Service and Maintenance Manual

Models

T350

P/N - 3121198

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ANSI

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SECTION NO.	TITLE	PAGE NO.
SECTION A - INTRODUCTION - MAINTENANCE SAFETY PRECAUTIONS		
A	General	A-1
B	Hydraulic System Safety	A-1
C	Maintenance	A-1
SECTION 1 - SPECIFICATIONS		
1.1	Operating specifications	1-1
1.2	Capacities	1-1
1.3	Electric Power Unit	1-1
1.4	Tires	1-1
1.5	Engine	1-2
	Battery	1-2
1.6	Dimensional Data	1-2
1.7	Lubrication	1-2
	Hydraulic Oil	1-2
1.8	Major Component Weights	1-3
1.9	Pressure Settings	1-3
1.10	Operator Maintenance & Lubrication	1-4
SECTION 2 - GENERAL		
2.1	Machine Preparation, Inspection, and Maintenance	2-1
	General	2-1
	Preparation, Inspection, and Maintenance	2-1
	Pre-Start Inspection	2-1
	Pre-Delivery Inspection and Frequent Inspection	2-1
	Annual Machine Inspection	2-1
	Preventative Maintenance	2-1
2.2	Service and Guidelines	2-2
	General	2-2
	Safety and Workmanship	2-2
	Cleanliness	2-2
	Components Removal and Installation	2-2
	Component Disassembly and Reassembly	2-3
	Pressure-Fit Parts	2-3
	Bearings	2-3
	Gaskets	2-3
	Bolt Usage and Torque Application	2-3
	Hydraulic Lines and Electrical Wiring	2-3
	Hydraulic System	2-3
	Lubrication	2-3
	Battery	2-3
	Lubrication and Servicing	2-3
2.3	Lubrication and Information	2-4
	Hydraulic System	2-4
	Hydraulic Oil	2-4
	Changing Hydraulic Oil	2-4
	Lubrication Specifications	2-4
2.4	Cylinder Drift Test	2-5
	Platform Drift	2-5
	Cylinder Drift	2-5
2.5	Pins and Composite Bearing Repair Guidelines	2-5
2.6	Welding on JLG Equipment	2-6
	Do the Following When Welding on JLG Equipment	2-6
	Do NOT Do the Following When Welding on JLG Equipment	2-6

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SECTION NO.	TITLE	PAGE NO.

SECTION 3 - CHASSIS & TURNTABLE

3.1	Breaking-in a New Trailer	3-1
	Retighten Lug Nuts at First 10, 25 & 50 Miles	3-1
	Adjust Brake Shoes at First 200 Miles	3-1
	Synchronizing the Brake Systems	3-1
3.2	Trailer inspection and Service Instructions	3-1
	Fasteners and Frame Members	3-1
	Brake Shoes and Drums	3-1
	Manually Adjusting Brake Shoes	3-1
3.3	Electric Brakes	3-2
	Brake Controller	3-2
	Brake Cleaning and Inspection	3-2
	Shoes and Linings	3-2
3.4	Hydraulic (Surge) Brakes	3-2
	Self Adjusting Mechanism	3-3
	Parking Brake	3-3
	General Maintenance	3-3
3.5	Hubs, Drums, Wheel Bearings	3-4
	Hub Removal	3-4
	Brake Drum Inspection	3-4
	Bearing Inspection	3-4
	Bearing Lubrication	3-5
	Seal Inspection and Replacement	3-5
	Bearing Adjustment	3-5
3.6	Tires & Wheels	3-7
	Tire Inflation	3-7
	Tire Wear	3-7
	Tire Replacement	3-7
	Wheel and Tire Replacement	3-8
	Wheel Installation	3-8
	Lug Nuts (Bolts)	3-8

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SECTION NO.	TITLE	PAGE NO.
3.7	Hydraulic Brake Coupler	3-10
	Troubleshooting	3-10
	Bleeding the Brake System	3-11
	Towing	3-11
	Backing Up	3-12
	Maintenance	3-13
	Extended Storage Instructions	3-13
	Proper Towing Checklist	3-13
3.8	Combination Coupler	3-14
	Bleeding the Brake System	3-14
	General Maintenance	3-14
	Servicing the Emergency Lever	3-14
3.9	Hitch Coupler & Axle (CE Only)	3-17
	Ball Coupler	3-17
	Coupling Head Maintenance	3-19
	Damper Maintenance	3-20
	Brake Maintenance	3-21
	Adjustment and Readjustment of the Overrun Braking System	3-24
	Troubleshooting	3-26
3.10	Coupler Assembly (S/N 0030002099 to Present)	3-27
	Engaging Manual Lockout Lever	3-27
	Servicing the Breakaway Assembly	3-27
	Actuator Maintenance	3-29
	Coupler Maintenance	3-29
3.11	Trailer Jack (Solid wheels)	3-30
	Installation	3-30
	Operation	3-30
	Maintenance	3-30
	Assembly	3-31
3.12	Swing Motor (Prior to S/N 0030000960)	3-31
	Removal	3-31
	Disassembly	3-31
	Assembly	3-32
	Shaft Timing Procedure	3-33
	Installation	3-34
3.13	Swing Motor (S/N 0030001050 to Present)	3-36
	Removal	3-36
	Disassembly and inspection	3-36
	Assembly	3-43
	One Piece Stator Construction	3-50
	Installation	3-51

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7. Engine



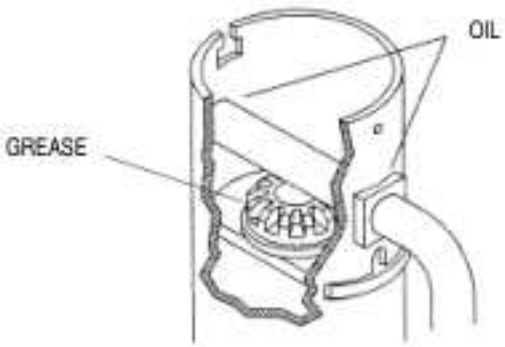
Capacity - See Engine Manual.
Lube - EO, 10W30 API SJ
Interval - Check level daily; change per manufacturer's engine manual.
Comments - Adjust final oil level by mark on dipstick

8. Fuel Tank



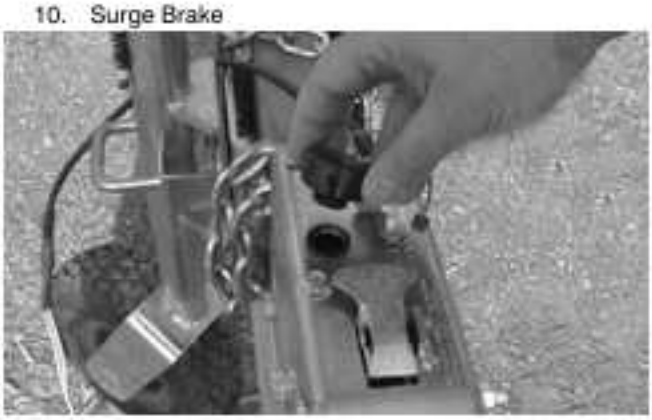
Capacity - 1.6 Gal. (6.0 L)
Fuel - Gasoline
Interval - Check periodically during each shift

9. Trailer Jack



Capacity - As necessary
Lube - MPG & EO
Interval - As necessary

10. Surge Brake



Lube Point(s) - Fill Cap
Capacity - No more than 1/2" (13 mm) from top of reservoir
Lube - DOT 3 or 4 Brake Fluid
Interval - Check before each tow. Flush the system yearly or when system is known to be contaminated

11. Coupler & Hitch Ball



Capacity - Coupler 2 Grease Fittings (CE Only); Hitch Ball
As necessary
Lube - MPG
Interval - As necessary

12. Jockey Wheel Bearing (Drive and Set Option Only)

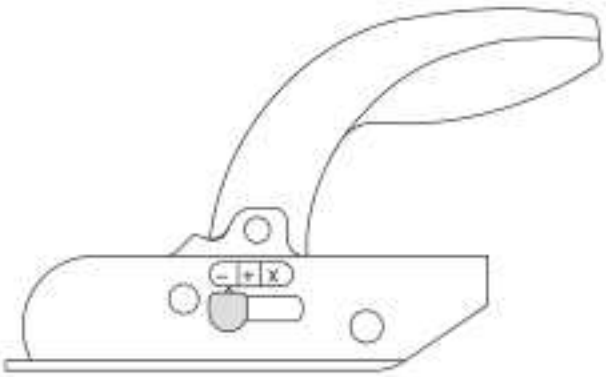


Lube Point(s) - 1 Grease Fittings
Capacity - As Required
Lube - MPG
Interval - As Required

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⚠ WARNING

IF THE INDICATOR IS IN THE RED "-" ZONE, THE COUPLING IS NOT PROPERLY CLOSED, AND THE TRAILER MUST NOT BE TOWED!



There are three possible causes of this problem:

1. The ball on the towing vehicle is very worn down and the ball coupler cannot grip it properly. A new ball has a diameter of 50.0 mm. If the diameter is worn down to less than 49 mm, even if only in places, it is vital to replace the ball on the towing vehicle.
2. The ball coupler itself is very worn down and no longer grips the ball sufficiently. In this case, the ball coupler must be replaced at a qualified workshop.
3. The closing mechanism in the ball coupler has been triggered, but there is no ball in the coupling. The ball coupler is only lying loose on the ball and is not firmly connected. The coupling will separate from the ball when the towing vehicle drives off. Open the coupling as described earlier and try once more to click the ball coupler correctly into place on the ball.

   The coupling mechanism may be stiff due to insufficient lubrication. Carry out the instructions for maintenance and lubrication and try the coupling procedure again.

PERMISSIBLE SUPPORT LOAD

The support load permitted for each particular ball coupler is embossed on the hand lever of the ball coupler.

⚠ CAUTION

NEVER DRIVE WITH A NEGATIVE SUPPORT LOAD AS THIS WILL HAVE A NEGATIVE EFFECT ON THE TRAILER'S DRIVING STABILITY.

A negative support load can be avoided or remedied simply by changing the trailer's load.

POSITION OF THE COUPLING POINT ON THE TRAILER

IMPORTANT

TO ACHIEVE THE CORRECT DRIVING AND BRAKING BEHAVIOR IN THE TRAILER, IT IS ABSOLUTELY ESSENTIAL FOR THE COUPLING HEIGHTS OF THE TOWING VEHICLE AND THE TRAILER TO MATCH.

The position of the coupling point on the trailer must be in a range of 430 ± 35 mm above the horizontal tire contact surface.

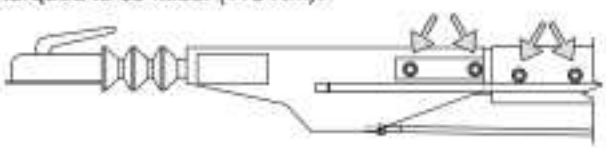
To check the coupling height, the trailer and towing vehicle must be exactly horizontal and fully loaded to make up the permissible total weight. The tire pressure must also conform with the tire manufacturer's specifications.

BALL COUPLER MAINTENANCE

To ensure easy operation and safety, all bolts and movable parts of the ball coupler must be lubricated using commonly available machine oils, or as a substitute, motor oil twice a year, or immediately if the coupling becomes stiff.

The ball mount should also be lightly greased, with the exception of all stabilizer couplings.

The bolts fastening the coupler to the adapter should be torqued to 85 ft.lbs. (115 Nm).



OVER-RUN HITCH MAINTENANCE

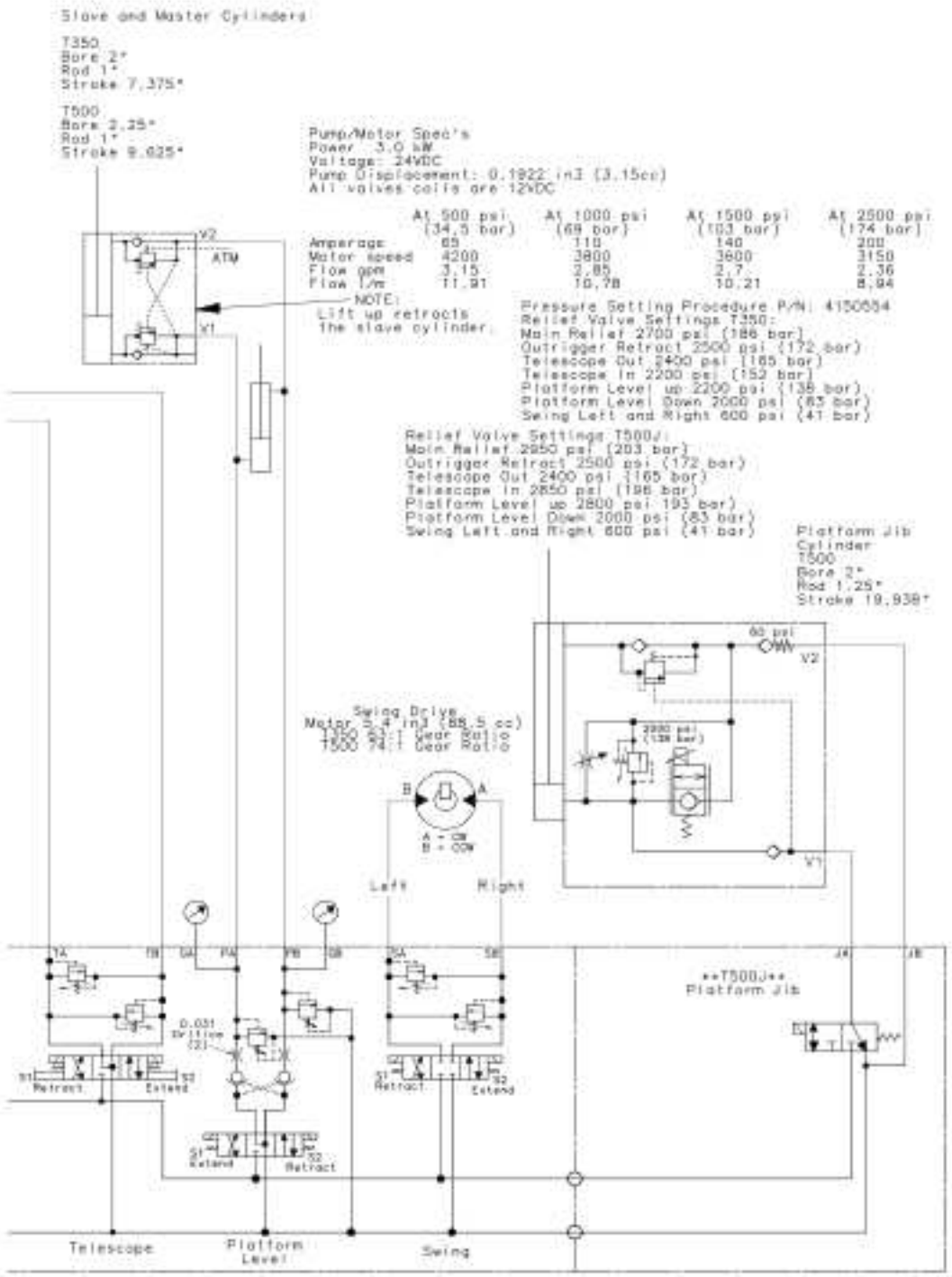
Relubricate the over-run hitch after 3000 miles (5000 km) or after one year at the latest, at both grease fittings. All movable parts such as bolts and articulating points on the hand brake lever and the turning lever must also be lightly oiled.

If the connecting rod can be pushed in more than half-way (approx. 45 mm) when the hand brake is on, the braking system must be readjusted.

Check the brake response:

1. Put the handbrake on while the trailer is uncoupled and push the trailer slowly backwards until the handbrake lever has reached the hindmost end position.
2. Push the ball coupler/connecting rod into the over-run hitch. Depending on the over-run hitch, it will require a certain amount of force to push.
3. The connecting rod should then return automatically to zero position by means of the gas cushion in the hydraulic damper. If it takes longer than approximately 30 seconds to return, the over-run hitch must be checked at a qualified workshop.

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Figure 7-27. Hydraulic Schematic - Electric Machines - Sheet 2 of 2

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2. Hydraulic Oil



Lube Point(s) - Fill Cap
Capacity - 4 gal. (15.1 L)
Lube - HO
Interval - Check oil daily, change after, then every 1200 hours of operation.

3. Hydraulic Filter & Breather



NOTE: *The cap securing the filter must be torqued 154 to 170 ft.lbs. (209 to 230.5 Nm).*



Interval - 100 hours
Comments - Change after the first 20 hours, then every 100 hours of operation.

4. Swing Bearing



Lube Point(s) - 1 Grease Fitting
Capacity - As Required
Lube - MPG
Interval - Every month or 50 hours
Comments - Rotate the bearing back and forth to ensure grease is distributed evenly the whole way around the bearing.

5. Swing Bearing Teeth

Lube Point(s) - Spray On
Capacity - As Required
Lube - OGL
Interval - Every month or 50 hours
Comments - More frequent lubrication intervals may be required.

6. Swing Drive



Lube Point(s) - 2 Grease Fittings
Capacity - As Required
Lube - MPG
Interval - As Required

⚠ CAUTION

DO NOT OVERGREASE BEARINGS. OVERGREASING BEARINGS WILL RESULT IN BLOWING OUTER SEALS IN HOUSING.

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3.19 DRIVE & SET

The Drive & Set Option is used to position the machine after it has been towed to the job site. Before the drive function can be operated, the machine must be in the stowed position and the hand brake set. The control system senses this by using a proximity switch on the frame to see that the boom is completely lowered, by the telescope limit switch to see that the boom is fully retracted, and by a proximity switch near the brake release cylinder to see that the brake is set.

Pushing down on the Drive Engagement Release Valve causes hydraulic oil to extend the Drive Engage Cylinder.

Hydraulic flow from the drive enable valve is routed to the flow divider which, in turn, provides flow to the Drive Directional Valve. The Drive Directional Valve receives electrical signals through the control system from the joystick in the platform to route the flow to the drive motors in the appropriate manner to achieve drive in the desired direction.

The Drive & Set system consists of the Propulsion Module, Drive Enable Valve, Drive Directional Valve, Flow Divider, Manual Pull Valve, Drive Motors, Drive Wheels, Brake Release Cylinder, and Drive Engage Cylinder.

The Propulsion Module is located in the frame near the battery charger. It is used to control the Drive Directional Valve and the Drive Enable Valve. The module is connected to and communicates with the Ground Control Module through the CANBUS system.



The Drive Enable Valve sends oil to either the Main Valve Bank for boom functions or the Drive Directional Valve. A filter, check valve, priority flow valve, and relief valve are also housed in this manifold block.



The left and right Drive Motors are attached to Friction Drive Wheels. The Drive Engage Cylinder pushes the Drive Motor/Friction Drive Wheel assembly against the trailer tires. The drive motors can turn in either direction for steering and positioning the machine.





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