

TA-2 Visual & Technical Inspection for Soil Compactors

SMCS - Job Code - 540 Component Code - 753T

Dealer Name



CATERPILLAR®



Cat dealer
Address
Contact

Customer: Industrial Rentals
Address
Contact

Serial Number :	MBB00331	Inspector :	Jace Reeves	Temperature :	66 Deg.
Model :	815	Work Order :	SW66115	Time :	
Engine S/N:	D8T31743	SMU:	2511 Hours	Date :	
Manufacturer :	CAT			Unit Location:	

Note: Review Machine & S·O·S History and check for Active Service Letters prior to inspection.

Status of the Machine

The status recommendation of your Soil Compactor is:

Normal

Visual Inspection for Soil Compactors

Status assessment **✓ – Normal** **M – Monitor** **A – Action** Blank – Not Applicable

1. Prepare Machine Inspection

#	Status	Description	Comments
1.1	Normal	Check with customer for operator complaints	
1.2	Normal	Prepare the machine for the inspection	
1.3	Normal	Perform safety/preparatory inspection	
1.4	Normal	Download machine fault codes	
1.5		Check Product Link	
	Normal	Is machine equipped with PL?	
	Action	Is PL activated?	PL not activated on machine
	Action	Is PL functioning properly?	
1.6	Normal	Observe engine exhaust colors	
1.7	Normal	Listen for unusual noises (hydraulic pumps, engine, transmission, and axles)	
1.8			
1.9			
1.10			
Item No.	Additional Comments		

2. Lower Level Inspection			
#	Status	Description	Comments
2.1	Normal	Wheels	
2.2	Normal	Wheel tamping tips	
2.3	Normal	Striker bars	
2.4	Normal	Cleaner bars support bearing	
2.5	Normal	Cleaner bars and cleaner bar tips	
2.6	Normal	Final drives	
2.7	Normal	Wheel spindles	
2.8	Normal	Front and rear differentials	
2.9	Normal	Rear oscillating axle	
2.10	Normal	Front, center, and rear drive shafts	
2.11	Normal	Drive shaft carrier bearing	
2.12	Normal	Parking brake	
2.13	Normal	Torque converter, transmission and transfer gear box compartment	
2.14	Normal	Hydraulic pump compartment	
2.15	Normal	Upper and lower articulation bearings	
2.16	Normal	Front frame and rear frame	
2.17			
2.18			
2.19			
Item No.		Additional Comments	

3. Middle Level Inspection			
#	Status	Description	Comments
3.1	Monitor	Steps and handrails	Right Rear Step Bent
3.2		Work light/hazard lights	
3.3		Cab mounts	
3.4		ROPS	
3.5		Main control valve	
3.6		Steering cylinders	
3.7		Radiator, oil cooler, condenser, and aftercooler	
3.8		Oil cooler and condenser lines	
3.9	Monitor	Hood and platform	Left platform bolt holes are cracking. (Active service letter for this issue)
3.10		Fenders	
3.11	Normal	Battery and battery cables	
3.12	Normal	Lower radiator and aftercooler lines	
3.13	Normal	Electric starting motor	
3.14	Normal	Engine oil pan	
3.15			
3.16			
3.17			
Item No.		Additional Comments	
	>>>>>	Powertrain hose from cooler to torque converter leaking	

4. Upper Level Inspection			
#	Status	Description	Comments
4.1	Normal	Upper radiator, air inlet, oil cooler, and aftercooler lines	
4.2	Normal	Radiator cap	
4.3	Normal	Cooling fan, fan guard, and shroud	
4.4	Normal	Fan motor	
4.5	Normal	Water pump	
4.6	Normal	Fuel lines and fuel pump	
4.7	Normal	Fuel filters and fuel priming pump	
4.8	Normal	Muffler and exhaust pipe	
4.9	Normal	Exhaust manifold	
4.10	Normal	Turbocharger	
4.11	Normal	Cylinder head and valve cover	
4.12	Normal	Belts, pulleys, compressor clutch, and fan motor	
4.13	Normal	Alternator and air conditioning compressor	
4.14	Normal	Engine wiring harness	
4.15	Normal	Engine mounts	
4.16	Normal	Pre-cleaner and air cleaner	
4.17	Action	Cab exterior	Front glass is shattered
4.18	Normal	Cab interior	
4.19	Normal	Backup alarm	
4.20	Normal	Seat belt	
4.21	Normal	Indicators and gauges	
4.22			
4.23			
Item No.		Additional Comments	

5. Implement/Attachment Inspection			
#	Status	Description	Comments
5.1	Normal	Lift cylinder	
5.2	Normal	Lift cylinder upper trunnion bearing	
5.3	Monitor	Lift cylinder lower swivel bearing	Needs re-shimmed
5.4	Normal	Tilt cylinder	
5.5	Normal	Tilt cylinder brace	
5.6	Monitor	Bulldozer Stabilizer link	Needs re-shimmed
5.7	Normal	Push arms and blade	
5.8	Normal	Side wear plates	
5.9	Normal	Cutting edges	
5.10	Normal	End bits	
5.11			
5.12			
5.13			
Item No.		Additional Comments	
6. Site Conditions			
#	Status	Description	
6.1	Normal	Ambient Temperature	
		NORMAL: -18° to 32°C (0° to 90°F)	
		MONITOR: 32° to 46°C or -18° to -29°C (90° to 115°F or 0° to -20°F)	
		ACTION: Above 46°C or Below -29°C (Above 115° or Below -20°F)	
6.2	Normal	Altitude	
		NORMAL: 0 to 1524 m (0 to 5000 ft)	
		MONITOR: 1524 to 3048 m (5000 to 10,000 ft)	
		ACTION: Above 3048 m (Above 10,000 ft)	
6.3	Normal	Haul Road Grade	
		NORMAL: Flat	

		MONITOR: Mild	
		ACTION: Steep	
6.4	Normal	Haul Road Condition	
		NORMAL: Positive Banking, Gradual Turns, Good Erosion Control	
		ACTION: Negative Banking, Sharp Turns, Poor Erosion Control	
6.5	Normal	Humidity	
		NORMAL: Below 25%	
		MONITOR: 25 to 60%	
		ACTION: Above 60%	
6.6	Normal	Air Quality	
		NORMAL: No Dust	
		MONITOR: Light Dust	
		ACTION: Heavy Dust	
6.7		Underfoot Condition	
		NORMAL: Dry Flat Surface	
		MONITOR: Moderate Grades, Mixture of Muddy / Dry Surfaces	
		ACTION: Steep Grades, Muddy, Snow, Ice	
6.8		Machine Utilization	
		NORMAL: 0 to 10 Hours	
		ACTION: Above 10 hours	
6.9		Equipment Role	
		NORMAL: Utility	
		MONITOR: Support	
		ACTION: Production	
6.10		Working Material	
		NORMAL: Uncompacted, Low Abrasion	
		MONITOR: Moderately Compacted, Moderate Abrasion	
		ACTION: High Abrasion, Compacted, Dense	
6.11	Normal	Maintenance Practices	
		NORMAL: Excellent	
		MONITOR: Good	
		ACTION: Poor	
6.12		Primary Industries	

6.13			
6.14			
6.15			
Item No.	Additional Comments		
Other Remarks			

Technical Inspection for Soil Compactors

Status assessment ✓ - Normal M - Monitor A - Action Blank – Not Applicable

1. Engine

1.1 Cooling System

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
1.1.1	Normal	Radiator Pressure Relief (Radiator Cap)	PSI	15	15			
1.1.2		Test Engine Coolant						
	Normal	Check Freezing Point of Engine Coolant						
	Normal	Test Engine Coolant Conditioner	PPM	1200	1200			
1.1.3	Normal	Check Belt Tension						
1.1.4	Normal	Engine Coolant Temperature	F	179				
1.1.5		Radiator Temperature Drop						
	Normal	Upper Tank Temperature	F	178				
	Normal	Lower Tank Temperature	F	156				

1.2 Fuel System

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
1.2.1		Engine Speed - Check						
	Normal	No Load High Idle	RPM	2271	2270			
	Normal	No Load Low Idle	RPM	802	800			
1.2.2		Fuel System Pressure - Test						
	Normal	Fuel Pressure at Low Idle	PSI	10519				
	Normal	Fuel Pressure at High Idle	PSI	23460				

1.3 Lubrication System

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
1.3.1		Engine Oil Pressure - Test						
	Normal	Oil Pressure at Low Idle	PSI	63				
	Normal	Oil Pressure at High Idle	PSI	86				

1.4 Basic Engine

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
1.4.1	Normal	Cylinder Cutout Test						
1.4.2	Normal	Engine Crankcase Pressure (Blowby) - Test	FT3/HR	348	409			

1.5 Air Inlet and Exhaust System									
#	Status	Description	Units	Observed		Minimum	Maximum		Comments
1.5.1		Torque Converter Stall Test (from T&A Power Train System)							
	Normal	Torque Converter Oil Temperature	F	143					
			Units	Observed	Specified		(+)Tol	(-)Tol	
	Normal	Boost Pressure (Adjust Boost Pressure from TMI)	PSI	23		24			
	Normal	Engine Speed (from T&A Power Train System)	RPM	2108		2160	35	35	
1.5.2	Normal	Exhaust Temperature - Test (Measure at Each Cylinder)	Units	Cyl	Observed	Cyl	Observed		
			F	#1	212	#2	218		
			F	#3	215	#4	216		
			F	#5	213	#6	209		
			F	#7		#8			
1.6 Miscellaneous Engine									
#	Status	Description	Units	Observed		Specified	(+)Tol	(-)Tol	Comments
1.6.1									
1.6.2									
1.6.3									
2. Performance Checks									
2.1 Hydraulic Performance Checks									
#	Status	Description	Units	Observed				Oil Temperature Ranges	
2.1.2		Lift & Tilt Cylinder Drift - Check							
		Oil Temperature	F	98				??° to ??°	??° to ??°
								94.5+/-13.5	
			Units	Observed			Maximum Allowable Movement	Minimum Allowable Time (min)	Minimum Allowable Time (sec)
	Normal	Lift Cylinder	in	0.5"			2"	2.7 min	
	Normal	Tilt Cylinder	in	0.25"			23"	1 min	
2.2 Brake Performance Checks									
#	Status	Description	Units	Observed		Pass	Fail	Comments	
2.2.1	Normal	Brake Accumulator - Test (Test from OMM)	Cycle	4		Pass		3-5 cycles	
2.2.2		Service Brake Holding Ability Test (Test from OMM)				Pass			
2.2.3		Parking Brake Holding Ability Test (Test from OMM)				Pass			
2.3 Steering Performance Checks									
#	Status	Description	Units	Observed		Specified	(+)Tol	(-)Tol	Comments
2.3.1		Steering Cycle Time - Check							
	Normal	Left Steering Time (High Idle)	sec	3.2		3.5	0.5	0.5	
	Normal	Right Steering Time (High Idle)	sec	3.4		3.5	0.5	0.5	

3. Hydraulic Systems								
3.1 Hydraulic System								
#	Status	Description	Units	Observed	Minimum	Maximum		Comments
3.1.1		Implement Double Stall Test						
		Torque Converter Oil Temperature	F	162				
			Units	Observed	Specified	(+)Tol	(-)Tol	Comments
		Boost Pressure (Adjust Boost from TMI)	PSI	23	24			
		Engine Speed (from T&A Hydraulic System)	RPM	2108	2085	50	50	
3.1.2	Normal	Pilot System Pressure Test	PSI	462	479	20	20	
3.1.3		Main Relief Valve - Test						
3.2 Hydraulic Fan System								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.2.1		Hydraulic Fan (If Equipped)						
		Fan Speed (Low Idle)						
		Fan Speed (High Idle)						
3.3 Miscellaneous Hydraulic System								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.3.1								
3.3.2								
3.3.3								
4. Brakes								
4.1 Braking System								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
4.1.1		Service Brake System Pressure - Test						
	Normal	Front Service Brake Pressure (Brake On)	PSI	1245	1251	51	51	
	Normal	Rear Service Brake Pressure (Brake On)	PSI	1245	1251	51	51	
4.1.2		Service Brake Disc Wear Indicator - Check						
		Right Front Service Brake						
		Left Front Service Brake						
		Right Rear Service Brake						
		Left Rear Service Brake						
4.3 Miscellaneous Brake System								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
4.3.1								
4.3.2								
4.3.3								

5. Steering

5.1 Steering System

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
5.1.1		Steering Pilot / Implement Pilot Relief Valve Test						
5.1.2	Normal	Steering System (Piston Pump) High Pressure Stall - Test	PSI	2630	2611	73	73	
5.1.3	Normal	Piston Pump (Steering) Low Pressure Standby - Test	PSI	350				
5.1.4		Steering Piston Pump Margin Pressure - Test						
	Normal	Steering Pump Pressure	PSI	556				
	Normal	Steering Signal Pressure	PSI	290				
	Normal	Margin Pressure (Pump Pressure - Signal Pressure)	PSI	261	15	15		
5.1.5		Steering System Pilot System Pressure - Test						
		Left Steering Pilot Pressure (Min)						
		Right Steering Pilot Pressure (Min)						
5.1.6		Steering Neutralizer Valve - Check						
		Right Side Gap (Engine Frame to Non-Engine Frame)						
		Left Side Gap (Engine Frame to Non-Engine Frame)						

5.2 Miscellaneous Steering

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
5.2.1								
5.2.2								
5.2.3								

6. Power Train

6.1 Power Train System

#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
6.1.1	Normal	Calibrate Fill Time for the Transmission Clutch						
6.1.2		Test for the Transmission Clutch Pressure						
	Normal	Clutch 1 Pressure (Reverse in Any Speed)	PSI	410	405	10	10	
	Normal	Clutch 2 Pressure (Forward in Any Speed)	PSI	410	405	10	10	
	Normal	Clutch 3 Pressure (Neutral)	PSI	395	405	10	10	
	Normal	Clutch 4 Pressure (Forward or Reverse/Third Speed)	PSI	406	405	10	10	
	Normal	Clutch 5 Pressure (Second Speed/Forward or Reverse)	PSI	410	405	10	10	
	Normal	Clutch 6 Pressure (First Speed/Forward or Reverse)	PSI	410	405	10	10	
6.1.3	Normal	Torque Converter Inlet Pressure (High Idle)	PSI	73	405	7	7	
6.1.4	Normal	Torque Converter Outlet Pressure (Torque Converter Stall)	PSI	55	75	7	7	
6.1.5	Normal	Transmission Lubrication Pressure (High Idle)	PSI	32	34	4	4	
6.1.6	Normal	Transmission Oil Pump Pressure (High Idle)	PSI	410	410	10	10	

6.2 Miscellaneous Power Train								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
6.2.1								
6.2.2								
6.2.3								
7. Electrical System								
7.1 Electrical System								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
7.1.1		Battery Voltage						
	Normal	Engine Stopped	V	25				
	Normal	Low Idle	V	27.5				
	Normal	High Idle	V	27.5				
7.1.2	Normal	Inspect Battery Cables						
7.1.3	Normal	Starter Draw Test						
7.2 Miscellaneous Electrical								
#	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
7.2.1								
7.2.2								
7.2.3								
8. S·O·S								
8.1 S·O·S Samples								
#	Status	Description	Obtain	Comments				
8.1.1		Engine Oil Sample						
8.1.2		Engine Coolant Sample (Level II)						
8.1.3		Hydraulic Oil Sample						
8.1.4		Differential & Final Drive Oil Samples (Inboard Final Drives)						
		Front Differential & Final Drive Oil Sample						
		Rear Differential & Final Drive Oil Sample						
8.1.5		Differential & Final Drive Oil Samples (Outboard Final Drives)						
		Front Differential Oil Sample						
		Rear Differential Oil Sample						
		Left Front Final Drive Oil Sample						
		Right Front Final Drive Oil Sample						
		Left Rear Final Drive Oil Sample						
		Right Rear Final Drive Oil Sample						
8.1.6		Transmission Oil Sample						