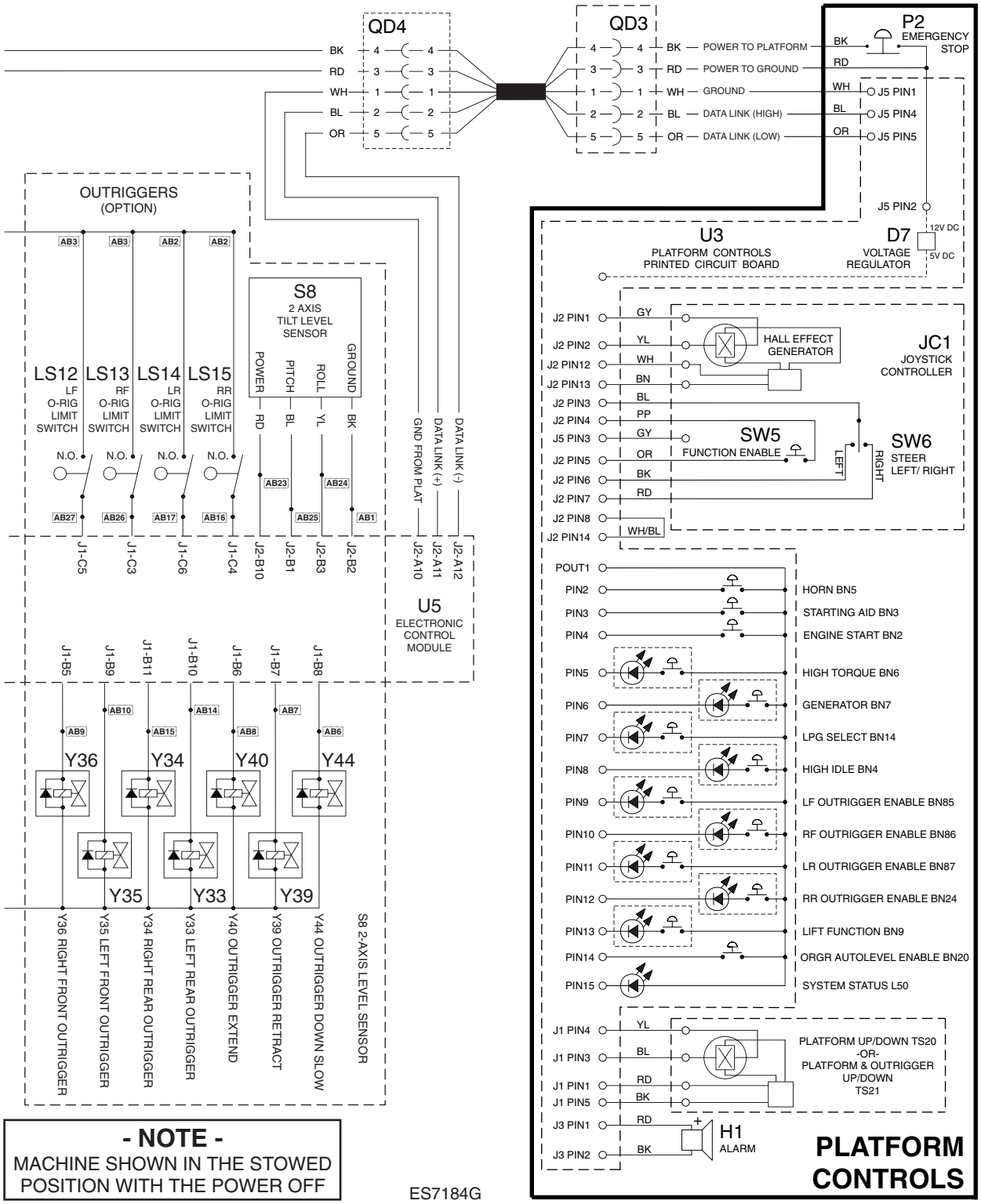
- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184G

Electrical Schematic

CE Models with Diesel Power
(from serial number GS6806-45205)
Part 3 of 3

REV D



- NOTE -
MACHINE SHOWN IN THE STOWED POSITION WITH THE POWER OFF

ES7184G

Hydraulic Symbols Legend

REV A

Filter

Check valve

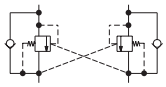
Engine

Fixed displacement pump

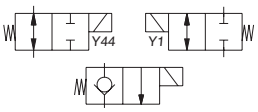
Dual acting cylinder

Single acting cylinder

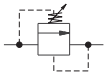
Solenoid operated 2 position 2 way valve, normally closed



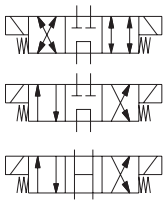
Counterbalance valve



Solenoid operated 2 position 2 way directional valve



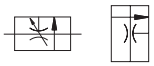
Relief valve



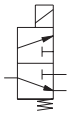
Solenoid operated 3 position 4 way directional valve

Orifice with size

Single direction variable speed motor



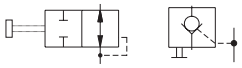
Priority flow regulator



Solenoid operated 2 position 3 way directional valve

Platform overload pressure switch

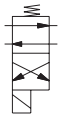
Hand pump



Pilot operated check valve with needle valve

Bi-directional variable speed motor

Brake



Solenoid operated 2 position 3 way directional valve

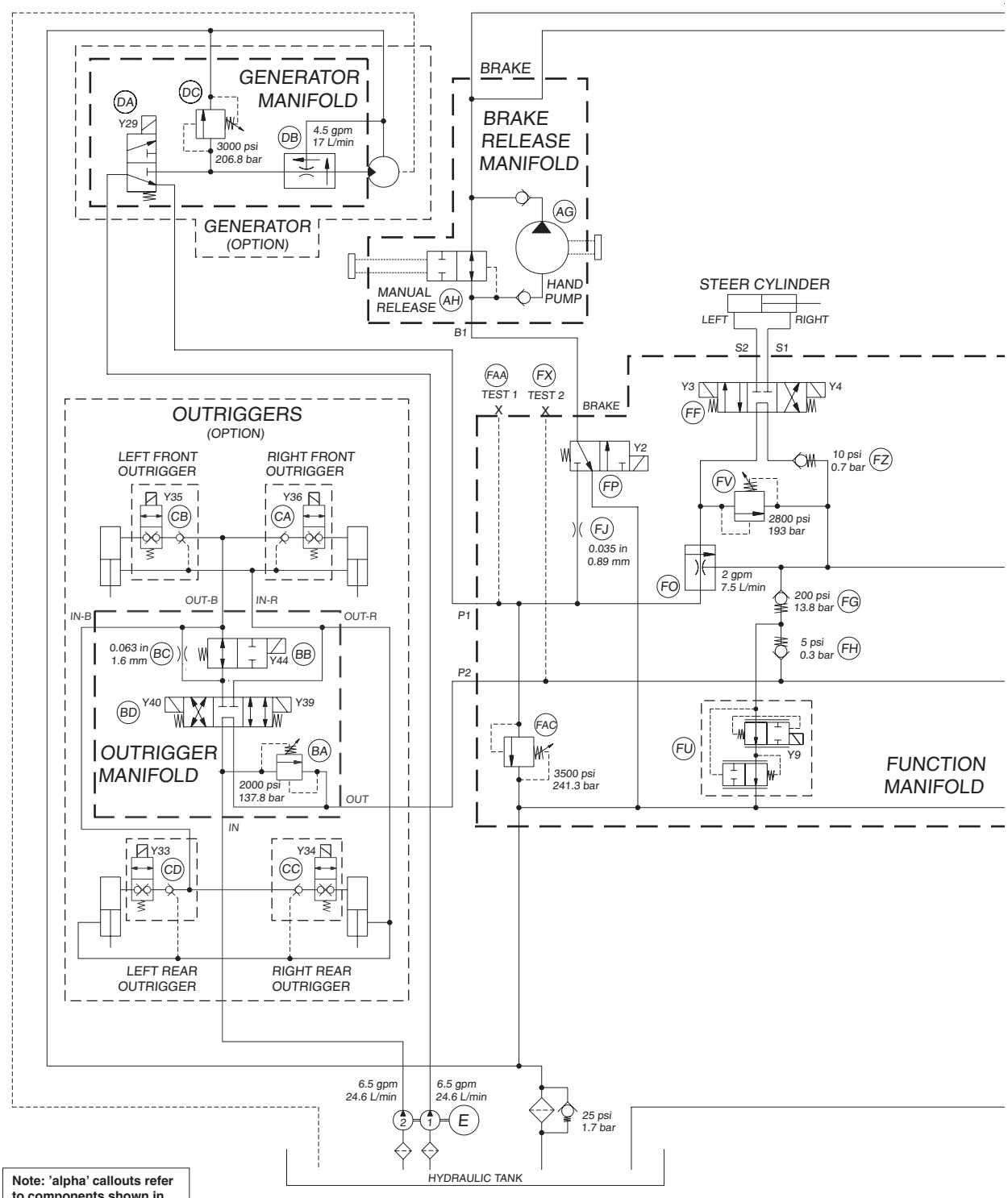
Proportional solenoid valve

Shuttle valve

Hydraulic Schematic

(from serial number GS6805-44771) REV C

Part 1 of 2



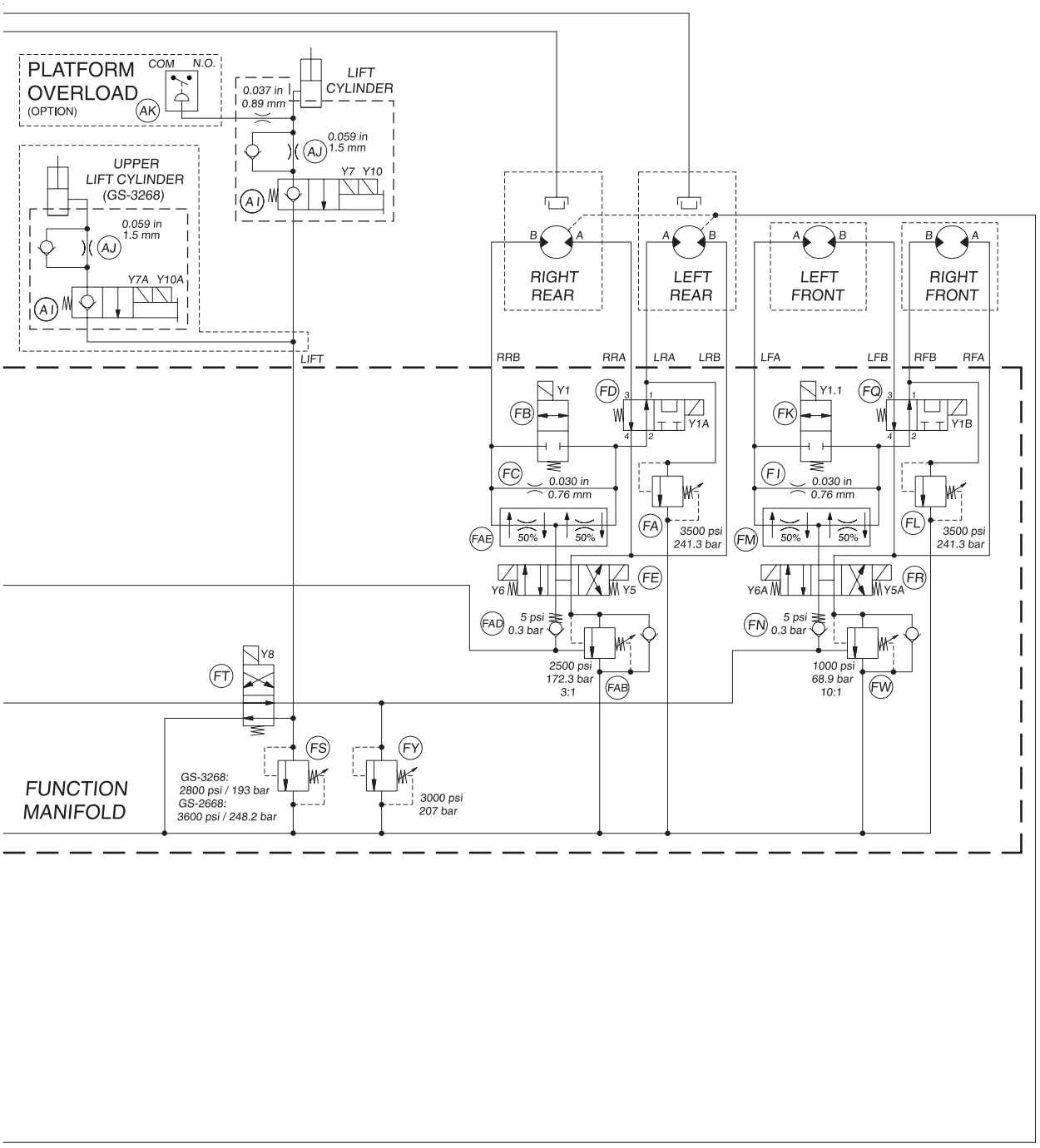
Note: 'alpha' callouts refer to components shown in the manifold illustrations. Refer to the Repair Section.

HS0032D
HS7040B

Hydraulic Schematic

REV C

(from serial number GS6805-44771)
Part 2 of 2



Note: 'alpha' callouts refer to components shown in the manifold illustrations. Refer to the Repair Section.

HS7040B

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California Proposition 65

Warning

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

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