TA-2 Visual & Technical Inspection for Track-Type Tractors (Elevated Sprocket)

SMCS - Job Code - 540 Component Code - 753T

Cat dealer	**Pon Equipment**
Address	**Dragonder 54 Valkenswaard**
Contact	Johan Roes

Customer	DELTA MACHINERY
Address	Voltstraat 19 DEURNE
Contact	Mark Coolen

Serial Number :	**RJS01481**	**Inspector :**	**Johan Roes**	**Temperature :**	**3 celsius**
Model :	**D9T**	**Work Order :**	**VV10586**	**Time :**	**9.00**
Engine S/N:	**RHX09213**	**SMU:**	**22229**	**Date :**	**30-11-2020**
Manufacturer :	**Caterpillar**			**Unit Location:**	**Deurne**

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 Track-Type Tractor is:	**Normal**

Visual Inspection for Track-Type Tractors

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	
		Is machine equipped with PL?	
		Is PL activated?	
		Is PL functioning properly?	
1,6	Normal	Observe engine exhaust colors	
1,7	Normal	Listen for unusual noises	
1,8			
1,9			
1,10			

Item No.		Additional Comment

2. Lower-Level Inspection			
#	Status	Description	Comments
2,1	Normal	Final drives and sprockets	
2,2	Normal	Carrier rollers	
2,3	Normal	Track rollers	
2,4	Normal	Track roller bogies	
2,5	Normal	Front and rear idlers	
2,6	Normal	Track guides	
2,7	Normal	Track shoes	
2,8	Normal	Track links, pins, and bushings	
2,9	Normal	Track roller frame	
2,10	Normal	Equalizer bar	
2,11	Normal	Pivot shaft	
2,12	Normal	Bottom guards	
2,13			
2,14			
2,15			

Item No.		Additional Comment

3. Middle Level Inspection			
#	Status	Description	Comments
3,1	Normal	Steps and handrails	
3,2	Normal	Work lights	
3,3	Normal	Hood, platform and access doors	
3,4	Normal	Fan guard and fan	
3,5	Normal	Radiator, condenser, oil cooler and aftercooler	
3,6	Normal	Radiator cap	
3,7	Normal	Upper and lower radiator hoses and oil cooler hoses	
3,8	Normal	Aftercooler lines	
3,9	Normal	Air cleaner and pre-cleaner	
3,10	Normal	Cylinder head and valve cover	
3,11	Normal	Turbocharger	
3,12	Normal	Exhaust manifold	
3,13	Normal	Pulleys, belts, and compressor clutch	
3,14	Normal	Water pump	
3,15	Normal	Engine wiring harness	
3,16	Normal	Fuel lines and fuel pump	
3,17			
3,18			
3,19			

Item No.		Additional Comment

4. Upper-Level Inspection			
#	Status	Description	Comments
4.1	Normal	Cab exterior	
4.2	Normal	Cab interior	
4.3	Normal	Batteries and battery cables	
4.4	Normal	Power train and hydraulic oil filter compartment	
4.5	Normal	Hydraulic tank	
4.6			
4.7			
4.8			
Item No.		Additional Comment	

5. Implement/Attachment Inspection

#	Status	Description	Comments
5.1	Normal	Blade and trunnion ball joints, stabilizer bar, tilt and angle cylinders	
5.2	Normal	Blade Lift Cylinder	
5.3	Normal	Blade cutting edges and end bits	
5,4	Normal	Ripper	
5,5	Normal	Ripper cylinders	
5,6			
5,7			
5,8			

Item No.		Additional Comment

6. Site Conditions

#	Status	Description	
6,1		Ambient Temperature	
	x	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		Altitude	
	x	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		Haul Road Grade	
	x	NORMAL: Flat	
		MONITOR: Mild	

		ACTION: Steep	
6,4		Haul Road Condition	
	x	NORMAL: Positive Banking, Gradual Turns, Good Erosion Control	
		ACTION: Negative Banking, Sharp Turns, Poor Erosion Control	
6,5		Humidity	
	x	NORMAL: Below 25%	
		MONITOR: 25 to 60%	
		ACTION: Above 60%	
6,6		Air Quality	
	x	NORMAL: No Dust	
		MONITOR: Light Dust	
		ACTION: Heavy Dust	
6,7		Underfoot Condition	
	x	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	
	x	MONITOR: Support	
		ACTION: Production	
6,10		Working Material	
		NORMAL: Uncompacted, Low Abrasion	
	x	MONITOR: Moderately Compacted, Moderate Abrasion	
		ACTION: High Abrasion, Compacted, Dense	
6,11		Maintenance Practices	

		NORMAL: Excellent	
	x	MONITOR: Good	
		ACTION: Poor	
6,12		Primary Industries	
6,13			
6,14			
6,15			

Item No.		Additional Comments

Other Remarks

Technical Inspection for Track-Type Tractors

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)						
1.1.2		Test Engine Coolant						
	Normal	Check Freezing Point of Engine Coolant	Fharenhe	-20				
		Test Engine Coolant Conditioner						
1.1.3	Normal	Check Belt Tension						automatic
1.1.4	Normal	Engine Coolant Temperature	c	80				
1.1.5		Radiator Temperature Drop						
		Upper Tank Temperature	c	80				
	Normal	Lower Tank Temperature	c	75				

1.2 Fuel System

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
1.2.1		Engine Speed - Check						
	Normal	Low Idle	rpm	700	700			
	Normal	High Idle	rpm	1910	1910			
1.2.2		Fuel System Pressure - Test						
	Normal	Fuel Pressure at Low Idle	kpa	553		825	425	
	Normal	Fuel Pressure at High Idle	kpa	685		825	425	

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		163	160	600	100	
	Normal	Oil Pressure at High Idle		406	380	600	275	

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	l/min lo/h	30	48					low idle / high idle

1.5 Air Inlet and Exhaust System								
	Status	**Description**	**Units**	**Observed**	**Specified**	**(+)Tol**	**(-)Tol**	**Comments**
1.5.1		**Torque Converter Stall Test (from T&A Power Train System)**	rpm	1675	1588	30	30	
	Normal	**Boost Pressure (Adjusted Boost from TMI)**	kpa	138	150	175	128	
		Engine RPM (from T&A Power Train System)		1533				stall+hydr

	Status	Description						Comments
1.5.2		Exhaust Temperature - Test (Measure at Each Cylinder)	Units	Cyl	Observed	Cyl	Observed	
				#1		#2		
				#3		#4		
				#5		#6		
				#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	Max	Min	Comments
2.1.1		Cylinder Speed Tests					
		Bulldozer Tilt Cylinder Speed Test					
	Normal	Type of Blade					
	Normal	Full Tilt Right to Full Tilt Left					
	Normal	Full Tilt Left to Full Tilt Right					
		Bulldozer Lift Cylinder Speed Test					
	Normal	Ground to Full Up					
	Normal	Full Up to Ground (Quick Drop)					
	Normal	Pause at Ground (Quick Drop)					
		Ripper Cylinders Speed Test					
	Normal	Full Down to Full Up					
	Normal	Full Shank In to Full Shank Out					
2.1.2		Cylinder Drift Tests	Units	Observed			
		Oil Temperature	celsius	45			
	Normal	Bulldozer Lift Cylinders Drift Test					
	Normal	Bulldozer Tilt Cylinders Drift Test					

	Normal	**Ripper Lift Cylinders Drift Test**							
	Normal	**Ripper Tip Cylinders Drift Test**							

	Status	Description	Units	Observed	Max	Min	Comments
2.1.3		Steering Turn Diameter Check					
	Normal	Full Steer Left					
	Normal	Full Steer Right					

2.2 Miscellaneous Performance Checks

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
2.2.1								
2.2.2								
2.2.3								

3. Hydraulic System

3.1 Implement Hydraulic System

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.1.1	Normal	Low Pressure Standby Test	kpa	2400	2850	750	750	
3.1.2	Normal	High Pressure Stall Test	kpa	26200	26200	500	500	
3.1.3	Normal	Margin Pressure Test	kpa	2100	2100	170	170	

3.2 Steering Hydraulic System

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.2.1	#REF!	Steering Charge Pump Pressure	kpa	2705	2750	140	140	Low idle
	Normal	Charge Pump Relief Pressure	kpa	2800	2750	140	140	

	#REF!		Units	Observed	"X" Max	"X" Min	Comments

	Status	Description	Units	Observed	Y1	Y2	Comments
3.2.2		Steering pilot pressure					
	Normal	(A) Steer Left	kpa	1930			
	Normal	(B) Steer Left	kpa	1930			
	Normal	(C) Steer Left	kpa	1930			
	Normal	(A) Steer Right	kpa	2100			
	Normal	(B) Steer Right	kpa	2100			
	Normal	(C) Steer Right	kpa	2100			

			Units	Observed		Specified RPM	Specified Pressure	Specified Pressure	
	Normal	Maxium Steer Left P+ressure	kpa	40500		high idle	40000		LI 42500kpa
	Normal	Maxium Steer Right Pressure	kpa	40500		high idle	40000		LI42500kpa

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments

3.3 Hydraulic Fan System (If Equipped)

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.3.1		**Hydraulic Fan (If Equipped)**						
	Normal	**Minimum Control Pump Pressure (High Idle)**	kpa	1793	1500			
	Normal	**Maximum Mechanical Pump Pressure (High Idle)**	kpa	12666				
	Normal	**Fan Speed (Clip Speed)**	rpm	1500				
	Normal	**Fan Pump Pressure at Clip Speed**	kpa	11697	11322			

3.4 Miscellaneous Hydraulic

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
3.4.1								
3.4.2								
3.4.3								

4. Power Train

4.1 Differential Steer

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
		Transmission Lubrication Oil						
	Normal	Low Idle (with Brakes On)	kpa	35	8	3	3	
	Normal	High Idle (with Brakes On)	kpa	120	128	20	20	
		Brake Pressure						
		Right Brake (High Idle with Brakes Off)						
		Left Brake (High Idle with Brakes On)						
		Right Brake (Low Idle with Brakes Off)						
		Left Brake (Low Idle with Brakes On)						
		Parking Brake						
	Normal	Low Idle (with Service Brakes Off & Parking Brake ON)	kpa	2500	2413	50	50	
	Normal	High Idle (with Service Brakes Off & Parking Brake ON)	kpa	2800	2688	50	50	

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
		Priority Valve Setting						
	Normal	Low Idle	kpa	2650	2690	50	50	
	Normal	High Idle	kpa	850	1000	100	100	
		Transmission Oil Pump						
	Normal	Low Idle	kpa	2700	2690	50	50	
	Normal	High Idle	kpa	3000	2975	50	50	
		Converter Outlet Pressure						
	Normal	Third Speed Forward & Coverter in Stall Condition	kpa	500	517	70	70	
		Pump Drive Lubrication						
	Normal	Low Idle (with Brakes On)	kpa	200	210	50	50	
	Normal	High Idle (with Brakes On)	kpa	300	310	50	50	
		Transmission Lubrication Oil						
	Normal	Low Idle (with Brakes On)	kpa	10	8	3	3	
	Normal	High Idle (with brakes On)	kpa	130	128	20	20	

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
4.3.2								
4.3.3								

5. Electrical System

5.1 Electrical System

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
5.1.1		Battery Voltage						
	Normal	Engine Stopped	volt	24				
	Normal	Low Idle	volt	27				
	Normal	High Idle	volt	28,1				
5.1.2	Monitor	Inspect Battery Cables						bad batteries
5.1.3	Normal	Starter Draw Test	Amp	700				

5.2 Miscellaneous Electrical

	Status	Description	Units	Observed	Specified	(+)Tol	(-)Tol	Comments
5.2.1	Normal	latest software						
5.2.2								
5.2.3	Monitor	final drive sample taken and send to lab						

6. S·O·S

6.1 S·O·S Sampling

	Status	Description	Obtain	Comments
6.1.1	Normal	Engine Oil Sample		taken and send to lab
6.1.2		Engine Coolant Sample (Level II)		
6.1.3	Monitor	Hydraulic Oil Sample		taken and send to lab
6.1.4	Monitor	Transmission Oil Sample		taken and send to lab