Genie®
A TEREX BRAND

Service Manual

AL5HT

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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.

This manual provides detailed scheduled maintenance information for the machine owner and user. It also provides troubleshooting and repair procedures for qualified service professionals.

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 Terex dealer service center.

Compliance

Machine Classification

Group A/Type 1 as defined by ISO 16368

Machine Design Life

Unrestricted with proper operation, inspection and scheduled maintenance.

Technical Publications

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

Readers are encouraged to notify Terex 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:

Internet: www.genielift.com
E-mail: awp.techpub@terex.com

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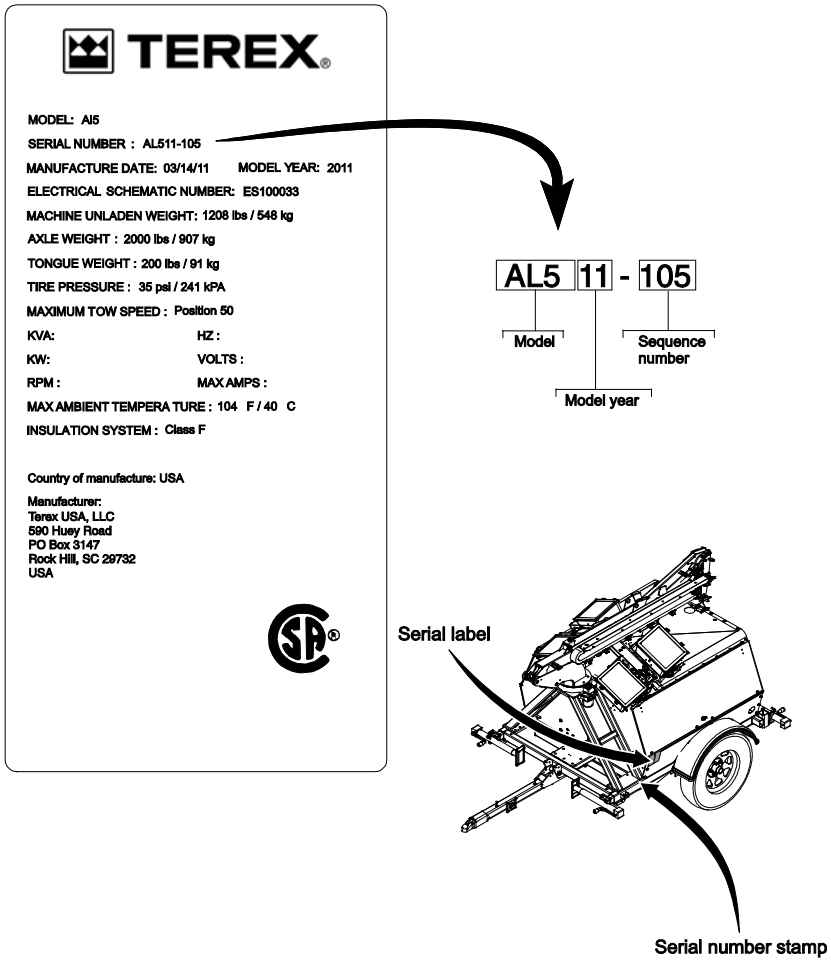
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Serial Number Legend

Serial Number Legend



1 Model
2 Model year
3 Sequence number
4 Serial label (located on cabinet)
5 Serial number (stamped on chassis)

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 a 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

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.



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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Specifications

Machine Specifications

Total lighting wattage	
4 lights	4000 watts
8 lights	8000 watts
Axle load capacity, maximum	4200 lbs 1905 kg
Fluid capacities	
Hydraulic tank capacity	1.4 gallons 5.3 liters
Hydraulic system capacity (including tank)	2 gallons 7.6 liters
Fuel capacities	
Single tank	30 gallons 114 liters
Large tank (option)	60 gallons 227 liters
Tires and wheels (U.S. models)	
Tire size	ST205/75D15
Load range	C
Lug nut torque, dry	90 ft-lbs 122 Nm
Lug nut torque, lubricated	67.5 ft-lbs 91.5 Nm
Tires and wheels (Australia models)	
Tire size	7.5R16 C 112/110L
Lug nut torque, dry	80 ft-lbs 108 Nm
Lug nut torque, lubricated	75 psi 5.2 bar

Performance Specifications

Tongue weight, maximum	
With fuel (single tank)	150 lbs 68 kg
With fuel (large tank)	130 lbs 59 kg
Run time	
Single tank	50 hours
Large tank	100 hours

Generator Options

Marathon 8 kW 201CSA5412	
Generator rpm @ full load	60Hz, 1800 rpm
Temperature, ambient maximum	104° F 40° C
Power	8 kW
Marathon 8 kW 201CSA5420	
Generator rpm @ full load	60 Hz, 1800 rpm
Temperature, ambient maximum	104° F 40° C
Power	8 kW
Marathon 12 kW 281CSL1513	
Generator rpm @ full load	60 Hz, 1800 rpm
Temperature, ambient maximum	104° F 40° C
Power	12 kW
Marathon 20 kW 334CSA3028	
Generator rpm @ full load	60 Hz, 1800 rpm
Temperature, ambient maximum	104° F 40° C
Power	20 kW

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

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Specifications

Kubota D1105-E4BG Engine

Displacement	68.53 cu in 1.12 liters
Number of cylinders	3
Bore and Stroke	3.07 x 3.09 inches 78 x 78.4 mm
Horsepower	13.6 @ 1800 10.1 kW
Firing order	1 - 2 - 3
Compression ratio	23:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Engine speed	1800 rpm
Governor	centrifugal mechanical
Valve Clearance, cold	0.0057 to 0.0072 in 0.145 to 0.185 mm
Engine coolant	
Capacity	3.27 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 pressure switch (engine shutoff pressure)	7 psi
Oil viscosity requirements	
Unit ships with 10W-30. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Manual for your engine.	
Injection system	
Injection pump	Bosch MD mini
Injection timing	19° BTDC
Injection pump pressure, maximum	1991 psi 137 bar
Fuel requirement	
For fuel requirements, refer to the engine Operator Manual for your engine.	
Battery	
Type	12V DC
Group	27TM
Quantity	1
Cold cranking ampere	500
Reserve capacity @ 75A rate	105 minutes
Alternator	
Alternator output	40A, 12V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Specifications

Kubota D1505-E Engine

Displacement	91.41 cu in 1.5 liters
Number of cylinders	4
Bore and Stroke	3.07 x 3.09 inches 78 x 78.4 mm
Horsepower	17.9 @ 1800 13.4 kW
Firing order	1 - 3 - 4 - 2
Compression ratio	22:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Engine speed	1800 rpm
Governor	centrifugal mechanical
Valve Clearance, cold	0.0057 to 0.0072 in 0.145 to 0.185 mm
Engine coolant	
Capacity	4.23 quarts 4 liters
Lubrication system	
Oil pressure	28 to 64 psi 1.93 to 4.41 bar
Oil capacity (including filter)	7.08 quarts 6.7 liters
Oil pressure switch (engine shutoff pressure)	7 psi
Oil viscosity requirements	
Unit ships with 10W-30. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Manual for your engine.	
Injection system	
Injection pump	Bosch MD mini
Injection timing	19° BTDC
Injection pump pressure, maximum	1991 psi 137 bar
Fuel requirement	
For fuel requirements, refer to the engine Operator Manual for your engine.	
Battery	
Type	12V DC
Group	27TM
Quantity	1
Cold cranking ampere	630
Reserve capacity @ 75A rate	105 minutes
Alternator	
Alternator output	30A, 12V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Specifications

Isuzu 4LE1 Engine

Displacement	133 cu in 2.179 liters
Number of cylinders	4
Bore and Stroke	3.35 x 3.78 inches 85 x 96 mm
Horsepower	31.4 @ 1800 23.4 kW
Firing order	1 - 3 - 4 - 2
Compression ratio	21.5:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Engine speed	1800 rpm
Governor	variable speed, mechanical
Valve Clearance, cold	
Intake	0.0157 in 0.4 mm
Exhaust	0.0157 in 0.4 mm
Engine coolant	
Capacity	4 quarts 3.8 liters
Coolant temperature switch (engine shut-off temperature)	221°± 7°F 105° ± 4°C
Lubrication system	
Oil pressure (hot @ 1800 rpm)	64 psi 4.4 bar
Oil capacity (including filter)	7.08 quarts 6.7 liters
Oil pressure switch (engine shutoff pressure)	14 psi 0.96 bar
Oil viscosity requirements	
Unit ships with 10W-30. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Manual for your engine.	
Injection system	
Injection pump	Bosch, PFR type
Injection timing	16° BTDC
Injection pump pressure, maximum	1920 psi 132.8 bar
Fuel requirement	
For fuel requirements, refer to the engine Operator Manual for your engine.	
Battery	
Type	12V DC
Group	27TM
Quantity	1
Cold cranking ampere	630
Reserve capacity @ 75A rate	105 minutes
Alternator	
Alternator output	35A, 12V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Specifications

Isuzu 4LE2 Engine

Displacement	133 cu in 2.179 liters
Number of cylinders	4
Bore and Stroke	3.35 x 3.78 inches 85 x 96 mm
Horsepower	31.4 @ 1800 23.4 kW
Firing order	1 - 3 - 4 - 2
Compression ratio	21.5:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Engine speed	1800 rpm
Governor	variable speed, mechanical
Valve Clearance, cold	
Intake	0.0157 in 0.4 mm
Exhaust	0.0157 in 0.4 mm
Engine coolant	
Capacity	4 quarts 3.8 liters
Coolant temperature switch (engine shut-off temperature)	221°± 7°F 105° ± 4°C
Lubrication system	
Oil pressure (hot @ 1800 rpm)	64 psi 4.4 bar
Oil capacity (including filter)	7.08 quarts 6.7 liters
Oil pressure switch (engine shutoff pressure)	14 psi 0.96 bar
Oil viscosity requirements	
Unit ships with 10W-30. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Manual for your engine.	
Injection system	
Injection pump	Bosch, PFR type
Injection timing	16° BTDC
Injection pump pressure, maximum	1920 psi 132.8 bar
Fuel requirement	
For fuel requirements, refer to the engine Operator Manual for your engine.	
Battery	
Type	12V DC
Group	27TM
Quantity	1
Cold cranking ampere	630
Reserve capacity @ 75A rate	105 minutes
Alternator	
Alternator output	35A, 12V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Specifications

Isuzu 4LE2-T Engine

Displacement	133 cu in 2.179 liters
Number of cylinders	4
Bore and Stroke	3.35 x 3.78 inches 85 x 96 mm
Horsepower	31.4 @ 1800 23.4 kW
Firing order	1 - 3 - 4 - 2
Compression ratio	21.5:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Engine speed	1800 rpm
Governor	variable speed, mechanical
Valve Clearance, cold	
Intake	0.0157 in 0.4 mm
Exhaust	0.0157 in 0.4 mm
Engine coolant	
Capacity	4 quarts 3.8 liters
Coolant temperature switch (engine shut-off temperature)	221°± 7°F 105° ± 4°C
Lubrication system	
Oil pressure (hot @ 1800 rpm)	64 psi 4.4 bar
Oil capacity (including filter)	7.08 quarts 6.7 liters
Oil pressure switch (engine shutoff pressure)	14 psi 0.96 bar
Oil viscosity requirements	
Unit ships with 10W-30. Extreme operating temperatures may require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Manual for your engine.	
Injection system	
Injection pump	Bosch, PFR type
Injection timing	16° BTDC
Injection pump pressure, maximum	1920 psi 132.8 bar
Fuel requirement	
For fuel requirements, refer to the engine Operator Manual for your engine.	
Battery	
Type	12V DC
Group	27TM
Quantity	1
Cold cranking ampere	630
Reserve capacity @ 75A rate	105 minutes
Alternator	
Alternator output	35A, 12V DC
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Machine Torque Specifications

Generator	
Flex plate to flywheel	15 ft-lbs 20 Nm
Generator case to bell housing	30 ft-lbs 41 Nm
Generator isolators	75 ft-lbs 102 Nm
Wheel lugs	
Lug nut torque, lubricated	67.5 ft-lbs 91.5 Nm
Lug nut torque, dry	90 ft-lbs 122 Nm
Engine vibration isolators	
Mounting bolts, dry	60 ft-lbs 81 Nm
Mounting bolts, lubricated	45 ft-lbs 61 Nm

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

Specifications

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	Class 4.6				Class 8.8				Class 10.9				Class 12.9			
(mm)	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

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 of the *Maintenance inspection Report*. The frequency and extent of periodic examinations and tests may also depend on national regulations.

⚠WARNING Failure to perform each procedure as presented and scheduled may cause 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 Terex approved replacement parts.

☑ Machines that have been out of service for a period longer than 3 months must complete the quarterly inspection.

Machine Configuration:

☑ Unless otherwise specified, perform each procedure with the machine in the following configuration:

- Machine parked on a firm, level surface
- Mast in the stowed position
- Key switch in the off position with the key removed
- The red Emergency Stop button in the off position on the electrical control box
- Wheels chocked
- Light switches in the off position
- All external AC power supply disconnected from the machine

Scheduled Maintenance Procedures

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 a 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 dealer service 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.

Pre-delivery Preparation Report

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

Make copies for each inspection. Store completed forms as required.

Maintenance Schedule

The *Scheduled Maintenance Procedures* section and the *Maintenance Inspection Report* have been divided into subsections. 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 Repor*t 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 Report

Fundamentals

It is the responsibility of the owner or 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, acceptable
N = no, remove from service
R = repaired

Comments

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

Genie
A TEREX BRAND

Terex South Dakota, Inc USA
500 Oak Wood Road
PO Box 1150
Watertown, SD 57201-6150
(605) 882-4000

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

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

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(s) to perform.

☐	**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**

- 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		**Y**	**N**	**R**
A-1	Inspect the manuals and decals			
A-2	Pre-operation inspection			
A-3	Function tests			
Perform after 8 hours:				
A-4	Engine maintenance			
A-5	Generator maintenance			
Perform after 10 miles:				
A-6	Axle maintenance			
Perform after 25 miles:				
A-6	Axle maintenance			
Perform after 50 miles:				
A-6	Axle maintenance			
Perform after 40 hours:				
A-7	30-day service			
Perform after 50 hours:				
A-8	Engine maintenance			
Perform weekly:				
A-9	Coupler			
Perform after 100 hours:				
A-10	Grease turntable bearing			
A-11	Engine maintenance - Kubota models			
Perform after 200 hours:				
A-12	Engine maintenance - Kubota models			

Checklist B		**Y**	**N**	**R**
B-1	Batteries			
B-2	Electrical wiring			
B-3	Lug nuts			
B-4	Hydraulic oil analysis			
B-5	Engine maintenance			
B-6	Engine maintenance - Kubota models			
B-7	Generator maintenance			
Perform quarterly:				
B-8	Coupler			
Perform every 400 hours:				
B-9	Engine maintenance - Kubota models			
Perform every 3000 miles:				
B-10	Axle maintenance			

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(s) to perform.

☐	**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**

- 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		**Y**	**N**	**R**
C-1	Inspect tower extend/retract cables			
C-2	Engine maintenance			
Perform every 6000 miles:				
C-3	Axle maintenance			
Perform after 750 hours:				
C-4	Engine maintenance - Isuzu models			
Perform every 800 hours:				
C-5	Engine maintenance - Kubota models			

Checklist D		**Y**	**N**	**R**
D-1	Engine maintenance - Kubota models			
D-2	Generator maintenance			
D-3	Hydraulic filters			
D-4	Engine maintenance - Isuzu models			
Perform every 1250 hours:				
D-5	Engine maintenance - Isuzu models			
Perform every 1500 hours:				
D-6	Engine maintenance			
D-7	Generator maintenance			
Perform annually:				
D-8	Tongue jack and outrigger jack maintenance			
Perform every 12,000 hours:				
D-9	Axle maintenance			

Checklist E		**Y**	**N**	**R**
E-1	Hydraulic oil analysis			
Perform every 3000 hours:				
E-2	Engine maintenance			
Perform every 2 years:				
E-3	Engine maintenance			
Perform every 4500 hours:				
E-4	Generator maintenance			
Perform every 15,000 hours:				
E-5	Generator maintenance			

Comments

A-1
Inspect the Manuals and Decals



Terex 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 inside the cabinet.

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 Terex distributor or Terex if replacement manuals or decals are needed.

Checklist A Procedures

A-2
Perform Pre-operation Inspection



Terex 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



Terex 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.

- Engine oil level – check
- Coolant level – check/add
- Fuel system filter/water separator – drain
- Engine tightness – check for leaks
- Exhaust system – check for leaks
- Loose or missing fasteners

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

A-5
Perform Generator Maintenance



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

- Clean and inspect the generator exterior
- Clean and replace the generator air filters - (if equipped)

Marathon Manual	
Genie part number	116188

Checklist A Procedures

A-6
Perform Axle Maintenance



Axle specifications require that this procedure be performed initially and following a wheel change after the first 10, 25 and 50 miles.

Proper axle maintenance, following the axle manufacturer's maintenance schedule, is essential to good axle performance and service life. Failure to perform the maintenance procedures can lead to poor axle performance and component damage.

Required maintenance procedures and additional axle information is available in the Axis Axle Operator Maintenance Manual included with your machine.

A-7
Torque the Wheel Lug Nuts



Axle specifications require that this procedure be performed initially at 10, 25 and 50 miles of use, or after reinstallation of a tire.

Maintaining the wheel lug nuts at proper torque is essential to safe operation and good service life of the tires, wheel and axle.

1 Check each lug nut for proper torque. Refer to Specifications, Machine Specifications.

Checklist A Procedures

A-8
Perform Engine Maintenance



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-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

A-9
Perform Coupler Maintenance



Coupler specifications require that this procedure be performed weekly.

Maintaining the coupler in good condition is essential to safe operation and good performance. Coupler failure could result in a machine tip-over during transport, and component damage may also result if problems are not discovered and repaired in a timely fashion.

1 Check coupler welds and mounting bolt torque. Torque the fasteners to 35 ft-lbs / 48 Nm.

⊙ Result: 1.5 full threads of the locking bolt must be exposed beyond the lock nut after the adjustment.

2 Apply automotive grease to the coupler ball pocket.

3 Oil coupler pivot points using SAE 30 motor oil.

Checklist A Procedures

A-10
Grease the Turntable Rotation Bearing and Rotate Gear



Terex specifications require that this procedure be performed every 100 hours of operation.

Frequent application of lubrication to the turntable bearing and rotate gear is essential to good machine performance and service life. Continued use of an improperly greased bearing and gear will result in component damage.

1 Lower all four outriggers to the ground and level the machine.

2 Remove the tower transport lock pin.

3 Raise the tower to a vertical position.

4 Locate the grease fitting on the inner race of the

5 bearing.

6 Pump grease into the tower rotation bearing. Rotate the tower in increments of 4 to 5 inches / 10 to 13 cm at a time and repeat this step until the entire bearing has been greased.

7 Remove retaining fasteners from the the pinion gear guard. Remove the guard.

8 Apply grease to each tooth of the pinion gear.

9 Rotate the tower to transfer the grease from the pinion gear to the teeth of the rotation bearing. Repeat steps 5 and 6 until all gear teeth are thoroughly greased.

10 Install the pinion gear guard and securely tighten the retaining fasteners. Do not over tighten.

Grease Specifications
Chevron Ultra-duty grease, EP NLGI 2 (lithium based) or equivalent

A-11
Perform Engine Maintenance - Kubota



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

- Check fuel lines and clamps

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number)

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

A-12
Perform Engine Maintenance - Kubota



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

- Change engine oil
- Replace oil filter

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number)

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

Checklist B Procedures

B-1
Inspect the Engine Start Battery



Terex specifications require that this procedure be performed every 250 hours or quarterly, whichever comes first.

Proper battery condition is essential to good engine performance and operational safety. Improper fluid levels or damaged cables and connections can result in engine 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.

Note: Fully charge the batteries and allow the batteries to rest 24 hours before performing this procedure to allow the battery cells to equalize.

1 Open the side covers.

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 Be sure that the battery separator wire connections are tight (if equipped).

Models without maintenance-free or sealed batteries:

5 Put on protective clothing and eye wear.

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

7 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° F / 5.5° C above 80° F / 26.7° C.
- Subtract 0.004 from the reading of each cell for every 10° F / 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 11.

☒ Result: One or more battery cells display a specific gravity of 1.276 or below. Proceed to step 8.

8 Perform an equalizing charge OR fully charge the battery(s) and allow the battery(s) to rest at least 6 hours.

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

10 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° F / 5.5° C above 80° F / 26.7° C.
- Subtract 0.004 from the reading of each cell for every 10° F / 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 11.

☒ Result: One or more battery cells display a specific gravity from 1.218 to 1.269. The battery is still usable, but at a lower performance. The battery will need to be recharged more often. Proceed to step 11.

☒ Result: One or more battery cells display a specific gravity from 1.217 to 1.173. The battery is approaching the end of its life. Proceed to step 11.

☒ 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 1.177. Replace the battery.

11 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.

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

13 Close the side covers.

B-2
Inspect the Electrical Wiring



Terex specifications require 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 electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

1 Inspect the following areas for burnt, chafed, corroded pinched and loose wires:

- Ground controls
- Battery
- Engine
- Mast
- Lighting junction box
- Trailer lighting wire harness

2 Inspect for a lite, even coating of dielectric grease in the following locations:

- Lighting junction box
- Ground controls
- All wire harness connectors

Note: Do not apply excessive amounts of dielectric grease to harness connectors, pins or sockets.

- Note: Do not apply dielectric grease to a engine ECU/ECM or engine harness connectors.

Checklist B Procedures

B-3
Torque the Wheel Lug Nuts



Axle specifications require that this procedure be performed initially at 10, 25 and 50 miles of use, or after reinstallation of a tire.

Maintaining the wheel lug nuts at proper torque is essential to safe operation and good service life of the tires, wheel and axle.

1 Check each lug nut for proper torque. Refer to Specifications, Machine Specifications.

B-4
Perform Hydraulic Oil Analysis



Terex specifications require 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 or hydraulic filters 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 frequently.

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

B-4
Perform Engine Maintenance



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

- Inspect alternator and fan belts

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

B-6
Perform Engine Maintenance



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

- Inspect alternator and fan belts

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

Checklist B Procedures

B-7
Perform Generator Maintenance



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

- Clean and inspect the generator exterior
- Clean and replace the generator air filters - (if equipped)

Marathon Manual	
Genie part number	116188

B-8
Perform Coupler Maintenance



Coupler specifications require that this procedure be performed quarterly.

Maintaining the coupler in good condition is essential to safe operation and good performance. Coupler failure could result in a machine tip-over during transport, and component damage may also result if problems are not discovered and repaired in a timely fashion.

1 Check coupler welds and mounting bolt torque. Torque the fasteners to 35 ft-lbs / 48 Nm.

⊙ Result: 1.5 full threads of the locking bolt must be exposed beyond the lock nut after the adjustment.

2 Apply automotive grease to the coupler ball pocket.

3 Oil coupler pivot points using SAE 30 motor oil.

Checklist B Procedures

B-9
Perform Engine Maintenance



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

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

B-10
Perform Axle Maintenance



Axle specifications require that this procedure be performed quarterly or every 3,000 miles, whichever comes first.

Proper axle maintenance, following the axle manufacturer's maintenance schedule, is essential to good axle performance and service life. Failure to perform the maintenance procedures can lead to poor axle performance and component damage.

Required maintenance procedures and additional axle information is available in the Axis Axle Operator Maintenance Manual included with your machine.

Checklist C Procedures

C-1
Inspect the Tower Extend/Retract Cables and Pulleys



Terex specifications require that this procedure be performed every 500 hours or semi-annually, whichever comes first.

Maintaining the winch is essential to good machine performance and safe operation. An unsafe working condition exists if the winch has excessive wear and/or does not operate smoothly, free of hesitation and binding.

Note: Terex requires that this procedure be performed every 500 hours or semi-annually, whichever comes first. Detection of damage to the cables or pulleys is essential for safe machine operation. An unsafe working condition exists if these components are damaged and do not operate smoothly. Regular inspection of this system allows the inspector to identify changes in the operating condition that may indicate damage.

Note: Perform this procedure with the tower in the stowed position.

1 Lower all four outriggers to the ground and level the machine.

2 Remove the tower transport lock pin.

3 Fully extend the tower in a horizontal direction.

⚠WARNING Tip-over hazard. The machine will tip over when the tower is extended if the outriggers are not lowered to the ground.

Visually inspect the cables and components for the following:

- frayed or broken wire strands
- kinks in the cable
- corrosion
- paint or foreign materials
- split or cracked cable ends
- cables are on all pulleys
- cables at end of adjustment range
- no broken or damaged pulleys
- no unusual or excessive pulley wear
- all fasteners in place and secure

Checklist C Procedures

C-2
Perform Engine Maintenance



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-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

C-3
Perform Axle Maintenance



Axle specifications require that this procedure be performed semi-annually or every 6,000 miles, whichever comes first.

Proper axle maintenance, following the axle manufacturer's maintenance schedule, is essential to good axle performance and service life. Failure to perform the maintenance procedures can lead to poor axle performance and component damage.

Required maintenance procedures and additional axle information is available in the Axis Axle Operator Maintenance Manual included with your machine.

Checklist C Procedures

C-4
Perform Engine Maintenance



Engine specifications require that this procedure be performed every 750 hours.

Required maintenance procedures and additional engine information is available in the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609

C-5
Perform Engine Maintenance



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

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number).

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

Checklist D Procedures

D-1
Perform Engine Maintenance

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-E and V1505-E Operator's Manual (Kubota 16683-89169 part number).

Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

D-2
Check the Tower Rotation Bearing Bolts

Engine specifications require that this procedure be performed every 1000 hours or annually, whichever comes first.

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

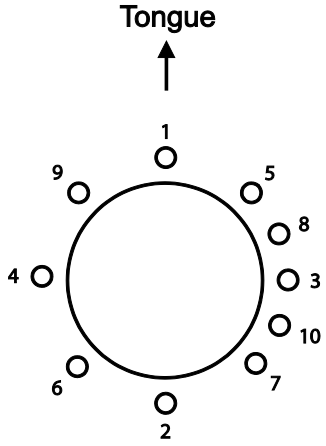
Maintaining proper torque on the tower rotation bearing bolts is essential to safe machine operation. Improper bolt torque could result in an unsafe operating condition and component damage.

1 Lower all four outriggers to the ground and level the machine.

2 Remove the tower transport lock pin.

3 Raise the tower to a vertical position.

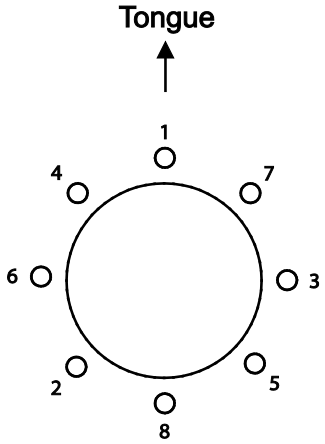
4 Check to be sure that each tower mounting bolt is torqued in sequence to specification. Refer to Section 2, Specifications.



Bolt torque sequence

Checklist D Procedures

5 Check to be sure that each bearing mounting bolt under the tower support is torqued in sequence to specification. Refer to Section 2, Specifications.



Bolt torque sequence

D-3
Replace the Hydraulic Return Filter

Terex specifications require that this procedure be performed every 1000 hours or quarterly, whichever comes first.

Replacement of the hydraulic filters 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 Open the road side cabinet cover and locate the hydraulic return filter next to the power unit.

2 Place a suitable container under the hydraulic filter.

3 Clean the area around the filter. Remove the filter with an oil filter wrench.

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

5 Install the new filter and tighten it securely by hand. Clean up any oil that may have spilled.

6 Pull out the red Emergency Stop button (if equipped) to the on position located on the back panel of the light tower cabinet.

7 Activate any tower function and inspect the filter and related components to be sure that there are no leaks.

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

Checklist D Procedures

D-4
Perform Engine Maintenance



Engine specifications require that this procedure be performed every 1000 hours or annually, whichever comes first.

Required maintenance procedures and additional engine information is available in the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609

D-5
Perform Engine Maintenance



Engine specifications require that this procedure be performed every 1250 hours or annually, whichever comes first.

Required maintenance procedures and additional engine information is available in the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609

Checklist D Procedures

D-6
Perform Engine Maintenance



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

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

D-7
Perform Generator Maintenance



Generator specifications require that this procedure be performed every 1500 hours or annually, whichever comes first.

Maintaining the generator in good condition is essential to safe operation and long service life. Storing the generator in a harsh environment may require this procedure be performed more frequently. Poor resistance may result in a generator to lose efficiency, and reduce the life of the generator.

- Check resistance to ground on generator windings, main rotating assembly, stator, exciter field and armature.

Marathon Manual	
Genie part number	116188

Checklist D Procedures

D-8
Perform Tongue Jack and Outrigger Jack Maintenance



Tongue and outrigger jack specifications require that this procedure be performed annually.

Required maintenance procedures and additional hitch information is available in the Cequent Tongue Jack Use Manual (Cequent part number F3282ML).

Cequent Tongue Jack Use Manual	
Genie part number	150140

D-9
Perform Axle Maintenance



Axle specifications require that this procedure be performed annually or every 12,000 miles, whichever comes first.

Proper axle maintenance, following the axle manufacturer's maintenance schedule, is essential to good axle performance and service life. Failure to perform the maintenance procedures can lead to poor axle performance and component damage.

Required maintenance procedures and additional axle information is available in the Axis Axle Operator Maintenance Manual included with your machine.

Checklist E Procedures

E-1
Perform Hydraulic Oil Analysis



Terex requires that this procedure be performed every 2000 hours or every two years,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 or hydraulic filters 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 frequently.

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.

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

1 Open both cabinet covers.

2 Tag and disconnect the battery cables from the battery.

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

3 Tag, disconnect and plug the hydraulic hoses from the power unit. Cap the fittings.

⚠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.

4 Tag and disconnect the electrical wiring and cables from the power unit.

5 Support and secure the power unit to a suitable lifting device.

6 Remove the fasteners securing the power unit to the cabinet. Carefully remove the power unit from the curb side of the machine.

NOTICE Component damage hazard. The hydraulic reservoir is plastic and may become damaged if allowed to fall when removed from the machine.

7 Place a suitable container under the hydraulic reservoir. Refer to Section 2, Specifications for capacity specifications.

8 Remove the hydraulic reservoir retaining fasteners from the power unit. Carefully remove the hydraulic reservoir from the power unit and completely drain it into a suitable container.

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

9 Remove the suction strainer and clean it using a mild solvent.

10 Rinse out the inside of the reservoir using a mild solvent.

11 Install the suction strainer.

12 Install the hydraulic reservoir onto the power unit.

13 Install the hydraulic reservoir retaining fasteners and securely tighten. Do not overtighten.

14 Install the hydraulic power unit onto the machine.

15 Fill the reservoir with hydraulic oil to within a 1/2" from the top with the cylinders collapsed.

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

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

18 Operate all machine functions through 5-10 full cycles to fully remove air from the system.

19 Make sure unit is in a clear area during steps 17 and 18 as air in the cylinders can cause sudden movements of the tower.

E-2
Perform Engine Maintenance



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

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

Checklist E Procedures

E-3
Perform Engine Maintenance



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

Required maintenance procedures and additional engine information is available in the Kubota D1105-E and V1505-E Operator's Manual (Kubota 16683-89169 part number) OR the Isuzu 4LE1 Diesel Engine Owner's Manual (Isuzu part number IDE-6033) OR the Isuzu 4LE2 Diesel Engine Owner's Manual (Isuzu part number IDE-6450).

Isuzu 4LE1 Diesel Engine Owner's Manual	
Genie part number	116133
Isuzu 4LE2 Diesel Engine Owner's Manual	
Genie part number	1264609
Kubota D-1105 and V-1505 Operator's Manual	
Genie part number	893020

E-4
Perform Generator Maintenance



Generator specifications require that this procedure be performed every 4500 hours or every three years, whichever comes first.

Maintaining the generator in good condition is essential to safe operation and long service life. Storing the generator in a harsh environment may require this procedure be performed more frequently. Poor resistance may result in a generator to lose efficiency, and reduce the life of the generator.

Marathon Manual	
Genie part number	116188

E-5
Perform Generator Maintenance



Generator specifications require that this procedure be performed every 15,000 hours or every 19 years, whichever comes first.

Maintaining the generator in good condition is essential to safe operation and long service life. Storing the generator in a harsh environment may require this procedure be performed more frequently. Poor resistance may result in a generator to lose efficiency, and reduce the life of the generator.

Marathon Manual	
Genie part number	116188

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 Terex approved replacement parts.

☑ Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.

Machine Configuration:

☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:

- Machine parked on a firm, level surface
- Mast in the stowed position
- Key switch in the off position with the key removed
- The red Emergency Stop button in the off position on the electrical control box
- Wheels chocked
- Light switches in the off position
- All external AC power supply disconnected from the machine

About This Section

Most of the procedures in this section should only be performed by 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 a 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.

Lighting

1-1 How to Remove a Lamp

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

⚠CAUTION Burn hazard. Beware of hot lamp components. Contact with hot lamp components may result in severe burns.

1 Turn off all machine power.

2 Remove the light lens mounting fasteners and remove the lens.

3 Remove the spring securing the lamp to the lamp retainer.

NOTICE Component damage hazard. Contacting the lamp with bare skin can cause damage to the lamp. Do not allow bare skin contact with the lamps.

4 Wrap a clean cloth around the lamp and remove it from the socket.

Note: Be sure to wrap a clean cloth around the lamp when installing it into the lamp socket.

1-2 How to Check Line Voltage

Correct line voltage at the lamp socket is essential for proper operation of the lighting system.

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

1 Turn off all machine power.

2 Remove the cover from the lamp junction box.

Note: The junction box is located between the light housings at the top of the mast.

1 Locate the correct wiring for the lamp to be tested.

2 Connect a voltmeter to the lamp wires.

3 Start the engine.

4 Turn the appropriate circuit breaker light switch to the "ON" position.

5 Observe the voltage as the lamps warm up. Refer to the following chart.

Note: It can take up to 5 minutes for the lights to reach full intensity. If the lights are turned off and then turned back on while they are still warm, they may not light up again for 10 to 20 minutes.

Time	Line Voltage
Initial ignition	415V AC
30 seconds	412V AC
1 minute	413V AC
2 minutes	416V AC
5 minutes	246V AC
10 minutes	251V AC

Note: If voltage reading remains high during warm up, check for loose or broken wire connections or the lamp may be faulty.

Note: The voltage readings provided in the chart are averages, voltage on your machine may vary.

1-3
How to Check the Open Circuit Voltage

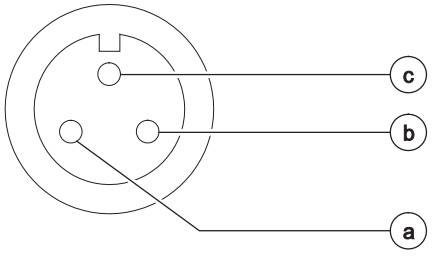
Correct line voltage at the lamp socket is essential for proper operation of the lighting system.

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

1 Turn off all machine power.

2 Locate the electrical cable of the lamp to be tested. Disconnect the cable from the junction box attached to the light bar.

3 Set a voltmeter to read 0 to 750V AC. Insert the leads of the voltmeter into pins A and B of the electrical connector socket at the junction box.



4 Start the engine.

5 Turn the appropriate circuit breaker light switch to the "ON" position and observe the reading on the voltmeter. Refer to the following chart.

Open Circuit Voltage Specification	375V AC to 465V AC

Note: If there is no reading on the meter. Repair or replace the capacitor, ballast or wiring.

Mast

2-1
How to Remove the Light Bar Assembly

Note: Perform this procedure with the tower in the stowed position.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end 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 light bar cylinder hydraulic hoses. Cap the fittings on the cylinder.

⚠ DANGER Bodily injury hazard. Spraying oil can penetrate and burn skin. Loosen oil drain plug slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

Tag and disconnect the lamp electrical cables from each junction box. Do not disconnect the main power cables from the junction boxes.

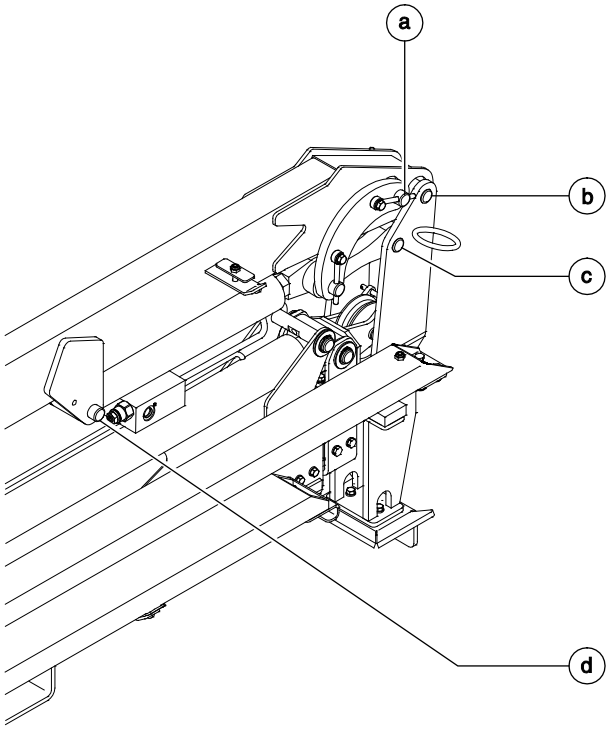
2 Remove the fasteners securing each junction box to the light bar.

3 Remove the hose and cable clamp retaining fasteners from the light bar and remove the clamp. Lay the hydraulic hoses and main power cables, with junction boxes attached, over the back of the cabinet.

4 Attach a lifting strap from an overhead crane to the light bar assembly. Support the light bar. Do not apply any lifting pressure.

5 Remove the pin retaining fasteners from light bar lift cylinder barrel-end pivot pin "D". Place a rod through the pin and twist to remove the pin.

6 Remove the pin retaining fasteners from the light bar pivot pin "B" and the light bar lever pivot pin "A". Place a rod through the pins and twist to remove the pins.



a light bar lever pivot pin
b light bar pivot pin
c light bar connecting link pivot pin
d cylinder barrel-end pivot pin

7 Carefully remove the light bar assembly from the machine.

⚠ WARNING Crushing hazard. The light bar assembly could become unbalanced and fall when removed from the machine if not properly supported by the overhead crane.

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

2-2
How to Remove the Light Bar Lift Cylinder

The light bar lift cylinder raises and lowers the light bar assembly. The light bar lift cylinder is equipped with counterbalance valves to prevent movement in the event of a hydraulic line failure.

Note: Perform this procedure with the tower in the stowed position.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end 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 light bar cylinder hydraulic hoses. Cap the fittings on the cylinder.

⚠ DANGER Bodily injury hazard. Spraying oil can penetrate and burn skin. Loosen oil drain plug slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

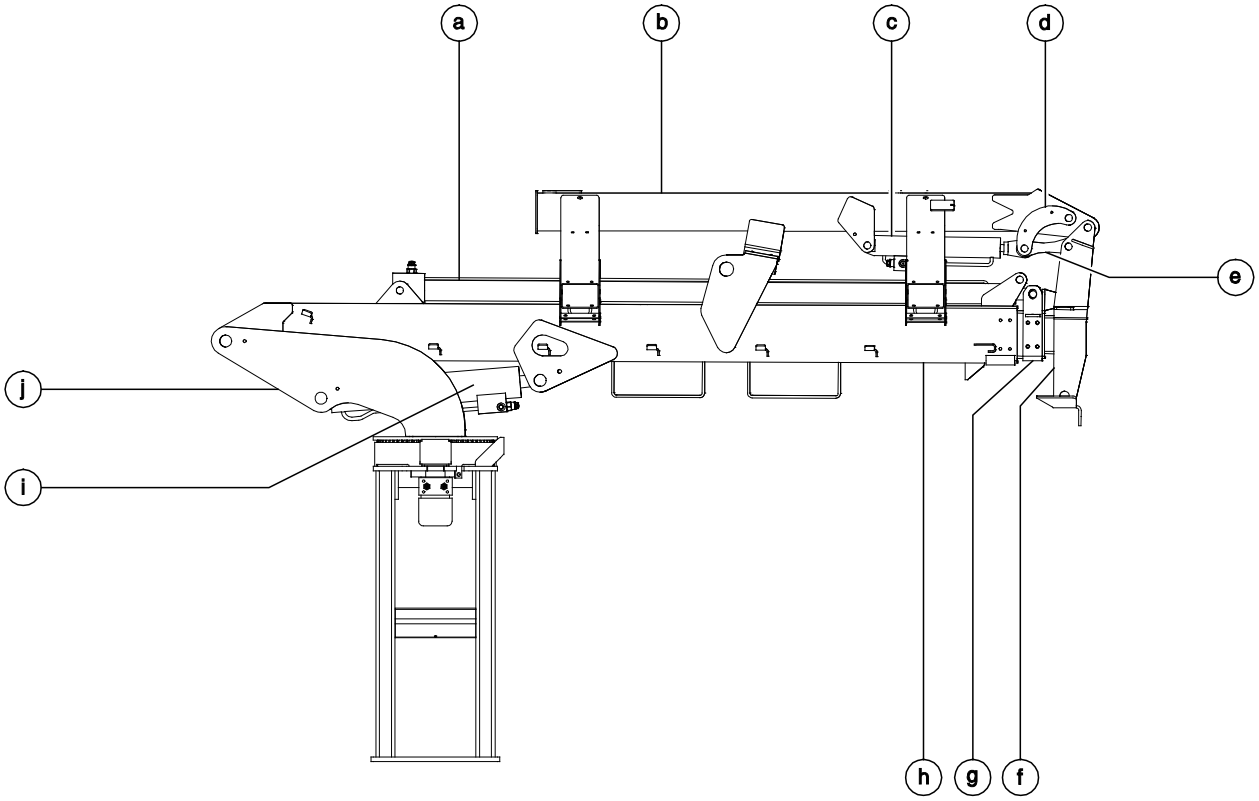
2 Support the cylinder with a suitable device to prevent it from falling.

3 Remove the pin retaining fasteners from both the rod end and barrel-end pivot pins.

4 Place a rod through the pins and twist to remove. Remove the cylinder from the machine.

Tower Components

3-1
Tower Component

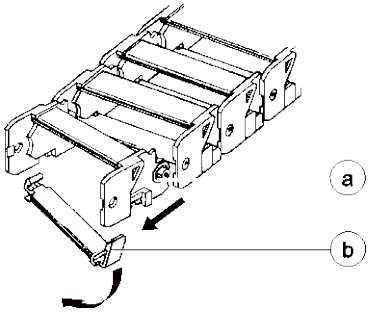


a tower extension cylinder
b light bar
c light bar cylinder
d light bar lever
e light bar link
f tower tube number 3
g tower tube number 2
h tower tube number 1
i tower lift cylinder
j tower rotation riser

3-2
How to Remove the Cable Track

The tower cable track guides the cables and hoses running up the tower. It can be repaired link by link without removing the cables and hoses that run through it. Removing the entire tower cable track is only necessary when performing major repairs that involve removing the tower.

NOTICE Component damage hazard. The tower cable track can be damaged if it is twisted.



a link separation point
b lower clip

1 Use a slotted screwdriver to pry down on the lower clip.

2 Repeat step 1 for each link.

3 To remove a single link, open the lower clip and then use a screw driver to pry the link to the side.

3-3
How to Remove the Tower Assembly

⚠WARNING Bodily injury hazard. The procedures in this section require 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 end must be replaced and then torqued to specification during installation. Refer to Section 2, Hydraulic Hose and Fitting Torque Specifications.

1 Remove the light bar. See 2-1, How to Remove the Light Bar Assembly.

2 Remove the cable track tube retaining fasteners at the number 3 tower tube.

3 Remove the hose and cable clamp fasteners and clamps from the underside of the cable track on the side of tower tube number 1.

4 Place blocks between the cable track tube and the lower cable track. Secure the cable track together.

5 Attach a suitable lifting device to the cable track. Carefully remove the cable track from the tower and rest it on top of the cabinet.

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

6 Place a block under the tower lift cylinder for support.

Tower Components

7 Remove the pin retaining fasteners from the tower lift cylinder rod-end pivot pin.

8 Use a soft metal drift to remove the pin. Rest the tower lift cylinder on the block.

9 Tag, disconnect and plug the tower extension cylinder hydraulic hoses. 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.

Position the forks from a forklift into the forklift pockets located under the tower. Secure the tower to the forks.

10 Remove the transport lock pin from the tower near the tower rest pad.

11 Remove the pin retaining fasteners from the tower pivot pin at the tower rotation riser.

12 Use a soft metal drift to remove the tower pivot pin. Carefully remove the tower assembly from the machine and place it on a structure capable of supporting it.

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

3-4 How to Disassemble the Tower

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

1 Remove the tower assembly. See 3-2, How to Remove the Tower Assembly.

2 Tag, disconnect and plug the light bar lift cylinder hydraulic hoses. 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.

3 Attach a suitable lifting device to the light bar cylinder.

4 Remove the pin retaining fasteners from the light bar link pivot pin. Use a soft metal drift to remove the pin. Remove the cylinder from the tower assembly with links and levers attached.

Note: There is a spacer tube between the two links that may fall out when the pivot pin is removed.

5 Remove the cable retaining nut from the extend cable at the extension end of the tower, located near the extend cylinder rod-end pivot pin. Pull the cable end out of the pivot pin.

6 Remove the external snap rings from both the tower extension cylinder rod-end pivot pin and the extend cable pivot pin. Use a soft metal drift to remove the pins.

Tower Components

7 Attach a lifting strap from an overhead crane to the tower extension cylinder.

8 Remove the external snap rings from the tower extension cylinder barrel-end pivot pin. Use a soft metal drift to remove the pin. Carefully remove the cylinder from the machine.

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

9 Remove the cable retaining nut from the retract cable, located on the bottom of tower tube number 1, at the extension end of the tower.

10 Label and remove the wear pads from the extension end of the number 1 tower tube.

11 Attach a lifting strap from an overhead crane to the number 2 and 3 tower tubes.

12 Support and slide the number 2 and 3 tower tubes out of the number 1 tower tube and place them on a structure capable of supporting them.

⚠WARNING Crushing hazard. The number 2 and 3 tower tubes could become unbalanced and fall when removed from the number 1 tube if not properly supported by the overhead crane.

⚠CAUTION Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling the cable.

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

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

Note: As the number 2 and 3 tower tubes are removed from the number 1 tower tube, guide the retract cable out from the slot in the bottom of the number 1 tower tube.

13 Working at the extension end of the number 2 tower tube, remove the cotter pins from the two clevis pins that surround the cable pulley. Remove the clevis pins. Do not remove the pulley clevis pin.

Note: Always use a new cotter pin when installing a clevis pin.

Tower Components

14 Pull the extend cable free of the pulley mount and lay it flat on top of the number 3 tower tube.

⚠ CAUTION Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling the cable.

15 Label and remove the wear pads from the extension end of the number 2 tower tube.

16 Attach a lifting strap from an overhead crane to the number 3 tower tube.

17 Support and slide the number 3 tower tube from the number 2 tower tube and place it on a structure capable of supporting it.

⚠ WARNING Crushing hazard. The number 2 and 3 tower tubes could become unbalanced and fall when removed from the number 1 tube if not properly supported by the overhead crane.

⚠ CAUTION Bodily injury hazard. Cables can fray. Always wear adequate hand protection when handling the cable.

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

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

3-5 How to Remove the Tower Lift Cylinder

The tower lift cylinder raises and lowers the tower assembly. The tower lift cylinder is equipped with counterbalance valves to prevent movement in the event of a hydraulic line failure.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end 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 tower lift cylinder hydraulic hoses. 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 Support both ends of the cylinder with a suitable device to prevent it from falling.

3 Remove the pin retaining fasteners from both the rod end and barrel-end pivot pins.

4 Place a rod through the pins and twist to remove. Guide the cylinder out the pivot end of the tower and carefully remove the cylinder from the machine.

NOTICE Component damage hazard. Cables and hoses can be damaged if the cylinder is dragged across them.

3-6
How to Remove the Tower Extension Cylinder

The tower extension cylinder extends and retracts the tower assembly. The cylinder is used to extend and retract the number 2 tower tube while cables are used to extend and retract the number 3 tower tube. The tower extension cylinder is equipped with counterbalance valves to prevent movement in the event of a hydraulic line failure.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end 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 tower extension cylinder hydraulic hoses. 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 Attach a lifting strap from an overhead crane to the tower extension cylinder.

3 Remove the external snap rings from the tower extension cylinder rod-end pivot pin. Use a soft metal drift to remove the pin.

4 Remove the external snap rings from the tower extension cylinder barrel-end pivot pin. Use a soft metal drift to remove the pin.

5 Slide the extension cylinder towards the tongue end of the machine slightly and carefully

6 Remove the cylinder from machine.the

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

Tower Components

3-7 How to Remove the Tower Rotation Motor

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

Note: Perform this procedure with the tower in the stowed position and the transport lock pin installed.

1 Tag, disconnect and plug the tower rotation motor hydraulic hoses. Cap the fittings on the 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.

2 Remove the rotation motor pinion gear guard fasteners. Remove the guard.

3 Remove the rotation motor mounting fasteners.Remove the motor from the machine.

Note: When installing a rotation motor, the gear backlash will need to be adjusted. See How to Adjust the Tower Rotation Gear Backlash.

3-8 How to Adjust the Tower Rotation Gear Backlash

The rotation motor mounting fasteners are located in slotted holes to allow the adjustment of gear backlash between the motor pinion gear and the rotation bearing ring gear. Proper backlash adjustment is critical to safe machine operation and component service life. An improper backlash adjustment could decrease component service life and may result in component damage.

Note: Perform this procedure with the tower in the stowed position and the transport lock pin installed.

1 Loosen the tower rotation motor mounting fasteners. Do not remove them.

2 Push the rotation motor towards the rotation bearing as far as possible (this will push the pinion gear into the rotation bearing ring gear).

3 Loosen the lock nut on the adjustment bolt.

4 Adjust the lock nuts until there is approximately1/16 inch / 1.5 mm gap between the end of the bolt and the rotation motor case. Tighten the lock nuts of the adjustment bolt.

5 Rotate the rotation motor away from the bearing until it contacts the adjustment bolt. Torque the rotation motor fasteners to specification. Refer to Section 2, Specifications.

6 Rotate the tower through full range of motion.Check for tight spots and binding. Readjust if necessary.

4-1
Timing Adjustment-Kubota Engines

Complete information to perform this procedure is available in the Kubota 05 Series Workshop Manual (Kubota part number: 97897-02432).

Kubota 05 Series Workshop Manual	
Genie part number	31742

4-2
Glow Plugs-Kubota Engines

1 Disconnect the wiring and buss bar from the glow plugs.

2 Connect the leads from an ohmmeter between each glow plug terminal and ground.

⊙ Result: The resistance should be approximately 1 ohm.

⊠ Result: The resistance is 0 ohm or greater than 1 ohm. The glow plug is faulty.

4-3
Coolant Temperature and Oil Pressure Switches-Kubota Engines

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. Additionally a low coolant level can cause the coolant temperature switch to not work properly. Make sure that the coolant system is at proper level.

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.

Isuzu 4LE1 Engine

5-1
Timing Adjustment-Isuzu 4LE1

Complete information to perform this procedure is available in the Isuzu 4LE1 Workshop Manual (Isuzu part number: IDE-2270).

Isuzu Workshop Manual	
Genie part number	116166

5-2
Glow Plugs-Isuzu 4LE1

1 Disconnect the wiring and buss bar from the glow plugs.

2 Connect the leads from an ohmmeter between each glow plug terminal and ground.

⊙ Result: The resistance should be approximately 1 ohm.

⊠ Result: The resistance is 0 ohm or greater than 1 ohm. The glow plug is faulty.

5-3
Coolant Temperature and Oil Pressure Switches-Isuzu 4LE1

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. Additionally a low coolant level can cause the coolant temperature switch to not work properly. Make sure that the coolant system is at proper level.

The engine oil pressure switch is a normally closed switch. The switch contacts open at approximately 14 psi / 0.96 bar. If the oil pressure drops below the switch point, the contacts open and the engine will shut off to prevent damage.

6-1
Timing Adjustment-Isuzu 4LE2

Complete information to perform this procedure is available in the Isuzu 4LE2 Workshop Manual (Isuzu part number: IDE-2270).

Isuzu Workshop Manual	
Genie part number	116166

6-2
Glow Plugs-Isuzu 4LE2

1 Disconnect the wiring and buss bar from the glow plugs.

2 Connect the leads from an ohmmeter between each glow plug terminal and ground.

⊙ Result: The resistance should be approximately 1 ohm.

⊠ Result: The resistance is 0 ohm or greater than 1 ohm. The glow plug is faulty.

6-3
Coolant Temperature and Oil Pressure Switches-Isuzu 4LE2

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. Additionally a low coolant level can cause the coolant temperature switch to not work properly. Make sure that the coolant system is at proper level.

The engine oil pressure switch is a normally closed switch. The switch contacts open at approximately 14 psi / 0.96 bar. If the oil pressure drops below the switch point, the contacts open and the engine will shut off to prevent damage.

Isuzu 4LE2-T Engine

7-1
Timing Adjustment-Isuzu 4LE2-T

Complete information to perform this procedure is available in the Isuzu 4LE2 Workshop Manual (Isuzu part number: IDE-2270).

Isuzu Workshop Manual	
Genie part number	116166

7-2
Glow Plugs-Isuzu 4LE2-T

1 Disconnect the wiring and buss bar from the glow plugs.

2 Connect the leads from an ohmmeter between each glow plug terminal and ground.

⊙ Result: The resistance should be approximately 1 ohm.

⊠ Result: The resistance is 0 ohm or greater than 1 ohm. The glow plug is faulty.

7-3
Coolant Temperature and Oil Pressure Switches-Isuzu 4LE2-T

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. Additionally a low coolant level can cause the coolant temperature switch to not work properly. Make sure that the coolant system is at proper level.

The engine oil pressure switch is a normally closed switch. The switch contacts open at approximately 14 psi / 0.96 bar. If the oil pressure drops below the switch point, the contacts open and the engine will shut off to prevent damage.

8-1 Generator

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠ DANGER Electrocution/burn hazard. Attempting to service the machine before the capacitor is fully discharged will result in death or serious injury.

Note: Be sure the engine has been turned off for at least 15 minutes before servicing the machine. Use a voltmeter to confirm there is no residual voltage in the capacitor.

1 Deploy the outriggers and level the machine.

2 Remove the fasteners and the lifting bar from the top of the cabinet and mast.

3 Select and open a cabinet door. Tag and disconnect the gas strut, then continue to open the door until it comes to rest above the top panel of the cabinet. Repeat for the other side of the machine.

4 With both cabinet doors fully opened and above the top panel of the cabinet, secure the doors together using a length of rope or elastic cord.

5 Attach a lifting strap from an overhead crane to the top panel and doors assembly. Support the assembly. Do not apply any lifting pressure.

Notice: Component damage hazard. The cabinet doors and/or hinges can become damaged if excessive pressure is placed on the components. Use a spreader bar to ensure the lifting strap does not make contact with any portion of the doors.

6 Remove the fasteners securing the top cabinet panel to the front and rear cabinet end panels. Remove the top cabinet panel and doors from the machine and place it on a support of adequate capacity.

7 Pull the cover off the top of the capacitor box to access the wire harness where it connects to the generator.

⚠ CAUTION Burn hazard. Beware of hot engine components. Contact with hot engine components may result in severe burns.

8 Using an insulated conductor or a screwdriver with an insulated handle, discharge the capacitor by shorting across the capacitor terminals. Repeat for the second capacitor, if equipped.

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Use extreme caution when working with high voltage electrical components.

9 Tag and disconnect all external wires from the generator.

10 Use a lifting jack to support the rear of the engine. Do not apply any lifting pressure.

11 Remove the fasteners securing the generator to the chassis.

12 Remove the fasteners securing the generator to the engine bellhousing.

13 Pull the generator away from the engine just enough to reach the fasteners securing the generator rotor to the engine flywheel. Remove the fasteners.

14 Remove the generator from the machine.

⚠ CAUTION Crushing hazard. The generator may become unbalanced and fall if not properly supported when removed from the machine.

Generator

8-2 How to Check a Generator Capacitor

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠ DANGER Electrocution/burn hazard. Attempting to service the machine before the capacitor is fully discharged will result in death or serious injury.

Note: Be sure the engine has been turned off for at least 15 minutes before servicing the machine. Use a voltmeter to confirm there is no residual voltage in the capacitor.

1 Remove the generator capacitor cover.

2 Using an insulated conductor or a screwdriver with an insulated handle, discharge the capacitor by shorting across the capacitor terminals. Repeat for the second capacitor, if equipped.

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Use extreme caution when working with high voltage electrical components.

3 Tag and disconnect the wires attached to the capacitor(s).

4 With an ohmmeter set to its highest resistance scale, connect the ohmmeter leads to the capacitor terminals and observe the reading on the meter. Then, reverse the connections and observe the reading on the meter.

⊙ Result: The meter indicates a very low resistance which then gradually increases AND a very high resistance which then gradually decreases. The capacitor is working.

⊠ Result: The meter indicates a very high resistance which does not decrease. The capacitor is faulty and should be replaced.

⊠ Result: The meter indicates a very low resistance which does not increase. The capacitor is faulty and should be replaced.

8-3
How to Check a Generator Diode

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠ DANGER Electrocution/burn hazard. Attempting to service the machine before the capacitor is fully discharged will result in death or serious injury.

Note: Be sure the engine has been turned off for at least 15 minutes before servicing the machine. Use a voltmeter to confirm there is no residual voltage in the capacitor.

1 Remove the fasteners securing the end cover/bearing housing to the generator. Remove the cover.

2 Locate the diode at the end of the generator.

3 Tag and disconnect the positive wire lead from the diode.

4 With a multimeter set to test diodes, connect one multimeter lead to the diode terminal and the other multimeter lead to the 'Q' lead terminal of the generator. Note the results.

Note: Refer to the instructions which are provided for your multimeter to ensure the diode is accurately tested.

5 Reverse the multimeter lead connections. Note the results.

⊙ Result: The two readings are at a ratio of 3000:1 or higher. The diode is good.

☒ Result: The two readings are at a ratio of less than 3000:1. The diode is faulty and should be replaced.

Note: Before installing a new diode, clean the surface of the exciter rotor core, and run a bead of a thermal-electrical compound around the base of the diode (the threads of the diode should not be coated). Torque to 20 to 30 in-lbs / 2.2 to 3.4 Nm.

Light Ballast

9-1
Ground Controls

The timer is used to automatically start the engine and turn on the lights at a preset time.

1 Move the engine start switch to timed start.

2 On the timer, move the mode switch (upper left switch) to AUTO and the set switch (upper right switch) to RUN.

3 Using the tip of a pencil or pen, press the Reset button (R). A blinking display will show 0:00 for the time and an arrow under the day 7 (for Sunday).

4 Move the set switch to the left (clock icon) to set the present day and time.

5 A default time of AM 12:00 will appear on the display screen.

6 Press the day button (1..7) repeatedly until the arrow points to the actual day of the week.

7 Press the hour button (h) repeatedly until the actual hour of the day is displayed.

8 Press the minute button (m) repeatedly until the minute of the present hour is displayed.

9 Move the Set switch to the program position (P) to set the desired stop and start time. A default time of AM 12:00 will appear. A small 1 will appear to the right of the time with a lamp symbol above it.

10 Use the day, hour and minute buttons to set the timer to the desired start day and time.

11 Press the program button (P) to set the timer for the desired shut-off time. AM 12:00 will appear in the display with a small 2 to the right.

Note: The lamp symbol will not appear above the 2.

12 Use the day, hour and minute buttons to set the timer to the desired shut-off day and time.

13 Move the set switch to RUN.

9-2
Light Ballast

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠ DANGER Electrocution/burn hazard. Attempting to service the machine before the capacitor is fully discharged will result in death or serious injury.

Note: Be sure the engine has been turned off for at least 15 minutes before servicing the machine. Use a voltmeter to confirm there is no residual voltage in the capacitor.

Note: This procedure is only for the capacitors which are attached to the lighting ballasts. To test a generator capacitor, see 5-2, How to Check a Generator Capacitor.

1 Open both cabinet doors and locate the light ballast boxes on each side of the machine.

2 Choose a ballast box. Tag and disconnect the wire harness connector from the ballast box.

Note: If the ballast capacitor to be tested is located under another ballast box, the top ballast box will need to be removed first.

3 Remove the ballast box cover fasteners.

4 Using an insulated conductor or a screwdriver with an insulated handle, discharge the capacitor by shorting across the capacitor terminals.

Note: Refer to the instructions which are provided for your multimeter to ensure the diode is accurately tested.

⚠ DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

5 With an ohmmeter set to its highest resistance scale, connect the ohmmeter leads to the capacitor terminals and observe the reading on the meter. Then, reverse the connections and observe the reading on the meter.

⊙ Result: The meter indicates a resistance which then gradually decreases. The capacitor is working.

☒ Result: The meter indicates a very high resistance which does not decrease. The capacitor is faulty and should be replaced.

☒ Result: The meter indicates a very low resistance which does not increase. The capacitor is faulty and should be replaced.

Probable causes of capacitor failure:

- Normal end-of-life failure.
- Overheated due to light fixture heat or high ambient temperature.
- Incorrect capacitor voltage rating.
- Capacitor becomes loose in ballast box.

Fuel Tank

10-1 Fuel Tank

1 Open both cabinet doors.

2 Remove the fuel filler cap from the tank. Using an approved hand-operated pump, drain the fuel tank into a container of suitable capacity. Refer to Section 2, Specifications.

⚠ 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.

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

NOTICE Be sure to only use a hand operated pump suitable for use with diesel fuel.damage hazard. Be sure not to cut the power to the platform wiring.

3 Tag, disconnect and plug the fuel hoses from the fuel tank. Clean up any fuel that may have spilled.

Models without fuel containment option:

4 Support the fuel tank support weldment at each end using lifting jacks and blocks. Do not apply any lifting pressure. Do not directly support the fuel tank.

NOTICE Component damage hazard. The fuel tank is plastic and may become damaged if the lifting jacks are in direct contact with the plastic tank.

5 Remove the fasteners securing the fuel tank support weldment to the chassis.

6 Carefully lower the fuel tank out of the chassis and remove it from the machine.

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

Note: It may be necessary to lower the outriggers to the ground and raise the machine using the outriggers to obtain adequate clearance to completely remove the fuel tank from the machine.

Note: Clean the fuel tank and inspect for cracks and other damage before installing it onto the machine.

Models with fuel containment option:

7 Support the fuel tank containment weldment at each end using lifting jacks and blocks. Do not apply any lifting pressure.

NOTICE Component damage hazard. The fuel tank is plastic and may become damaged if the lifting jacks are in direct contact with the plastic tank.

8 Remove the fasteners securing the fuel tank containment weldment to the chassis.

9 Carefully lower the fuel tank out of the chassis and remove it from the machine. Remove the fuel tank from the fuel containment weldment.

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

Note: It may be necessary to lower the outriggers to the ground and raise the machine using the outriggers to obtain adequate clearance to completely remove the fuel tank from the machine.

Note: Clean the fuel tank and inspect for cracks and other damage before installing it onto the machine.

Diagnostics



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 procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Mast in the stowed position
  - Key switch in the off position with the key removed
  - The red Emergency Stop button in the off position on the electrical control box
  - Wheels chocked
  - Light switches in the off position
  - 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.
- ☑ Read each appropriate fault code thoroughly. Attempting short cuts may produce hazardous conditions.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

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

⚠DANGER High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠CAUTION Burn hazard. Beware of hot engine components. Contact with hot engine components may cause severe burns. Use caution when working around lamps or a hot engine.

Diagnostic Charts

Problem	Possible Cause	Solution
Mast will not rise to the operating position	Mast retention pin is in place	Retract the mast retention pin.
	Faulty cable or pulley	Inspect and repair as needed.
	Faulty winch	Inspect and repair as needed.
Engine will not turn over	No power	Inspect and repair battery cables and connections as needed. Inspect and charge or replace battery as needed. Inspect and replace fuse.
	Faulty starter	Inspect and repair as needed.
	Faulty starter switch	Inspect and repair switch and/or switch wiring as needed
Engine overheats	Low coolant level	Top off radiator and coolant overflow tank with correct coolant mixture per engine operator's manual.
	Radiator blocked	Clear the radiator fins.
	Radiator or cooling system clogged or corroded	Inspect and repair as needed.
	Fan or radiator cap faulty	Inspect and repair as needed.
	Thermostat faulty	Inspect and repair as needed.
	Head gasket faulty	Inspect and repair as needed.
	Fan belt is loose	Tighten or replace fan belt.
	Unsuitable fuel used	Drain fuel system and replace with specified fuel.
Engine runs but produces a dense smoke	Crankcase oil level is too high	Drain oil to the proper level.
	Low compression	Inspect for broken/seized piston rings or inspect valve clearance.
	Injector nozzle faulty	Replace injector.
	Combustion incomplete due to faulty timing, poor valve adjustment or poor compression	Inspect and repair as needed.

Diagnostic Charts

Engine runs rough	Air or contaminated fuel in fuel system	Inspect and repair as needed.
	Clogged or leaking fuel system	Replace fuel lines, tighten all connections, inspect the fuel pickup tube and inspect the fuel filter.
	Clogged exhaust system	Inspect and repair as needed.
	Clogged air filter	Inspect and repair or replace as needed.
	Clogged or stuck fuel injectors	Inspect and repair as needed.
	Faulty governor or fuel pump	Inspect and repair as needed.
Engine turns over but will not start or is difficult to start	Empty fuel tank	Add fuel to tank.
	Leaking or pinched fuel lines	Inspect and repair as needed.
	Clogged fuel filter	Replace filter.
	Air or water mixed in fuel	Air: Tighten fule lines and vent fuel system air at injection pump. Water: Drain fuel and replace filter; inspect and clean or replace injector as needed.
	Fuel injection nozzle clogged	Inspect and repair as needed.
	Fuel injection pump faulty	Inspect and repair as needed.
	Fuel solenoid valve faulty	Inspect and repair as needed.
	Faulty glow plug	Inspect and repair as needed.
	Faulty relay or wiring connection in control box	Inspect and repair as needed.
	Battery is discharged or low	Charge or replace battery.
	Air cleaner is dirty	Clean or replace more frequently.
Engine battery quickly discharged	Battery electrolyte low	Add distilled water and charge.
	Fan belt slips	Inspect and repair as needed.
	Wiring loose or disconnected	Inspect and repair as needed.
	Faulty alternator, rectifier or diode	Inspect and repair as needed.
	Faulty battery	Replace battery.

Engine runs but battery voltage is low	Faulty alternator	Inspect and repair as needed.
Engine runs but lights will not operate	Circuit breaker has tripped	Reset circuit breaker.
	Loose wiring connections	Inspect and repair as needed.
	Faulty generator	Inspect and repair as needed.
Lamp light output low	Dirty light fixture	Clean light fixture.
Light heads are flashing on-off	Batteries low	Charge batteries.
	Short in power supply cable	Inspect and repair as needed.
	Power supply cable connector faulty	Inspect and repair as needed.
Light head will not illuminate	End of life	Replace lamp or light head.
	Short in power supply cable	Inspect and repair as needed.
	Power supply cable connector faulty or poor connection	Inspect and repair as needed.
Unusual noise from the generator	Generator has a faulty bearing or faulty fan blade	Inspect and repair as needed.
Generator produces full voltage at no load or voltage drops at full load	Loose or broken lead wires	Inspect lead wires and connections for broken wires and loose connections.
	Rotor open or shorted	Measure resistance between leads..
	Stator grounded or shorted	Contact the Genie Service Department.
Generator voltage too high	High engine speed	Adjust the rpm Refer to Section 2, Specifications
Generator produces no voltage at no load or at full load	Faulty surge suppressor	Disconnect suppressor from circuit. If there is an obvious increase in voltage, replace the suppressor.
	Faulty capacitor	Replace capacitor.
	Loss of residual magnetism	Flash the rotor.
	Open winding	Replace the generator.

Diagnostic Charts

Generator will not hold voltage (loss of residual magnetism)	Machine has been unused for a significant length of time	Flash the rotor.
	Rotor shorting out when the unit gets hot	Inspect rotor windings for broken and/or burned wires.
	Pinched leads	Inspect and repair as needed.
	Faulty capacitor	Replace the capacitor.
	Faulty diode	Replace the diode.
	Faulty surge suppressor	Replace the surge suppressor.
Generator voltage spikes	Incorrect engine adjustment, fuel line or faulty fuel	Change fuel filter and check engine speed.
	Loose connection	Inspect all connections and repair as needed.
	Faulty ground connection	Inspect all ground connections and repair as needed.
	Load induced	Filter load.
Generator voltage low	Loss of residual magnetism	Flash the rotor.
	Low engine speed	Adjust idle. See Repair Section.
	Faulty capacitor	Replace the capacitor.
	Faulty diode	Replace the diode.

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.

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

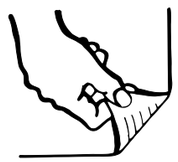
⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

Wire Color Legend

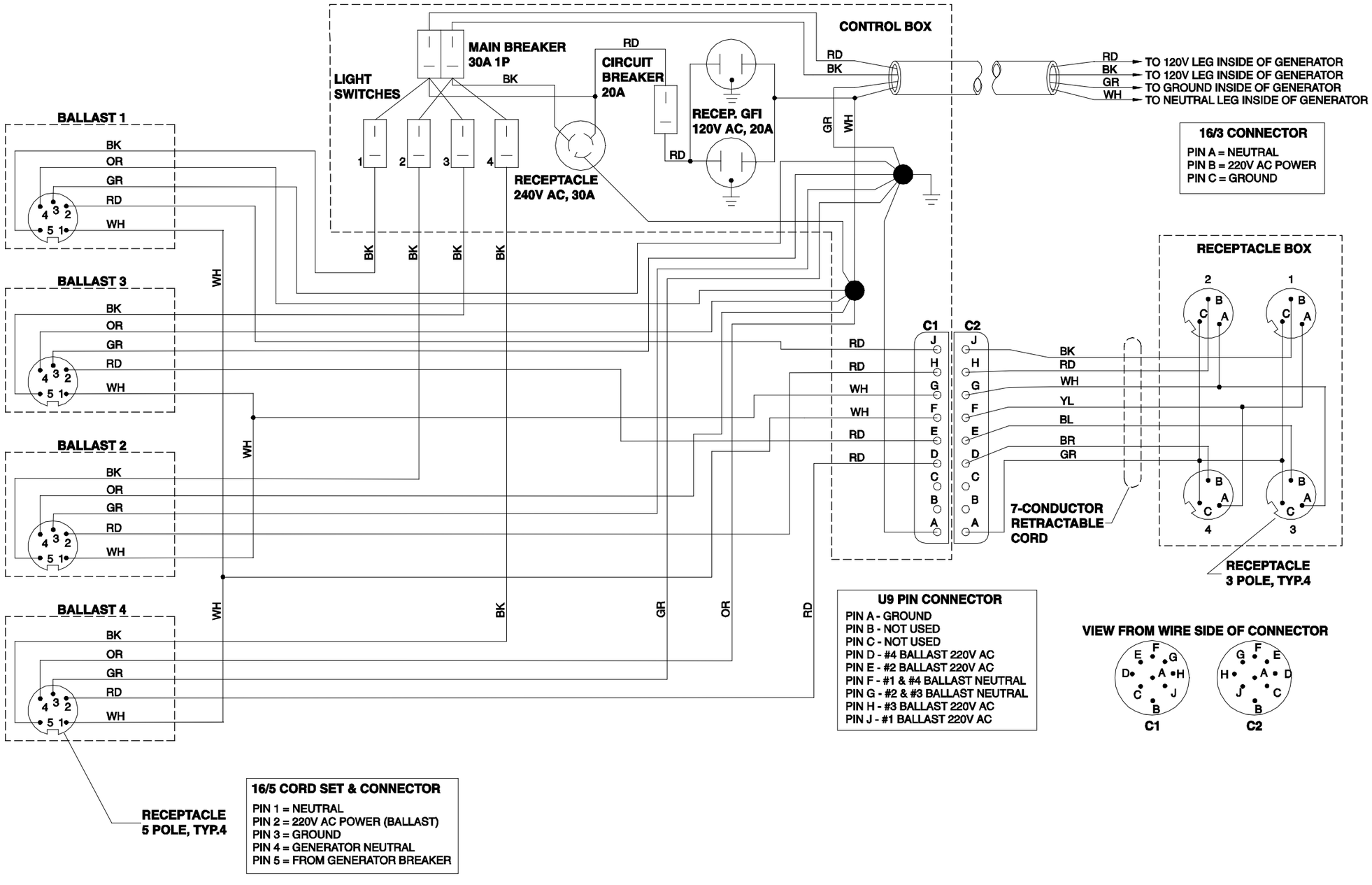
Wire Color Legend

BL	Blue
BK	Black
BR	Brown
GR	Green
OR	Orange
VI	Violet
RD	Red
WH	White
YL	Yellow
OR/BK	Orange/Black
WH/BK	White/Black
WH/RD	White/Red
GR/YL	Green/Yellow
RD/BK	Red/Black
YL/RD	Yellow/Red
BL/WH	Blue/White

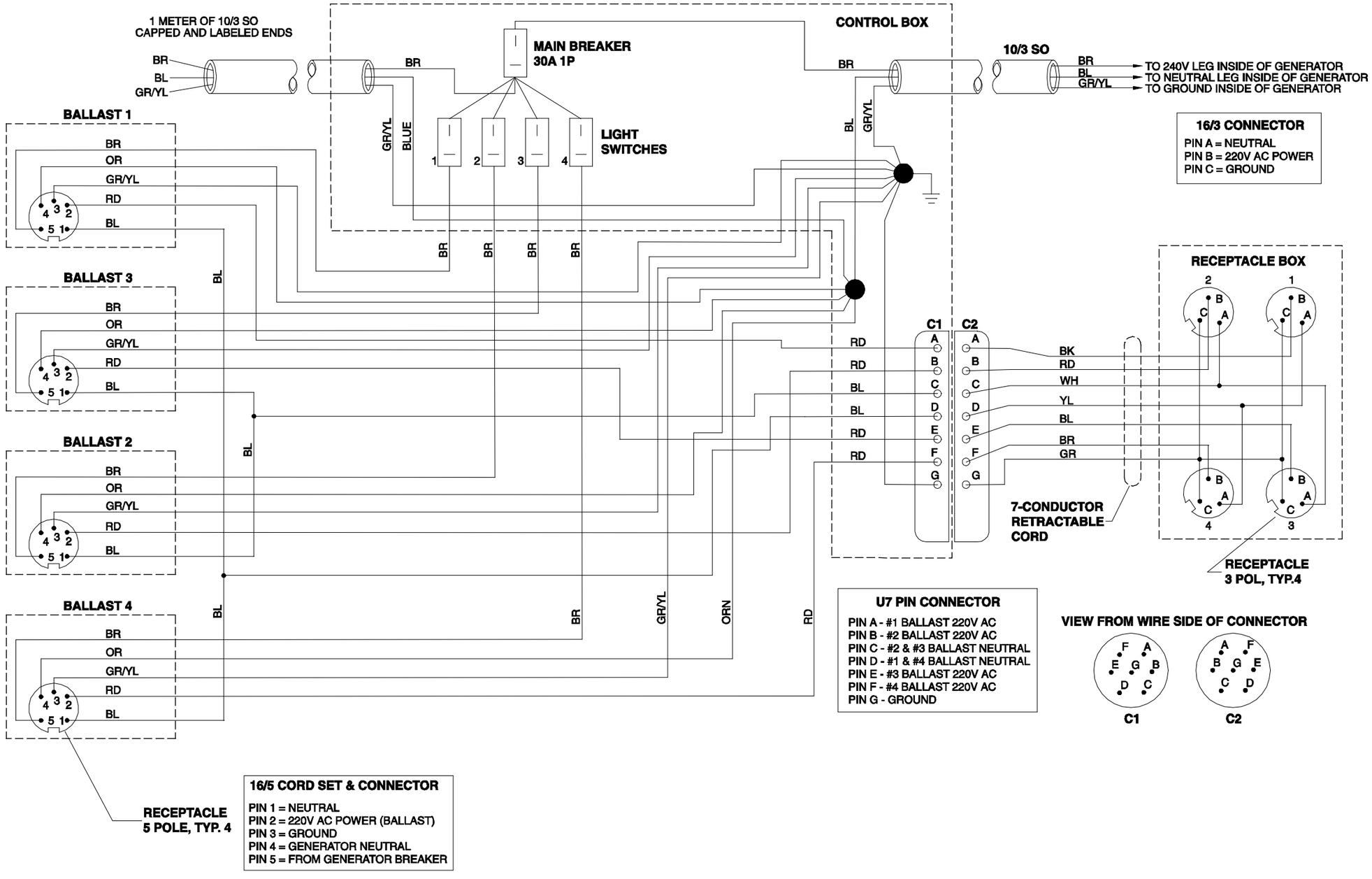
Electrical Wiring Schematic ANSI / CSA



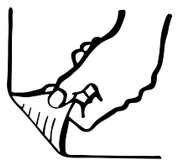
Electrical Wiring Schematic ANSI / CSA Models



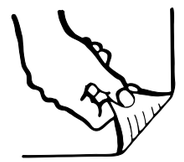
Electrical Wiring Schematic AUS Models



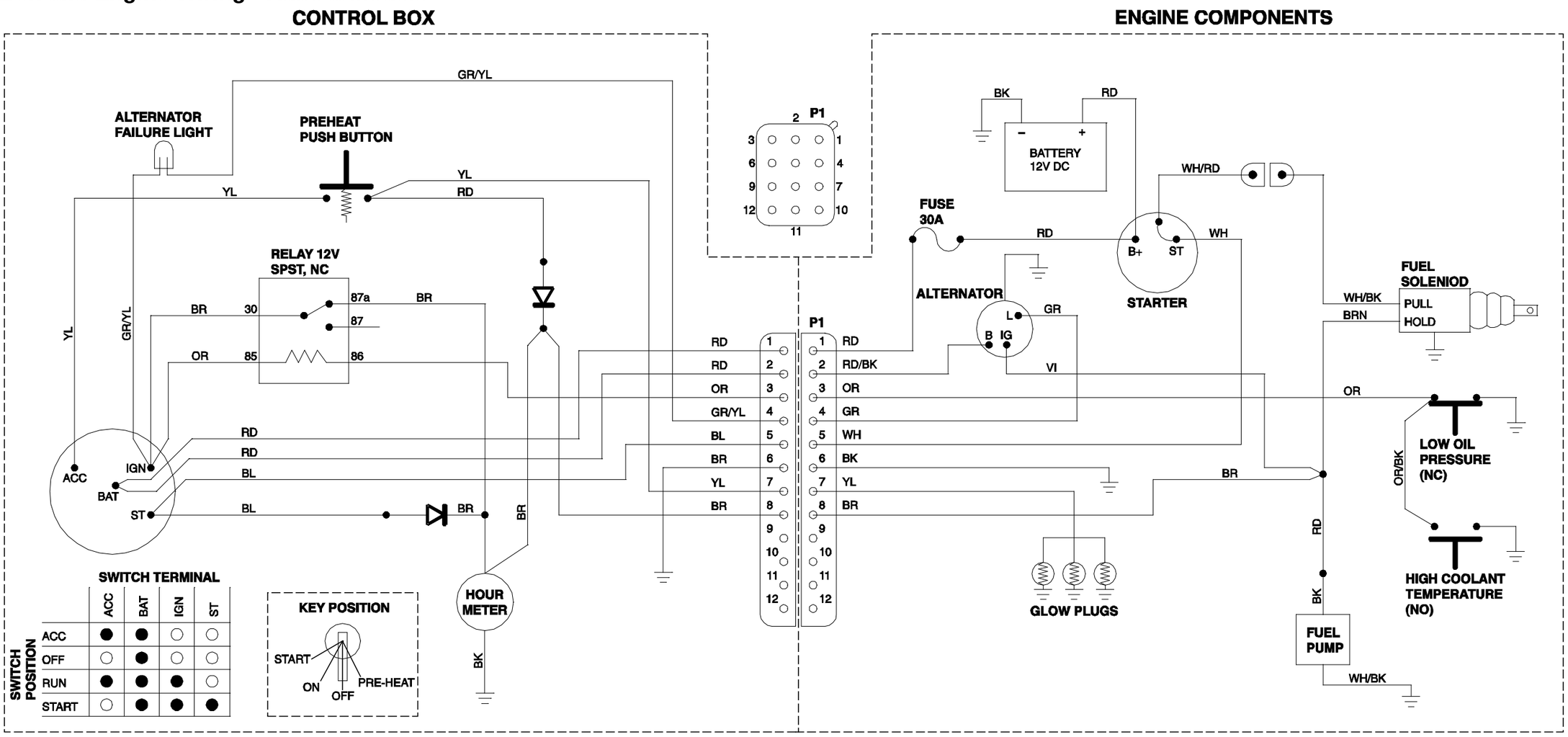
Electrical Wiring Schematic AUS



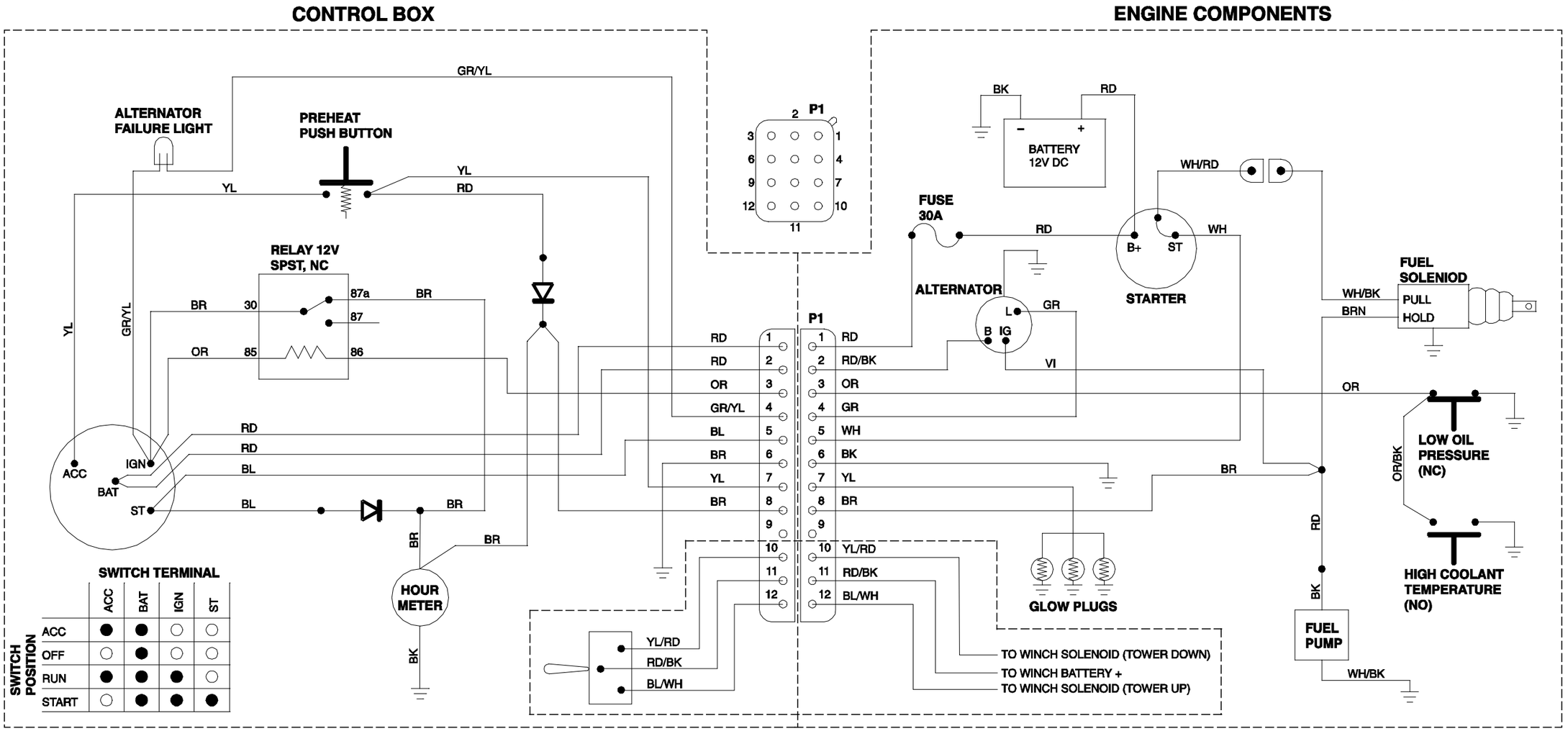
Control Box Wiring - Kubota Models



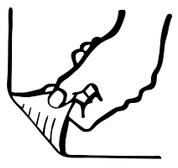
Control Box and Engine Wiring - Kubota Models



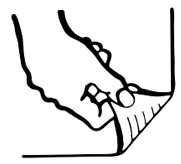
Control Box and Engine Wiring - AUS Models



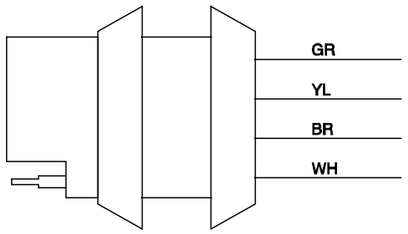
Control Box Wiring - AUS Models



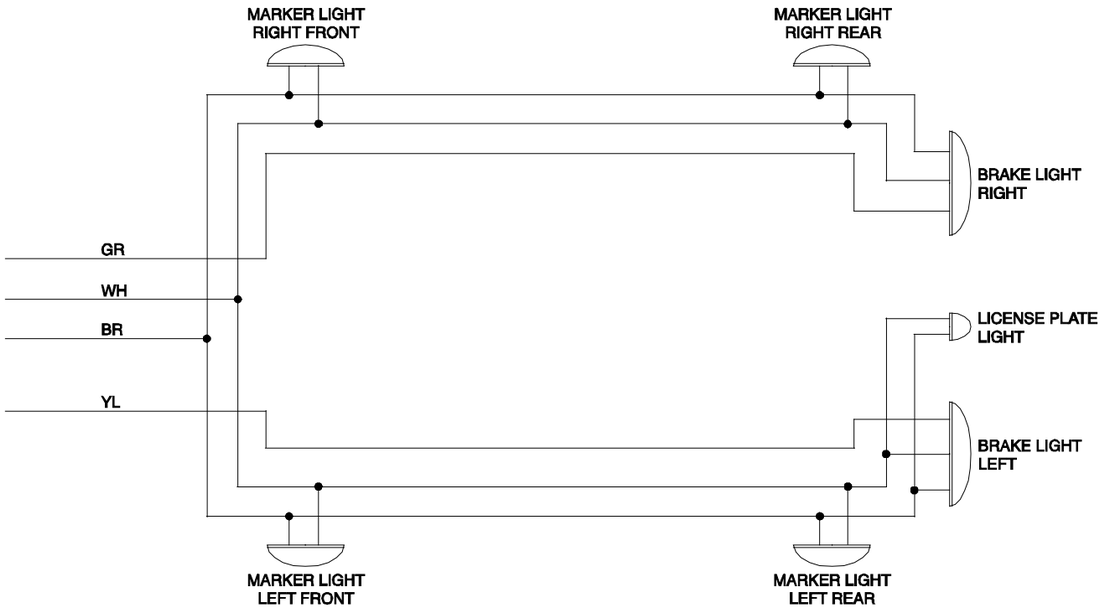
Trailer Wiring Diagram - ANSI / CSA Models

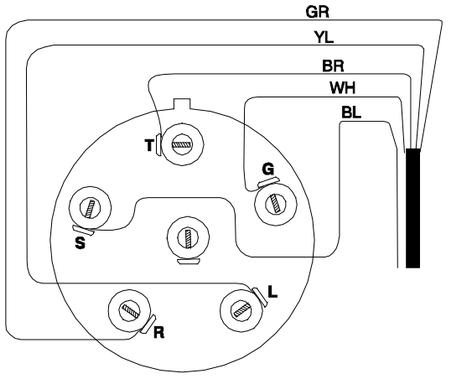


Trailer Wiring Diagram - ANSI / CSA Models

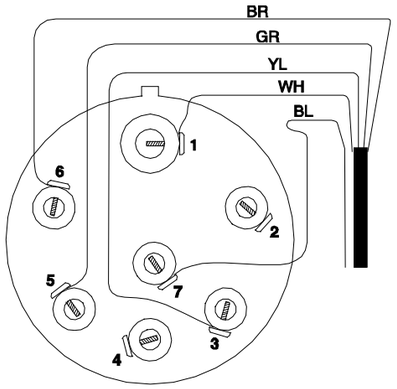


4-Way Connector Wiring

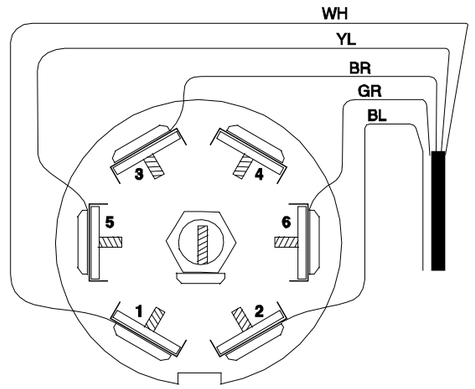




6-Way Connector Wiring

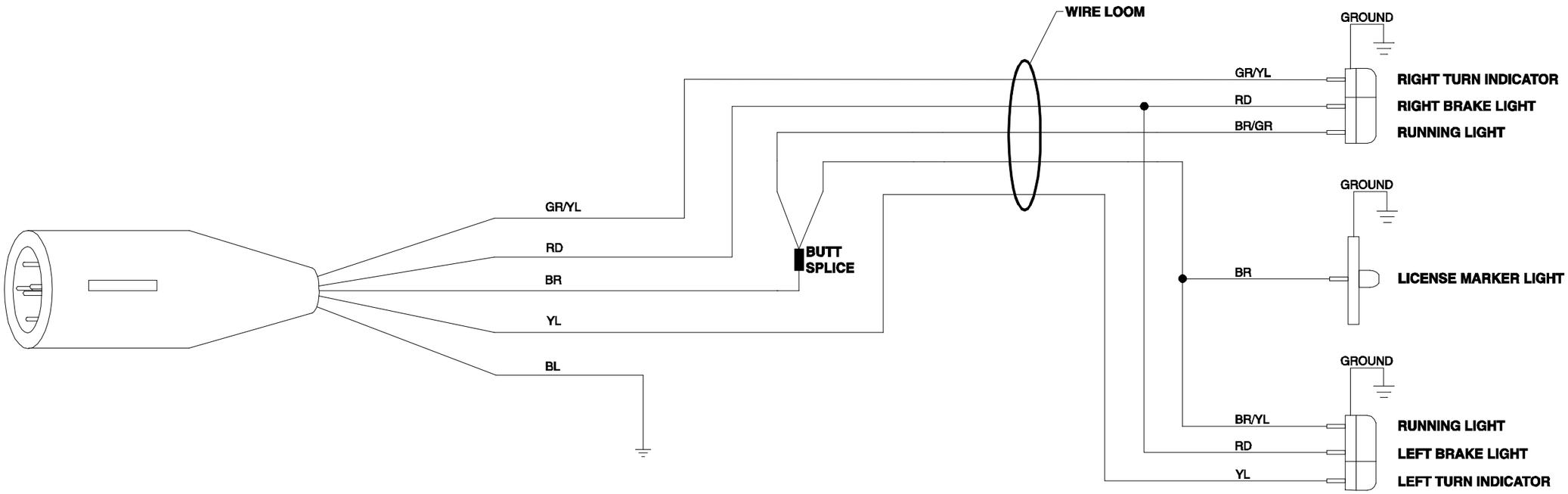


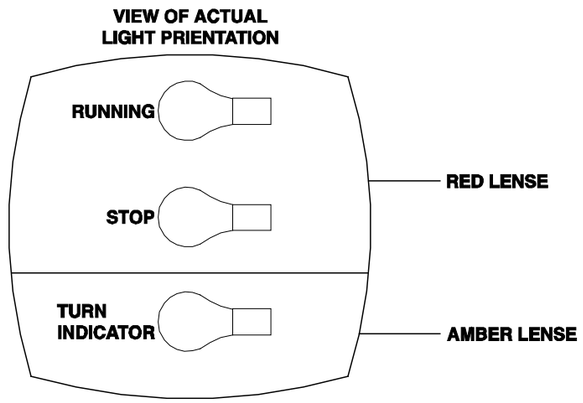
7-Way 'Round Pin' Connector Wiring



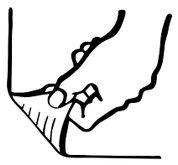
7-Way 'Blade' Connector Wiring

Trailer Wiring Diagram - AUS Models





Trailer Wiring Diagram - AUS Models



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California Proposition 65

WARNING

Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. These chemicals can be emitted from or contained in other various parts and systems, fluids and some component wear by-products. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment and vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment or vehicle and after operation. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel.

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