Demonstrate Using Caterpillar Service Software

Skill Number CO-OP15GN119

Full Name: Zayed Syaviq A. **No ID:** _____

Validation Date: 13 / 03 / 2026 **School:** SMKN 1 SINGOSARI

PERFORMANCE TASK:

For Polytechnic, given an electronic machine/engine and Computer contain SIS & ET. For Vocational high school, given a computer contain SIS.

The student must be able to complete the following tasks:

- Open SIS and find information required for a services/repair process.
- Print out the document required.
- Make a connection and communication ET tools to machine. (Polytechnic only)
- Access some menu on ET tools (information menu, diagnostic menu, service menu, flash programming menu). (Polytechnic only)
- Print out the product status report. (Polytechnic only)
- Perform communication & etiquette manner.

Prerequisite	Yes	No	N/A	Observation / Hints
The student must complete the knowledge assessment. Minimum passing grade 80%.	✓			Score SIS course or subject (for Polytechnic including ET course or subject).

Tasks	Completed Yes	No	N/A	Observation / Hints
Preparation				
Prepare related literature	✓			Candidate should be aware to check all literature such as SIS, Service Manual
Prepare required equipment	✓			Electronic Machine/Engine
Prepare related tools	✓			Computers contain SIS & ET, and Communication Adapter
Prepare Safety & Contamination Control equipment	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Perform etiquette/manner when starting the job				
Meet the customer / assessor	✓			
Perform etiquette/manner when opening the interaction.	✓			• Perform smile & greetings. • Introduce Student's identity
Explain the purpose of Student's activity.	✓			
Ask permission to perform the job.	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Demonstrate using SIS to find required information				
Connect the computer to the network or Internet	✓			Setting to the network or Internet
Open SIS and find information required for service/repair.	✓			• Access SIS menu • Input specified serial number. • Find bellow information refer to specified serial number: - Specified system operation. - Specified testing & adjusting. - Specified remove/install. - Specified Assemble/Disassemble - Specified specification. - Specified part number/group number. - Maintenance interval schedule.
Documentation:				
Take picture if needed				

Tasks	Completed Yes	No	N/A	Observation / Hints
Demonstrate using ET to service and repair machine (for Polytechnic only)				
Make a connection and communication ET tools to machine				Setting preference on ET menu and PC / Laptop
Access some menu on ET tools				• Access to menu for performance test purpose on engine / machine, file management, and service purpose. • Print out the product status report
Documentation:				
Take picture if needed				

Tasks	Completed Yes	No	N/A	Observation / Hints
Perform close the job by ensuring all systems or conditions is in the standard condition				
Ensure all systems or conditions are in standard condition.	✓			• Find the improper condition. • Communicate the finding to the customer/assessor.

Tasks	Completed Yes	No	N/A	Observation / Hints
Reporting				
All relevant documentation completed correctly and approved by customer (if required).	✓			• Completing the Task List • Completing Measurement Form/Related Check Sheet, if required • Create Service Report (SIMS), if required • Create SPR, if required • Documenting the failed or damaged parts, if required • Provide Technical Analysis Report/Failure Analysis Report, if required.

Tasks	Complete Yes	No	Observation / Hints
Safety			
Using APD related to the job	✓		
Follows relevant workplace safety guidelines (tag out, safety equipment)	✓		• Comply with safety regulation that applied on the workplace
State and follow safety precautions	✓		• Create Job Safety Analysis • Student must follow safety procedure refer to service manual or SIS related to job
Serviceman completes job without accident due to incorrect procedure using hand tools.	✓		• Correct working position. • Correct hand tool related to the job
Tasks completed without damage equipment and tools	✓		

Tasks	Complete Yes	No	Observation / Hints
Contamination Control			
Environmental Practices &Housekeeping	✓		1. Waste is minimized, waste material, including sludge; solids and other wastes are sorted and stored in bins for recycling or disposal 2. Packaging of goods received is sorted and reused or disposed of by recycling 3. Materials that can be reused are cleaned and stored 4. Waste and scrap are removed following workplace procedures 5. All fluids are disposed of in accordance with enterprise policies and procedures

Tasks	Completed Yes	No	N/A	Observation / Hints
Perform etiquette/manner after completing the job				
Perform etiquette/manner when closing the communication.	✓			• Perform smile & greetings. • Ask permission to leave or end the interaction.

General Comments

RESULT: COMPETENT ☑ NOT YET COMPETENT ☐ (please check (√))

	Name	Date	Signature
Student:	Zayed Syavi9 A.	13 /03/ 2026	
Assessor:	Setiawan Tuhu B.	13/02/ 2026	
Supervisor:			
Data Recorded:			

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- Perform communication & etiquette manner.

Prerequisite	Yes	No	N/A	Observation / Hints
The student must complete the knowledge assessment. Minimum passing grade 80%.	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Preparation				
Prepare related literature	✓			
Prepare required equipment	✓			
Prepare related tools	✓			
Prepare Safety & Contamination Control equipment	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Perform etiquette/manner when starting the job				
Meet the customer / assessor	✓			
Perform etiquette/manner when opening the interaction.	✓			
Explain the purpose of Student's activity.	✓			
Ask permission to perform the job.	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Demonstrate using SIS to find required information				
Connect the computer to the network or Internet	✓			
Open SIS and find information required for service/repair.	✓			
Documentation:				
Take picture if needed	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Demonstrate using ET to service and repair machine (for Polytechnic only)				
Make a connection and communication ET tools to machine	✓			
Access some menu on ET tools	✓			
Documentation:				
Take picture if needed	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Perform close the job by ensuring all systems or conditions is in the standard condition				
Ensure all systems or conditions are in standard condition.	✓			

Tasks	Completed Yes	No	N/A	Observation / Hints
Reporting				
All relevant documentation completed correctly and approved by customer (if required).	✓			

Tasks	Complete Yes	No	Observation / Hints
Safety			
Using APD related to the job	✓		
Follows relevant workplace safety guidelines (tag out, safety equipment)	✓		
State and follow safety precautions	✓		
Serviceman completes job without accident due to incorrect procedure using hand tools.	✓		
Tasks completed without damage equipment and tools	✓		

Tasks	Complete Yes	No	Observation / Hints
Contamination Control			
Environmental Practices &Housekeeping	✓		

Tasks	Complete Yes	No	N/A	Observation / Hints
Perform etiquette/manner after completing the job				
Perform etiquette/manner when closing the communication.	✓			

General Comments

RESULT: COMPETENT ☑ NOT YET COMPETENT ☐ (please check (√))

	Name	Date	Signature
Student:	Zayed Syavia A.	13 / 03 / 2026	
Assessor:	Setiawan Tuhu B.	13 / 03 / 2026	
Supervisor:			
Data Recorded:			

Nama : Zayed Syafiq A.
Kelas : XI TAB 3
Absen : 24

Tugas : Soal SLS

1. a). Pastikan kabel Power terhubung dgn benar
   b). Tekan tombol Power Pada CPU / Laptop
   c). Tunggu sampai muncul menu login (jika ada)
   d). Masukkan Username & Password (jika ada)
2. a). Mencegah kerusakan sistem & File
   b). Menutup Program (APK dan lain-lain) dengan benar
   c). Menghindari kerusakan hardware
3. a). Klik ikon Jaringan / Wi-Fi di pojok kanan bawah layar
   b). Aktifkan WiFi jika masih mati
   c). Pilih nama Jaringan yg ingin digunakan
   d). Klik connect / Sambungkan
   e). Masukkan Password Wi-Fi
   f). Klik Ok / Next
   g). Tunggu sampai status berubah menjadi connected
   h). Coba buka browser untuk memastikan internet sudah aktif
4. a). Router
      • Menghubungkan Jaringan berbeda
      • Mengatur IP Address
      • Mengarahkan lalu lintas data
   b). Switch
      • Menghubungkan banyak Perangkat dalam satu jaringan Lan
      • Mengatur Pengiriman data berdasarkan MAC address
   c). Access Point
      • Menyediakan akses WiFi
      • Menghubungkan Perangkat Wireless ke jaringan kabel

Trakindo CAT

PT Trakindo Utama

SERVICE PARTS REQUISITION

WORK ORDER NO.	A/C NO.	CUSTOMER	MODEL	SERIAL NO.
		SMKN 1 SINGOSARI	D8R	T5X00577

SEGMENT NO.	WARRANTY	UNIT DOWN	SCHEDULED	CATERPILLAR PARTS	
02	☐	☐	☑	YES ✓	NO

CUSTOMER REPRESENTATIF NAME	CUSTOMER REPRESENTATION SIGNATURE	INITIAL SUPPLY PSO REF NO.
Bapak Setiawan		

DELIVER TO	DATE TIME OF DELIVERY	PREPARED BY	TOTAL PARTS ESTIMATE
SMKN 1 SINGOSARI	13/03/2026 11.30	Zayed	6

APPROVED BY	DATE TIME APPROVED

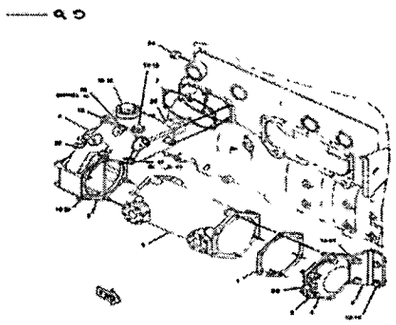
ITEM	PART NUMBER	CHANGED TO	DESCRIPTION	QTY EST	QTY ACT	APPROVAL *	UNIT PRICE	EXTENDED PRICE	RECD
1	1R - 1808	1R - 1808	Filter - Engine Oil	1	1				
2	1R - 0719	1R - 0749	Filter - Fuel	1	1				
3	9X - 2205	9X - 2205	Cap Filter kit	1	1				
4	1R - 0735	1R - 0777	Filter Element AS - Oil	1	1				
5	4T - 3131	4T - 3131	Filter Element	2	2				
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
							TOTAL C/F		

* APPROVAL CODE:

C - CUSTOMER REQUEST
I - FOUND BY INSPECTOR
R - FOUND DURING REPAIR
O - APPROVED BY CUSTOMER
X - NOT APPROVED BY CUSTOMER

1. Nomor 5

The weight of engine (25) is approximately 1588 kg (3500 lb).



1	25-0795	Gasket	2	2		
2	6F-7062	Washer	1	1		
3	8M-9207	Plug	1	1		
4	65-4304	Bonnet-XMSN Oil Cooler	1	1		
5	127-9637	Core AS	1	1		
6	157-0160	Bracket	1	1		
7	160-3907	Seal-Integral	1	1		

2. Nomor 6
3. Nomor 7
4. Nomor 8 (125kPa / 18 psi)
5. Nomor 9
6. Nomor 10 (PN: 1135429)
7. Nomor 11

4. Record the value of the engine oil pressure when the engine is at operating t
The minimum engine oil pressure at 1800 rpm should be approximately 275 t
(18 psi).

187-3578 TURBOCHARGER GP
S/N TXC1-UP
PART OF 105-9697 ENGINE AR
AN ATTACHMENT

e approximately 125 kPa

The priority valve makes sure that oil pressure is first available for steering, bra
steering clutches, lubrication for the brakes, and lubrication for the transmission.

arter and lubrication for the

Inlet ... 0.38 ± 0.08 mm (0.015 ± 0.003 inch)

Exhaust ... 0.64 ± 0.08 mm (0.025 ± 0.003 inch)

When the operator lowers the blade quickly, the oil pressure in the head ends of the lift cylinders drops. The hydraulic circuit from the pump to the head ends of the lift cylinders cannot supply sufficient oil flow in order to maintain the pressure. The valve diverts oil from the rod end of the lift cylinders to the head end of the lift cylinders.

The quick-drop valve minimizes pause time. The valve permits full down pressure in a minimum amount of time after the blade hits the ground.

The bypass valves (F) in the bulldozer lift cylinders are built into the cylinder pistons. When the piston reaches the end of the stroke, the end of the bypass valve touches the end of the cylinder barrel. As the piston moves closer to the end of the cylinder barrel, the bypass valve is pushed open. When the bypass valve is open, oil passes through the piston to the low-pressure side of the cylinder. The oil flow through the piston is important so that excessive pressure does not build up on either side of the piston when the cylinder is at the end of the stroke.

179-5922 - Turbocharger GP

1795922

Numencal Part Record Inquiry Where Used

179-5922
> 00 (US United States)

Weight: 54.5 Lbs,24.72 Kg

8. Nomor 12 (tidak ketemu)

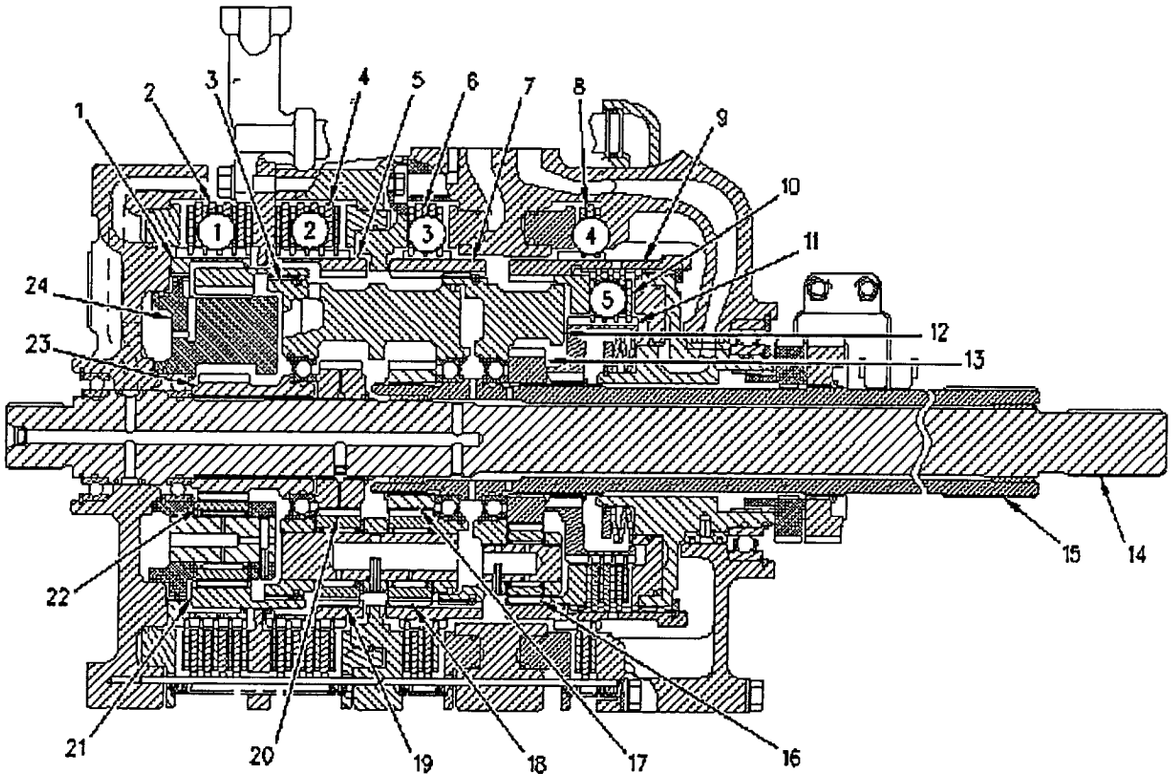
The transmission has five hydraulically activated clutches that give three speeds forward and three speeds in reverse. Speed and direction are manually selected.

The No. 1 and No. 2 clutches are located at the rear of the transmission. The No. 1 clutch is the reverse direction clutch. The No. 2 clutch is the forward direction clutch.

The No. 3, No. 4, and No. 5 clutches are the speed clutches. The No. 3 clutch gives THIRD SPEED The No. 4 clutch gives SECOND SPEED and the No 5 clutch gives FIRST SPEED.

The No. 5 clutch is the only clutch that turns.

9. Nomor 13



The priority valve makes sure that the pressure to the brake control valve is maintained before oil is supplied to the transmission control valve. The regulating relief valve maintains the pressure from the torque converter charging pump at a check valve The check valve directs the flow from the torque converter pump to the transmission clutches. This occurs when a shift of the transmission is made at lower engine speed.

109-6942 VALVE GP-QUICK-DROP -BULLDOZER
S/N T5X1-UP
PART OF 108-1009 LINES GP-BULLDOZER MANIFOLD

10. Nomor 14

When the operator lowers the blade quickly, the oil pressure in the head ends of the lift cylinders drops. The hydraulic circuit from the pump to the head ends of the lift cylinders cannot supply sufficient oil flow in order to maintain the pressure. The valve diverts oil from the rod end of the lift cylinders to the head end of the lift cylinders.

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11. Nomor 15

12. Nomor 16

Lubricant Viscosities for Ambient Temperatures

Compartment or System	Oil Type and Performance Requirements	Oil Viscosities	°C		°F	
			Min	Max	Min	Max
Engine Crankcase	Cat DEO-ULS Cat DEO Cat Cold Weather DEO-ULS Cat ECF-1-a, Cat ECF-2, Cat ECF-3	SAE 0W-40	−40	40	−40	104
		SAE 5W-30	−30	30	−22	86
		SAE 0W-30	−40	30	−40	86
		SAE 5W-40	−30	50	−22	122
		SAE 10W-30	−18	40	0	104
		SAE 10W-40	−18	50	0	122
		SAE 15W-40	−9.5	50	15	122

Lubricant Viscosities for Ambient Temperatures

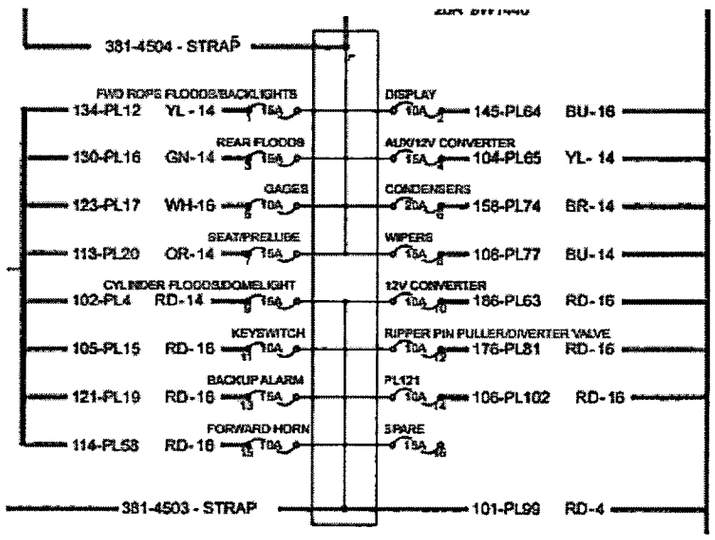
Compartment or System	Oil Type and Performance Requirements	Oil Viscosities	°C		°F	
			Min	Max	Min	Max
Hydraulic System and Hydrostatic Transmissions	CatHYDO Advanced 10 Cat HYDO Advanced 30 Cat BIO HYDO Advanced Cat MTO Cat DEO-ULS Cat DEO Cat TDTO Cat TDTO-TMS Cat Cold Weather DEO-ULS Cat Cold Weather TDTO Cat ECF-1-a, Cat ECF-2, Cat ECF-3, Cat TO-4, Cat TO-4M, Cat BF-2	SAE 0W-20	−40	40	−40	104
		SAE 0W-40	−40	40	−40	104
		SAE 0W-30	−40	40	−40	104
		SAE 5W-40	−30	40	−22	104
		SAE 10W	−20	50	−4	122
		SAE 30	10	50	50	122
		BIO HYDO Advanced	−40	40	−40	104
		SAE10W-30	−20	40	−4	104
		SAE15W-40	−15	50	5	122
		Cat MTO	−20	40	−4	104
		Cat TDTO-TMS	−15	50	5	122

Track Type Tractors Lubricant Viscosities for Ambient Temperatures

Compartment or System	Application	Oil Type and Performance Requirements	Oil Viscosities	°C		°F	
				Min	Max	Min	Max
Power Shift Transmissions	Normal	Cat TDTO Cat TDTO-TMS Cat Cold Weather TDTO Cat TO-4, Cat TO-4M	SAE 0W-20	−40	10	−40	50
			SAE 10W	−20	10	−4	50
			SAE 30	0	35	32	95
			SAE 50	10	50	50	122
			Cat TDTO-TMS	−20	43	−4	110
Final Drive	Moderate Usage or Intermittent Operation	Cat FDAO CatFDAO SYN Cat TDTO Cat TDTO-TMS Cat FD-1, Cat TO-4, Cat TO-4M	SAE 60	−7	50	19	122
			SAE 50	−15	32	5	90
			SAE 30	−25	15	−13	59
			Cat TDTO-TMS	−35	15	−31	59
			Cat FDAO SYN	−15	50	5	122
	Severe Usage or Continuous Operation (Multiple Shifts)	Cat FDAO CatFDAO SYN Cat TDTO Cat TDTO-TMS Cat FD-1, Cat TO-4, Cat TO-4M	SAE 60	−25	50	−13	122
			SAE 50	−33	14	−27	58
			SAE 30	−40	0	−40	32
			Cat TDTO-TMS	−40	0	−40	32
			Cat FDAO SYN	−33	50	−27	122

13. Nomor 17
14. Nomor 18 (SPR)
15. Nomor 19

If a machine does not have carrier rollers, the sag in the track is measured between the sprocket and the front idler The correct adjustment of dimension (2) is 115 ± 10 mm (4.5 ± .4 inch) If equipped with a carrier roller, the correct adjustment for sag dimension (3), and sag dimension (4), is 65 ± 10 mm (2.6 ± .4 inch). The sag is measured on each side of the carrier roller.



16. Nomor 20
17. Nomor 21 (15 Amper)

Obtain the sample of the engine oil as close as possible to the recommended sampling interval. The recommended sampling interval is every 250 service hours. In order to receive the full effect of S·O·S oil analysis, you must establish a consistent trend of data. In order to establish a pertinent history of data, perform consistent oil samplings that are evenly spaced.

1. Open the engine access door (if equipped) on the right side of the machine.

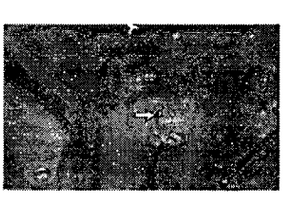


Illustration 1 g00490734
The sampling valve for the engine oil is shown.

2. Remove the protective cap.
3. Use 8T-9190 Fluid Sampling Bottle in order to obtain a sample
4. Replace the protective cap.
5. Close the engine access door (if equipped).