



Service Manual

Models
***642, 742, 943, 1043,
1055, 1255***

31211033

April 11, 2019 - Rev I

EFFECTIVITY PAGE

DATE	REVISION	DESCRIPTION
April 28, 2015	A	Original Issue Of Manual
October 30, 2015	B	Added 642, 943 and 1043 model information
January 04, 2017	C	Revised pages 2-10 thru 2-11, 2-36 thru 2-84, 3-27 thru 3-30, 4-7 thru 4-10, 6-5 thru 6-7, 7-8 thru 7-14, 9-5, 9-11, 9-13, 9-47 thru 9-49, 9-70 thru 9-80, 9-81 thru 9-100.
January 12, 2017	D	Revised page 3-29.
April 21, 2017	E	Revised page 3-34, 8-43 Add 742-943 new model information.
August 2, 2017	F	Added pages 9-69 thru 9-74
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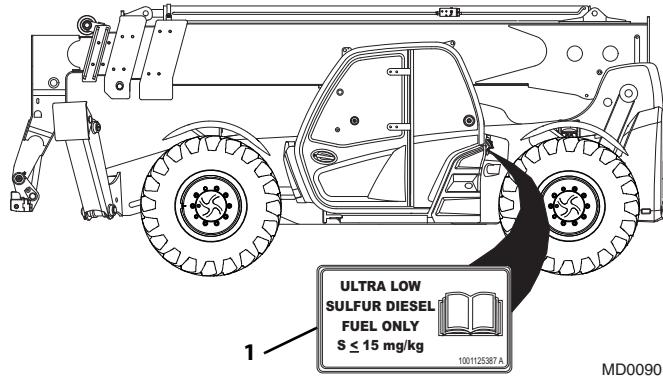
Modifications

Modifications to this machine may affect compliance with Industry Standards and/or Governmental Regulations. Any modification must be approved by JLG.

Machine Configuration

Two configurations of each machine are included in this manual. Determine if machine is equipped with Ultra Low Sulfur Fuel Decal (1) as indicated below.

- If equipped with the Ultra Low Sulfur decal, all specific references to this machine configuration will be referred to as Ultra Low Sulfur (**ULS**) from this point forward.
- If **not** equipped with the Ultra Low Sulfur decal, all specific references to this machine configuration will be referred to as Low Sulfur (**LS**) from this point forward.



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Section 1

Safety Practices

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Safety Practices

1.1 INTRODUCTION

This service manual provides general directions for accomplishing service and repair procedures. Following the procedures in this manual will help assure safety and equipment reliability.

Read, understand and follow the information in this manual, and obey all locally approved safety practices, procedures, rules, codes, regulations and laws.

These instructions cannot cover all details or variations in the equipment, procedures, or processes described, nor provide directions for meeting every possible contingency during operation, maintenance, or testing. When additional information is desired consult the local *JLG* dealer.

Many factors contribute to unsafe conditions: carelessness, fatigue, overload, inattentiveness, unfamiliarity, even drugs and alcohol, among others. For optimal safety, encourage everyone to think, and to act, safely.

Appropriate service methods and proper repair procedures are essential for the safety of the individual doing the work, for the safety of the operator, and for the safe, reliable operation of the machine. All references to the right side, left side, front and rear are given from the operator seat looking in a forward direction.

Supplementary information is available from the manufacturer in the form of Service Bulletins, Service Campaigns, Service Training Schools, the service website, other literature, and through updates to the manual itself.

1.2 DISCLAIMER

All information in this manual is based on the latest product information available at the time of publication. The manufacturer reserves the right to make changes and improvements to its products, and to discontinue the manufacture of any product, at its discretion at any time without public notice or obligation.

1.3 OPERATION & SAFETY MANUAL

The mechanic must not operate the machine until the Operation & Safety Manual has been read and understood, training has been accomplished and operation of the machine has been completed under the supervision of an experienced and qualified operator.

An Operation & Safety Manual is supplied with each machine and must be kept in the manual holder located in the cab. In the event that the Operation & Safety Manual is missing, consult the local *JLG* dealer before proceeding.

1.4 DO NOT OPERATE TAGS

Place Do Not Operate Tags on the ignition key switch and the steering wheel before attempting to perform any service or maintenance. Remove key and disconnect battery leads.

1.5 SAFETY INFORMATION

To avoid possible death or injury, carefully read, understand and comply with all safety messages.

In the event of an accident, know where to obtain medical assistance and how to use a first aid kit and fire extinguisher/fire suppression system. Keep emergency telephone numbers (fire department, ambulance, rescue squad/paramedics, police department, etc.) nearby. If working alone, check with another person routinely to help assure personal safety.

1.5.1 Safety Alert System and Signal Words



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



1.6 SAFETY INSTRUCTIONS

Following are general safety statements to consider ***before*** performing maintenance procedures on the telehandler. Additional statements related to specific tasks and procedures are located throughout this manual and are listed prior to any work instructions to provide safety information before the potential of a hazard occurs.

For all safety messages, carefully read, understand and follow the instructions ***before*** proceeding.

1.6.1 Personal Hazards

PERSONAL SAFETY GEAR: Wear all the protective clothing and personal safety gear necessary to perform the job safely. This might include heavy gloves, safety glasses or goggles, filter mask or respirator, safety shoes or a hard hat.

LIFTING: **NEVER** lift a heavy object without the help of at least one assistant or a suitable sling and hoist.

1.6.2 Equipment Hazards

LIFTING OF EQUIPMENT: Before using any lifting equipment (chains, slings, brackets, hooks, etc.), verify that it is of the proper capacity, in good working order, and is properly attached.

NEVER stand or otherwise become positioned under a suspended load or under raised equipment. The load or equipment could fall or tip.

DO NOT use a hoist, jack or jack stands only to support equipment. Always support equipment with the proper capacity blocks or stands properly rated for the load.

HAND TOOLS: Always use the proper tool for the job; keep tools clean and in good working order, and use special service tools only as recommended.

1.6.3 General Hazards

SOLVENTS: Only use approved solvents that are known to be safe for use.

HOUSEKEEPING: Keep the work area and operator cab clean, and remove all hazards (debris, oil, tools, etc.).

FIRST AID: Immediately clean, dress and report all injuries (cuts, abrasions, burns, etc.), no matter how minor the injury may seem. Know the location of a First Aid Kit, and know how to use it.

CLEANLINESS: Wear eye protection, and clean all components with a high pressure or steam cleaner before attempting service.

When removing hydraulic components, plug hose ends and connections to prevent excess leakage and contamination. Place a suitable catch basin beneath the machine to capture fluid run off.

It is good practice to avoid pressure-washing electrical/electronic components. In the event pressure washing the machine is needed, ensure the machine is shut down before pressure-washing. Should pressure-washing be utilized to wash areas containing electrical/electronic components, JLG recommends a maximum pressure of 750 psi (52 bar) at a minimum distance of 12 in (30,5 cm) away from these components. If electrical/electronic components are sprayed, spraying must not be direct and for brief time periods to avoid heavy saturation.

Check and obey all Federal, State and/or Local regulations regarding waste storage, disposal and recycling.



Safety Practices

1.6.4 Operational Hazards

ENGINE: Stop the engine before performing any service unless specifically instructed otherwise.

VENTILATION: Avoid prolonged engine operation in enclosed areas without adequate ventilation.

SOFT SURFACES AND SLOPES: **NEVER** work on a machine that is parked on a soft surface or slope. The machine must be on a hard level surface, with the wheels blocked before performing any service.

FLUID TEMPERATURE: **NEVER** work on a machine when the engine, cooling or hydraulic systems are hot. Hot components and fluids can cause severe burns. Allow systems to cool before proceeding.

FLUID PRESSURE: Before loosening any hydraulic or diesel fuel component, hose or tube, turn the engine OFF. Wear heavy, protective gloves and eye protection. **NEVER** check for leaks using any part of your body; use a piece of cardboard or wood instead. If injured, seek medical attention immediately. Diesel fluid leaking under pressure can explode. Hydraulic fluid and diesel fuel leaking under pressure can penetrate the skin, cause infection, gangrene and other serious personal injury.

Engine fuel lines are pressurized. **DO NOT** attempt repairs unless specific training has been completed. Refer to the engine manufacturers' manual for specific details concerning the fuel system.

Relieve all pressure before disconnecting any component, part, line or hose. Slowly loosen parts and allow release of residual pressure before removing any part or component. Before starting the engine or applying pressure, use components, parts, hoses and pipes that are in good condition, connected properly and are tightened to the proper torque. Capture fluid in an appropriate container and dispose of in accordance with prevailing environmental regulations.

COOLANT SYSTEM CAP: The cooling system is under pressure, and escaping coolant can cause severe burns and eye injury. To prevent personal injury, **NEVER** remove the coolant system cap while the cooling system is hot. Wear safety glasses. Turn the coolant system cap to the first stop and allow pressure to escape before removing the cap completely. Failure to follow the safety practices could result in death or serious injury.

Properly disconnect battery(s) prior to service the fuel or hydraulic systems.

FLUID FLAMABILITY: **DO NOT** service the fuel or hydraulic systems near an open flame, sparks or smoking materials.

NEVER drain or store fluids in an open container. Engine fuel and hydraulic fluid are flammable and can cause a fire and/or explosion.

DO NOT mix gasoline or alcohol with diesel fuel. The mixture can cause an explosion.

PRESSURE TESTING: When conducting any test, only use test equipment that is correctly calibrated and in good condition. Use the correct equipment in the proper manner, and make changes or repairs as indicated by the test procedure to achieve the desired result.

LEAVING MACHINE: Lower the forks or attachment to the ground before leaving the machine.

TIRES: Always keep tires inflated to the proper pressure to help prevent tipover. **DO NOT** over inflate tires.

NEVER use mismatched tire types, sizes or ply ratings. Always use matched sets according to machine specifications.

MAJOR COMPONENTS: Never alter, remove, or substitute any items such as counterweights, tires, batteries or other items that may reduce or affect the overall weight or stability of the machine.

BATTERY: **DO NOT** charge a frozen battery. Charging a frozen battery may cause it to explode. Allow the battery to thaw before jump starting or connecting a battery charger.

1.7 SAFETY DECALS

Check that all safety decals are present and readable on the machine. Refer to the Operation & Safety Manual supplied with machine for information.



Section 2

General Information and Specifications

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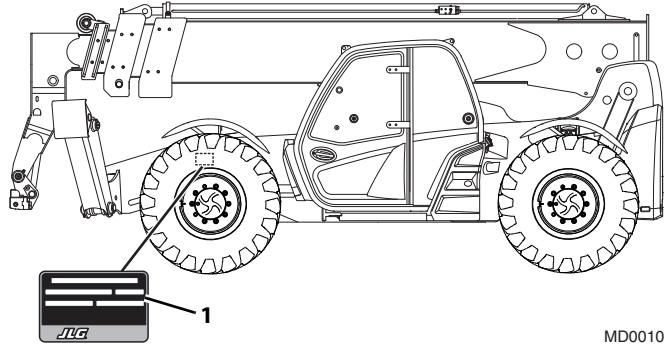


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2.1 REPLACEMENT PARTS AND WARRANTY INFORMATION



MD0010

Before ordering parts or initiating service inquiries, make note of the machine serial number. The machine serial number plate (1) is located on the frame behind the left front tire.

Note: *The replacement of any part on this machine with any other than factory authorized replacement parts can adversely affect the performance, durability, or safety of the machine, and will void the warranty. JLG disclaims liability for any claims or damages, whether regarding property damage, personal injury or death arising out of the use of unauthorized replacement parts.*

A warranty registration form must be filled out by the local JLG dealer.

Registration activates the warranty period and helps to assure that warranty claims are promptly processed to guarantee full warranty service.



General Information and Specifications

2.2 SPECIFICATIONS

2.2.1 Travel Speed

TRANSMISSION	AVERAGE MAXIMUM SPEED - FORWARD (miles per hour)				
	642 110HP (82kW)	742 74HP (54kW)	943 110HP (82kW)	1043 110HP (82kW)	1055, 1255 130 HP (97 kW)
First Gear	3.3	3.3	3.1	3.1	3.2
Second Gear	6.3	6.3	5.9	5.9	6.2
Third Gear	14.1	14.1	13.5	13.5	14.2
Fourth Gear	19.5	19.5	18.5	18.5	20.5

TRANSMISSION	AVERAGE MAXIMUM SPEED - REVERSE (miles per hour)				
	642 110HP (82kW)	742 74HP (54kW)	943 110HP (82kW)	1043 110HP (82kW)	1055, 1255 130 HP (97 kW)
First Gear	3.3	3.3	3.0	3.0	3.2
Second Gear	6.3	6.3	5.9	5.9	6.2
Third Gear	14.2	14.2	13.5	13.5	14.2

2.2.2 Cylinder Drift

Cylinder	Maximum Rod Travel (loaded or unloaded)
Lift/Lower Cylinder	0.125 in (3,2 mm) per hour
Extend/Retract Cylinder	0.125 in (3,2 mm) per hour
Attachment Tilt Cylinder	0.125 in (3,2 mm) per hour

2.2.3 Steering Angle Specifications

Model	Angle (in Degree)
642, 742, 943, 1043	55
1055, 1255	45



2.2.4 Hydraulic Cylinder Performance

Note: Machine with no attachment or load, engine at full throttle (unless otherwise noted), hydraulic oil above 130° F (54° C) minimum, engine at operating temperature.

Function	Approximate Times (Seconds)						
	642 110HP (82kW)	742 74HP (54kW)	943 74HP (54kW)	943 110HP (82kW)	1043 110HP (82kW)	1055 130 HP (97 kW)	1255 130 HP (97 kW)
Boom Extend (Boom Level)	13.5 - 18.2	9 - 13	15.9 - 17.9	14.4 - 18.5	14.4 - 18.5	17.6 - 22.5	17.6 - 22.5
Boom Retract (Boom Level)	7.5 - 11.5	9.5 - 13.5	14.2 - 16.2	12.5 - 16.1	12.5 - 16.1	15.5 - 18.1	15.5 - 18.1
Boom Lift	12.5 - 16.5	11.3 - 13.3	10.7 - 13	9 - 11	9 - 11	14.3 - 17.3	15.9 - 19.9
Boom Lower	8 - 12*	8 - 10*	9.5 - 12.7*	8 - 10	8 - 10	12.4 - 13.8	13.7 - 16.0
Attachment - Tilt Forward	4 - 4.4	3.4 - 5.4	3.5 - 5.5	3.5 - 5.5	3.5 - 5.5	4.9 - 5.8	5.2 - 6.1
Attachment - Tilt Rearward	3.9 - 4.3	3.3 - 5.3	3.5 - 5.5	3.5 - 5.5	3.5 - 5.5	5.1 - 6.0	5.4 - 6.3
Frame Level - Full Right to Left	8.5 - 10.7	8.5 - 10.7	9 - 12.7	9 - 12.7	9 - 12.7	8.8 - 10.3	8.8 - 10.3
Frame Level - Full Left to Right	8.5 - 10.7	8.5 - 10.7	9 - 12.7	9 - 12.7	9 - 12.7	8.8 - 10.3	8.8 - 10.3
Outrigger - Both Down (if equipped)	7.5	-	-	-	4.06	4.06	4.06
Outrigger - Both Up (if equipped)	5.74	-	-	-	4.09	4.09	4.09
Outrigger - Single Down (if equipped)	4.09	-	-	-	2.31	2.31	2.31
Outrigger - Single Up (if equipped)	2.99	-	-	-	2.66	2.66	2.66

Note: * Function speed achieved at engine low idle.



General Information and Specifications

2.2.5 Electrical System

a. 642, 742

Description	Standard	Arctic
Battery		
Type, Rating	12 V, Negative (-) Ground, Tapered Top Post, Maintenance Free	12 V, Negative (-) Ground, Dual Posts (5/16" studs and Tapered top posts), Maintenance Free
Quantity	2	2
Reserve Capacity Minutes @ 80° F (27° C)	205	310
Cold Cranking Amps @ 0° F (-18° C)	950	750
Cranking Amps @ 32° F (-18° C)	1100	1000
Group/Series	BCI Group 31	BCI Group 31
Alternator	14V, 120 Amps	14V, 120 Amps
Starter	12V, 4.8 kW	12V, 4.8 kW

b. 943, 1043, 1055, 1255

Description	Standard	Arctic
Battery		
Type, Rating	12 V, Negative (-) Ground, Tapered Top Post, Maintenance Free	12 V, Negative (-) Ground, Dual Posts (5/16" studs and Tapered top posts), Maintenance Free
Quantity	1	2
Reserve Capacity Minutes @ 80° F (27° C)	205	310
Cold Cranking Amps @ 0° F (-18° C)	950	750
Cranking Amps @ 32° F (-18° C)	1100	1000
Group/Series	BCI Group 31	BCI Group 31
Alternator	14V, 120 Amps	14V, 120 Amps
Starter	12V, 4.8 kW	12V, 4.8 kW



2.2.6 Engine Performance Specifications

Description	Specifications	
	642, 943, 1043	1055, 1255
Engine Make/Model	Cummins QSF3.8	Cummins QSF3.8
Displacement	232 in ³ (3.8 liters)	232 in ³ (3.8 liters)
Low Idle	1000 rpm	1000 rpm
High Idle (Max. no load)	2675 rpm	2675 rpm
Horsepower	110 HP (82 kW) @ 2500 rpm	130 HP (97 kW) @ 2500 rpm
Peak Torque	348 lb-ft (472 Nm) @ 1600 rpm	360 lb-ft (488 Nm) @ 1600 rpm
Fuel Delivery	High Pressure Common Rail (HPCR) Fuel Injection	High Pressure Common Rail (HPCR) Fuel Injection
Air Cleaner	Dry Type, Replaceable Primary and Safety Elements	Dry Type, Replaceable Primary and Safety Elements

Description	Specifications
	742, 943
Engine Make/Model	Cummins QSF3.8
Displacement	232 in ³ (3.8 liters)
Low Idle	1000 rpm
High Idle (Max. no load)	2675 rpm
Horsepower	74 HP (55 kW) @ 2500 rpm
Peak Torque	295 lb-ft (400 Nm) @ 1300 rpm
Fuel Delivery	High Pressure Common Rail (HPCR) Fuel Injection
Air Cleaner	Dry Type, Replaceable Primary and Safety Elements



General Information and Specifications

2.2.7 Transmission Performance Specifications

a. 642, 742, 943, 1043

Engine	kW (Horsepower)	Transmission	Stall Speed	
Cummins QSF3.8	110 HP (82 kW)	4 Speed	2040 rpm	2100 rpm

b. 742, 943

Engine	kW (Horsepower)	Transmission	Stall Speed	
Cummins QSF3.8	74 HP (55 kW)	4 Speed	1680 rpm	1830 rpm

c. 1055, 1255

Engine	kW (Horsepower)	Transmission	Stall Speed	
Cummins QSF3.8	130 HP (97 kW)	4 Speed	2040 rpm	2100 rpm



2.2.8 Tires

Note: Wheel lug nut torque is 350-400 lb-ft (475-542 Nm)

Note: Pressures for foam filled tires are for initial fill **ONLY**.

a. 642

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
370/75-28	DuraForce MH	14 Ply	Foam	Approx 464 lb (210 kg)
			Pneumatic	76 psi (5.25 Bar)
13.00-24	G-2	16 Ply	Pneumatic	80 psi (5.5 Bar)
13.00-24	G-2	12 Ply	Foam	Approx 542 lb (246 kg)

b. 742

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
370/75-28	DuraForce MH	14 Ply	Foam	Approx 464 lb (210 kg)
			Pneumatic	76 psi (5.25 Bar)
13.00-24	G-2	16 Ply	Pneumatic	80 psi (5.5 Bar)
13.00-24	G-2	12 Ply	Foam	Approx 542 lb (246 kg)
315/95-28	-	-	Solid	-
370/75-28	OTR (Non Marking)	14 Ply	Foam	Approx 464 lb (210 kg)
			Pneumatic	73 psi (5 Bar)

c. 943

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
370/75-28	DuraForce MH	14 Ply	Foam	Approx 464 lb (210 kg)
			Pneumatic	76 psi (5.25 Bar)
14.00-24	G-2	16 Ply	Pneumatic	80 psi (5.52 Bar)
14.00-24	G-2	12 Ply	Foam	Approx 720 lb (327 kg)
315/95-28	-	-	Solid	-
370/75-28	OTR (Non Marking)	14 Ply	Foam	Approx 464 lb (210 kg)
			Pneumatic	73 psi (5 Bar)



General Information and Specifications

d. 1043

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
400/75-28	DuraForce MH	16 Ply	Foam	Approx 570 lb (259 kg)
			Pneumatic	76 psi (5,25 Bar)
14.00-24	G-2	16 Ply	Pneumatic	80 psi (5,52 Bar)
14.00-24	G-2	12 Ply	Foam	Approx 720 lb (327 kg)
360/85-28	-	-	Solid	-
400/75-28	OTR (Non Marking)	16 Ply	Foam	Approx 570 lb (259 kg)
			Pneumatic	76 psi (5,25 Bar)

e. 1055

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
400/75-28	DuraForce MH	16 Ply	Foam	Approx 570 lb (259 kg)
			Pneumatic	76 psi (5,25 Bar)
14.00-24	G-2	16 Ply	Pneumatic	80 psi (5,52 Bar)
14.00-24	G-2	12 Ply	Foam	Approx 720 lb (327 kg)
360/85-28	-	-	Solid	-
400/75-28	OTR (Non Marking)	16 Ply	Foam	Approx 570 lb (259 kg)
			Pneumatic	76 psi (5,25 Bar)

f. 1255

Size	Tire Type	Minimum Ply/ Star Rating	Fill Type	Pressure
400/75-28	DuraForce MH	16 Ply	Pneumatic	76 psi (5,25 Bar)
			Foam	Approx 570 lb (259 kg)
17.50-25	L2	16 Ply	Pneumatic	69 psi (4,75 Bar)
17.50-25	L2	12 Ply	Foam	Approx 785 lb (356 kg)
360/85-28	-	-	Solid	-
400/75-28	OTR (Non Marking)	16 Ply	Foam	Approx 570 lb (259 kg)
			Pneumatic	76 psi (5,25 Bar)



2.3 FLUID AND LUBRICANT CAPACITIES

2.3.1 Fluids (if equipped for ULS)

Compartment or System	Type and Classification	Viscosities	Ambient Temperature Range							
			°F		°C					
			Min	Max	Min	Max				
Engine Crankcase	API CJ-4 CES-20081 Fully Synthetic*	SAE 5W-40	-13	115	-25	46				
		SAE 15W-40	15	115	-9	46				
		SAE 10W-30	10	104	-12	40				
		SAE 5W-30	-13	104	-25	40				
		SAE 0W-30	-40	104	-40	40				
Transmission and Transfer Case	Mobilfluid 424	10W-30	0	115	-20	46				
	Refer to ZF TE-ML-03 for additional fluids.									
Axe Differential and Wheel End	API GL5 with LS Additives	80W-90 LS	-4	115	-20	46				
		85W-90 LS	-4	115	-20	46				
		75W-90 LS	-40	115	-40	46				
Hydraulic System	Mobilfluid 424	10W-30	6	115	-15	46				
	Exxon Univis HVI		-40	100	-40	40				
Boom Wear Pad Grease	Extreme Pressure Grease	NLGI Grade 000	-31	122	-35	50				
Grease Fittings	Extreme Pressure Grease	NLGI Grade 2 EP or NLGI Grade 3 EP with Moly Additive	5	122	-15	50				
Boom Chain Lubricant	Gear Oil	80W-90	-40	115	-40	46				
Engine Coolant	Ethylene Glycol and Water	50/50 Mix	Standard							
		60/40 Mix	Cold Weather							
Fuel	EN 590 ASTM D 975 Grade 1-D ASTM D 975 Grade 2-D (Maximum B5 Biodiesel)	Ultra Low Sulfur (S ≤15mg/kg)								
Diesel Exhaust Fluid (DEF) 110 HP (82 kW) 130 HP (97 kW)	ISO22241-1	32.5% Urea								
Brake Fluid	Mobil ATF-D/M		-40	115	-40	46				
Air Conditioning	Refrigerant R-134-a	Tetrafluoroethane								

Note: *See Note on page 2-19 for details.



General Information and Specifications

2.3.2 Fluids (if equipped for LS)

Compartment or System	Type and Classification	Viscosities	Ambient Temperature Range			
			°F		°C	
			Min	Max	Min	Max
Engine Crankcase	API CI-4 CES-20078	SAE 5W-40	-7	115	-25	46
		SAE 15W-40	15	115	-9	46
		SAE 10W-30	10	104	-12	40
		SAE 5W-30	-13	104	-25	40
		SAE 0W-30	-40	104	-40	40
Transmission and Transfer Case	Mobilfluid 424	10W-30	0	115	-20	46
	Refer to ZF TE-ML-03 for additional fluids.					
Axe Differential and Wheel End	API GL5 with LS Additives	80W-90 LS	-4	115	-20	46
		85W-90 LS	-4	115	-20	46
		75W-90 LS	-40	115	-40	46
Hydraulic System	Mobilfluid 424	10W-30	6	115	-15	46
	Exxon Univis HVI		-40	100	-40	40
Boom Wear Pad Grease	Extreme Pressure Grease	NLGI Grade 000	-31	122	-35	50
Grease Fittings	Extreme Pressure Grease	NLGI Grade 2 EP or NLGI Grade 3 EP with Moly Additive	5	122	-15	50
Boom Chain Lubricant	Gear Oil	80W-90	-40	115	-40	46
Engine Coolant	Ethylene Glycol and Water	50/50 Mix	Standard			
		60/40 Mix	Cold Weather			
Fuel	EN 590 ASTM D 975 Grade 1-D ASTM D 975 Grade 2-D (Maximum B5 Biodiesel)	Low Sulfur (S ≤ 500 mg/kg)				
Brake Fluid	Mobil ATF-D/M		-40	115	-40	46
Air Conditioning	Refrigerant R-134-a	Tetrafluoroethane				



2.3.3 Capacities

a. 642, 742

Engine Crankcase Oil

Capacity with Filter Change	14 quarts (13,2 liters)
-----------------------------	-------------------------

Fuel Tank

Capacity	38.3 gallons (145 liters)
----------	---------------------------

Diesel Exhaust Fluid (DEF) Tank (if equipped for ULS 110 HP (82 kW) 130 HP (97 kW))

Capacity	5.7 gallons (21,5 liters)
----------	---------------------------

Cooling System

System Capacity	5.2 gallons (19,7 liters)
-----------------	---------------------------

Hydraulic System

System Capacity	
642	
No Outriggers	40.2 gallons (152 liters)
With Outriggers	41.7 gallons (158 liters)
742	
No Outriggers	40.2 gallons (152 liters)
Reservoir Capacity to Full Mark	23.8 gallons (90 liters)

Transmission System

Capacity including Cooler and Lines	17 quarts (16,1 liters)
Capacity with Filter Change	14 quarts (13,2 liters)

Transfer Case

Capacity	1.5 quarts (1,4 liters)
----------	-------------------------

Axles

Differential Housing Capacity	
Front	7.6 quarts (7,2 liters)
Rear	7 quarts (6,6 liters)
Friction Modifier - May be added to axle differentials (Must be premixed with axle fluid)	Not to Exceed 12.2 ounce (360 milliliter)
Wheel End Capacity	
Front	1.2 quarts (1,1 liters)
Rear	1.4 quarts (1,3 liters)

Air Conditioning System (if equipped)

System Capacity	2.6 lb (1,2 kilogram)
-----------------	-----------------------

Brake Fluid

Capacity	1.1 quarts (1,0 liter)
----------	------------------------



General Information and Specifications

b. 943, 1043

Engine Crankcase Oil

Capacity with Filter Change	14 quarts (13,2 liters)
-----------------------------	-------------------------

Fuel Tank

Capacity	38.3 gallons (145 liters)
----------	---------------------------

Diesel Exhaust Fluid (DEF) Tank (if equipped for ULS 110 HP (82 kW) 130 HP (97 kW))

Capacity	5.7 gallons (21,5 liters)
----------	---------------------------

Cooling System

System Capacity	5.2 gallons (19,7 liters)
-----------------	---------------------------

Hydraulic System

System Capacity	
943	46.5 gallons (177,0 liters)
1043	48.6 gallons (184,0 liters)
Reservoir Capacity to Full Mark	23.8 gallons (90 liters)

Transmission

Capacity including Cooler and Lines	17 quarts (16,1 liters)
Capacity with Filter Change	14 quarts (13,2 liters)

Transfer Case

Capacity	1.5 quarts (1,4 liters)
----------	-------------------------

Axles

Differential Housing Capacity	
Front	13.2 quarts (12,5 liters)
Rear	12.8 quarts (12,1 liters)
Friction Modifier - May be added to axle differentials (Must be premixed with axle fluid)	Not to Exceed 24 ounce (709 milliliter)
Wheel End Capacity	
Front	1.8 quarts (1,7 liters)
Rear	1.7 quarts (1,6 liters)

Air Conditioning System (if equipped)

System Capacity	2.6 lb (1,2 kilogram)
-----------------	-----------------------

Brake Fluid

Capacity	1.1 quarts (1,0 liter)
----------	------------------------

**c. 1055, 1255****Engine Crankcase Oil**

Capacity with Filter Change	14 quarts (13,2 liters)
-----------------------------	-------------------------

Fuel Tank

Capacity	38.3 gallons (145 liters)
----------	---------------------------

Diesel Exhaust Fluid (DEF) Tank (if equipped for ULS)

Capacity	5.7 gallons (21,5 liters)
----------	---------------------------

Cooling System

System Capacity	5.2 gallons (19,7 liters)
-----------------	---------------------------

Hydraulic System

System Capacity	
1055	48.6 gallons (184 liters)
1255	49.9 gallons (189 liters)
Reservoir Capacity to Full Mark	23.8 gallons (90 liters)

Transmission

Capacity including Cooler and Lines	17 quarts (16,1 liters)
Capacity with Filter Change	14 quarts (13,2 liters)

Transfer Case

Capacity	1.6 quarts (1,5 liters)
----------	-------------------------

Axles

Differential Housing Capacity	
Front	15 quarts (14,2 liters)
Rear	14.1 quarts (13,3 liters)
Friction Modifier - May be added to axle differentials (Must be premixed with axle fluid)	Not to Exceed 24 ounce (709 milliliter)
Wheel End Capacity	
Front	1.8 quarts (1,7 liters)
Rear	1.5 quarts (1,4 liters)

Air Conditioning System (if equipped)

System Capacity	2.6 lb (1,2 kilogram)
-----------------	-----------------------

Brake Fluid

Capacity	1.1 quarts (1,0 liter)
----------	------------------------



General Information and Specifications

2.4 SERVICE AND MAINTENANCE SCHEDULES

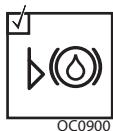
2.4.1 Every 10 Hours



Check Fuel Level



Check Tire Condition and Pressure



Check Brake Fluid Level



Check Engine Oil Level



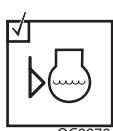
Check Hydraulic Oil Level



Check Transmission Oil Level



Check DEF Level
(if equipped for
ULS 110 HP (82
kW)
130 HP (97 kW))



Check Engine Coolant Level



Check Air Cleaner

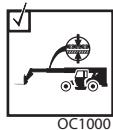


Drain Fuel/Water Separator

2.4.2 First 50 Hours



Check Wheel Lug Nut Torque



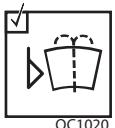
Check Boom Chain Tension



2.4.3 Every 50 Hours



Lubrication Schedule
OC1010



Check Washer Fluid
OC1020



Check Cab Filter
OC1030

2.4.4 First 250 Hours



Change Axle Oil
OC1040



Change Wheel End Oil
OC1050



Change Transfer Case Fluid
OC1060



Change Transmission Fluid and Filter
OC1070

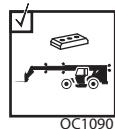
2.4.5 Every 250 Hours



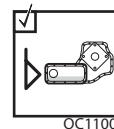
Lubrication Schedule
OC1010



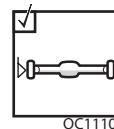
Check Boom Chains
OC1080



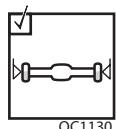
Check Boom Wear Pads
OC1090



Check Transfer Case Fluid Level
OC1100



Check Axle Oil Level
OC1110

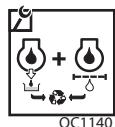


Check Wheel End Oil Level
OC1130



General Information and Specifications

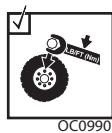
2.4.6 First 500 Hours or 1 Year



OC1140

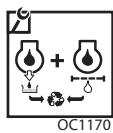
Change Engine Oil
and Filter
(if equipped for ULS,
see note)

2.4.7 Every 500 Hours



OC0990

Check Wheel Lug
Not Torque



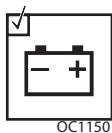
OC1170

Change Engine Oil
and Filter
(if equipped for LS)



OC1160

Check Fan Belt



OC1150

Check Battery



OC1120

Check RAS System

2.4.8 Every 750 Hours



OC1180

Change Hydraulic
Tank Breather



OC1190

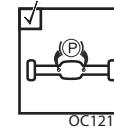
Change Hydraulic
Filters



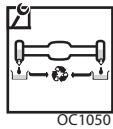
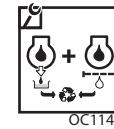
2.4.9 Every 1000 Hours

Check Boom
Chain TensionChange Transfer
Case FluidCheck Air Intake
System

Change Axle Oil



Check Park Brake

Change
Transmission
Fluid and FilterChange Wheel
End OilLubrication
ScheduleChange Fuel
FiltersChange Engine Oil
and Filter (if
equipped for ULS,
see note)

Note: If using fully synthetic oil, metal engine oil filter and fuel consumption is less than 11.4 liter per hour (3 gallon per hour), oil change intervals are 1,000 hours or 1 year. If any of the following are present, conventional oil, plastic engine oil filter or fuel consumption is greater than 11.4 liter per hour (3 gallon per hour), oil change intervals are 500 hours or 6 months.

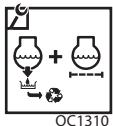
2.4.10 Every 1500 Hours

Change Hydraulic
Fluid and Filters



General Information and Specifications

2.4.11 Every 2000 Hours



Clean Engine DEF Strainer
(if equipped for ULS 110 HP (82 kW)
130 HP (97 kW))



Change DEF Tank Filter
(if equipped for ULS 110 HP (82 kW)
130 HP (97 kW))



Check Cab Filter

2.4.12 Every 4000 Hours



Change DEF Pump Filter
(if equipped for ULS 110 HP (82 kW)
130 HP (97 kW))

2.4.13 Every 5000 Hours



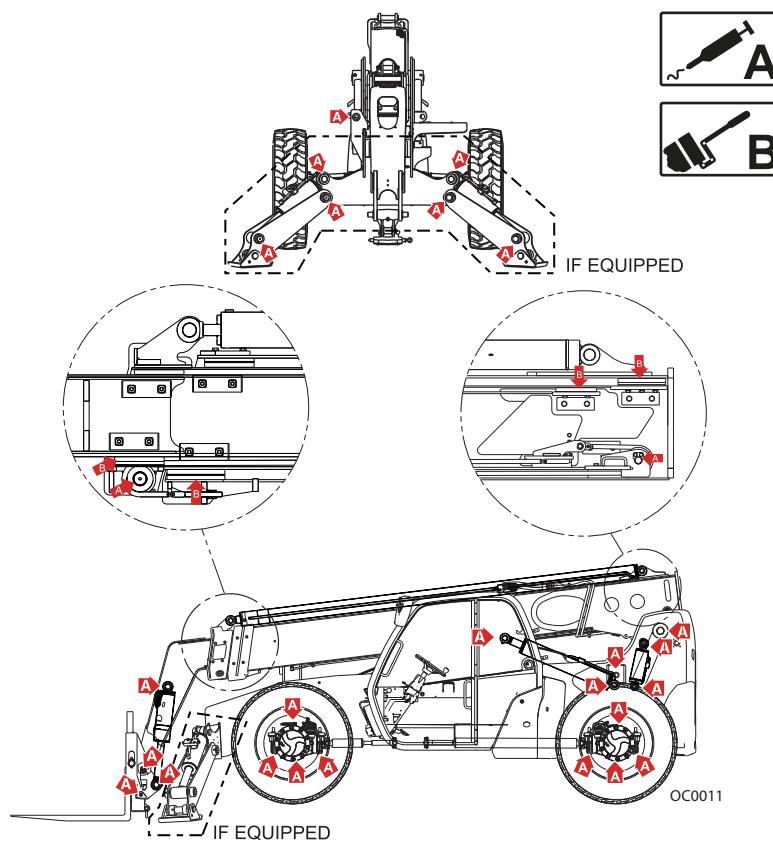
Engine Valve Lash Adjustment



2.5 LUBRICATION SCHEDULE

2.5.1 50 Hour

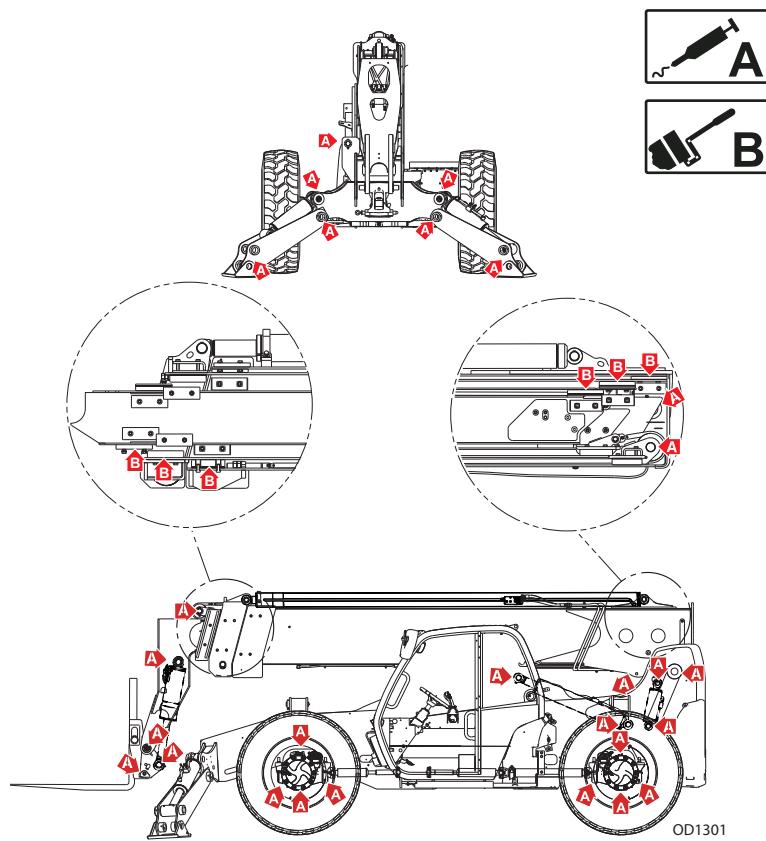
a. 642, 742, 943 & 1043





General Information and Specifications

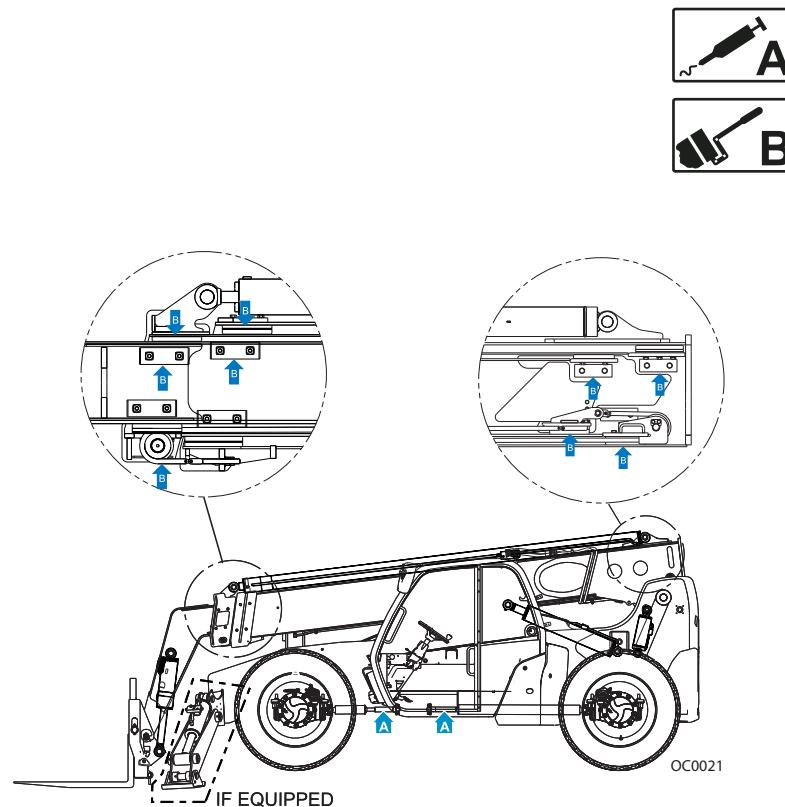
b. 1055, 1255





2.5.2 250 Hour

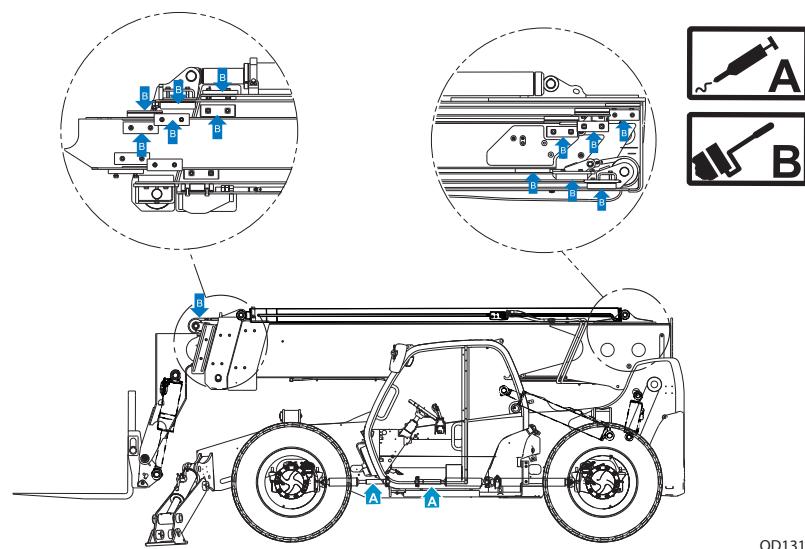
a. 642, 742, 943 & 1043





General Information and Specifications

b. 1055, 1255

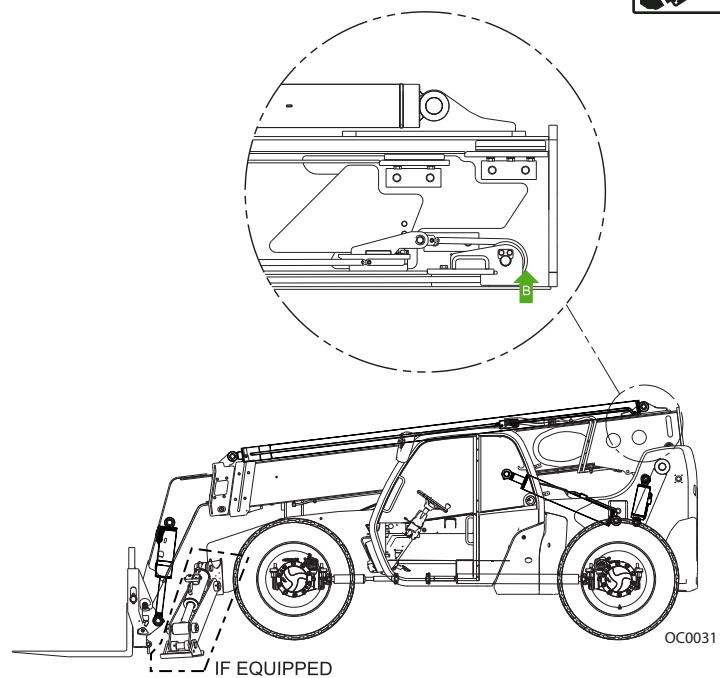


OD1312



2.5.3 1000 Hour

a. 642, 742, 943 & 1043





General Information and Specifications

b. 1055, 1255

