

Demonstrate Selecting and Using Caterpillar Service Literature

Skill Number CO-OP15GN109

Full Name: Zayed Syarif A.

No ID: _____

Validation Date: 29 / 01 / 2026

School: SMKNI 1 Singosari

PERFORMANCE TASK:

Given an Engine / Machine and service literatures. The Student must be able to perform task selecting and using Caterpillar service literature.

The student must be able to complete the following tasks:

- Select the correct service manual related to the job
- Find out some information about specification related to the job
- Find out some information about system operation related to the job
- Find out some information about disassembly & assembly related to the job
- Find out some information about testing & adjusting related to the job
- Select the correct part manual related to the job
- Find out correct part number using the component name index page
- Find out correct component name using the part number index page
- Explain some notification on the illustration page
- Order the part using Service Part Request form
- Return the part using Service Part Return form
- Perform close the job by ensuring all systems or conditions are in the standard condition
- Perform communication & etiquette manner

Safety and Contamination Control must be applied to this process. All literatures will be available.

Prerequisite	Yes	No	N/A	Hints
The Student must complete the knowledge assessment. Minimum passing grade 80%.	✓			Score Caterpillar Literature Course or subject.

Tasks	Completed		Observation / Hints
	Yes	No	
Preparation			
Prepare related literature	✓		Service Manual & Parts Manual related to an actual job Service Parts Request Form Service Parts Return Form
Prepare required equipment	✓		Engine or Machine
Prepare related tools	✓		
Prepare Safety & Contamination Control equipment	✓		

Tasks	Completed		Observation / Hints
	Yes	No	
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		Observation / Hints
	Yes	No	
Selecting and using correct service manual & part manual related to the job	✓		Select the correct Service Manual & Parts Book for a given Machine according the : - Sales model - Serial number - Arrangement number
Find information from service manual & parts book	✓		This should be demonstrated by looking up various service information and components as instructed.
Demonstrate understanding of explanation in the service manual and illustration in the Parts Book by answering assessor questions	✓		Such as (for sample only) : - Service Manual "What should we do to remove water pump" or

Documentation:				"How to remove the cylinder head of the engine" - Part Book "How many clutch disc in the #3 clutch" or "Please point out the location of final drive bearings in parts book illustration."
Take picture if needed				

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Demonstrate ordering and returning the part using correct form				
Ordering part by requesting assessor	✓			Given ordering part of the selection part/group components (engine/machine)
Returning part by requesting assessor	✓			Given returning part of the selection part/group components (engine/machine)
Documentation:				
Take picture if needed				

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Perform final inspection				
Ensuring all systems or conditions are in the standard condition	✓			<ul style="list-style-type: none"> Find arrangement of the modules in the service manual is match, no folded sheet in service literature, service literature neat (for skill assessment purposes only) Communicate the finding to the customer and modules in the service manual is match, no folded sheet in service literature, service literature neat (for skill assessment purposes only) The action can be done at anytime

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Reporting				
All relevant documentation completed correctly, and approved by customer (if required).	✓			<ul style="list-style-type: none"> Completing the Task List Completing Measurement Form/Related Check Sheet, if required Create Service Report (SIMS), if required Create SFR, if required Documenting the failed or damaged parts, if required Provide Technical Analysis Report/Failure Analysis Report, if required.

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Safety				
Using APD related to the job	✓			
Follows relevant workplace safety guidelines (tag out, safety equipment)	✓			<ul style="list-style-type: none"> Comply with safety regulation that applied on the workplace
State and follow safety precautions	✓			<ul style="list-style-type: none"> Create Job Safety Analysis Student must follow safety procedure refer to service manual or SIS related to job
Service man completes job without accident due to incorrect procedure using hand tools.	✓			<ul style="list-style-type: none"> Correct working position Correct hand tool related to the job
Tasks completed without damage equipment and tools	✓			

Demonstrate Selecting and Using Caterpillar Service Literature

Skill Number CO-OP15GN109

Full Name: Zayed Syaid A.

No ID: _____

Validation Date: 29 / 01 / 2026

School: SMKN 1 Singosari

PERFORMANCE TASK:

Given an Engine / Machine and service literatures. The Student must be able to perform task selecting and using Caterpillar service literature.

The student must be able to complete the following tasks:

- Select the correct service manual related to the job
- Find out some information about: specification related to the job
- Find out some information about: system operation related to the job
- Find out some information about: disassembly & assembly related to the job
- Find out some information about: testing & adjusting related to the job
- Select the correct part manual related to the job
- Find out correct part number using the component name index page
- Find out correct component name using the part number index page
- Explain some notification on the illustration page
- Order the part using Service Part Request form
- Return the part using Service Part Return form
- Perform close the job by ensuring all systems or conditions are in the standard condition
- Perform communication & etiquette manner

Safety and Contamination Control must be applied to this process. All literatures will be available.

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

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

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
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			Observation / Hints
	Yes	No	N/A	
Selecting and using correct service manual & part manual related to the job				
Select Service Manual & Part book	✓			
Find information from service manual & parts book	✓			
Demonstrate understanding of explanation in the service manual and illustration in the Parts Book by answering assessor questions	✓			
Documentation:				
Take picture if needed	✓			

Tasks	Completed		Observation / Hints
	Yes	No	
Demonstrate ordering and returning the part using correct form			
Ordering part by requesting assessor	✓		
Returning part by requesting assessor	✓		
Documentation:			
Take picture if needed	✓		

Tasks	Completed		Observation / Hints
	Yes	No	
Perform final inspection			
Ensuring all systems or conditions are in the standard condition	✓		

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

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

Tasks	Completed		Observation / Hints
	Yes	No	
Contamination Control			
Environmental Practices & Housekeeping	✓		
Perform etiquette/manner after completing the job			
Perform etiquette/manner when closing the communication.	✓		

General Comments

RESULT: **COMPETENT** **NOT YET COMPETENT** (please check (√))

Student: Zayed Syaira A. Date: 29 / 01 / 26

Signature: 

Assessor: Setiawan Tuhu B. Date: 29 / 01 / 26

Signature: 

Supervisor: Name: _____ Date: _____ Signature: _____

Data Recorded: Name: _____ Date: _____ Signature: _____

1. a. Oil is in the cooling system

1). Kerusakan pada inti Pendingin Oil system

Periksa setiap Pendingin oli mesin. Perbaiki Pendingin oli yg rusak / ganti Pendingin oli yg rusak, sesuai kebutuhan

2). Kerusakan pada Gasket di Cylinder Head

Pasang head gasket yang baru

b. Oil is in the exhaust

1). Terlalu banyak oli di Valve compartment.

Pastikan Plug terpasang di ujung rocker arm shaft ↓

2). Valve guide yang aus

Perbaiki ulang cylinder head diperlukan

3). Ring Piston yang aus

Periksa ring piston & pasang komponen baru jika diperlukan

c. Engine temperature is too cool

1). Waktu idle yang berlebihan

Jangan biarkan engine menyala dalam waktu lama.

2). Beban yang sangat ringan

Beban yg sangat ringan dapat menyebabkan pendinginan berlebih. Panas yang rendah pada engine menyebabkan pendinginan berlebih.

3). Water temperature regulator rusak

Periksa water temperature regulator untuk memastikan berfungsi dgn benar. Periksa water temperature gauge untuk memastikan berfungsi dgn benar. Pasang parts baru, jika diperlukan.

d. Too much black smoke / Gray smoke is present

1). Udara tdk cukup untuk pembakaran

Periksa filter udara apakah ada hambatan. Ikuti prosedur penggantian elemen filter udara. Lihat manual pengoperasian & perawatan. Periksa tekanan intake manifold. Periksa Turbocharger untuk memastikan pengoperasian yang benar.

2). Fuel Injector Nozzle rusak

Uji semua nozzle. Pasang nozzle baru jika hasil uji menunjukkan bahwa nozzle perlu diganti.

3). Pengaturan waktu injeksi bahan bakar yang salah

Lakukan penyesuaian pada pengaturan waktu. Lihat pengujian & penyesuaian "sistem bahan bakar"

e. Too much white smoke / blue smoke is present

1). Terlalu banyak oli pelumas di engine

Periksa indikator level oli engine & level oli. Pindahkan oli berlebihan. Temukan sumber oli berlebih tersebut. Masukkan jumlah oli yg tepat ke dalam engine.

2). Engine mengalami masalah pembakaran / engine tdk berjalan lancar

- Udara dalam sistem bahan bakar
- Tekanan bahan bakar rendah
- Kerusakan pada nozzle injektor bahan bakar

Perbaiki / ganti komponen sesuai kebutuhan

3). Pengaturan waktu injeksi bahan bakar yg salah

Lakukan penyesuaian pada pengaturan waktu. Lihat pengujian & penyesuaian "sistem bahan bakar"

4). Valve guide aus

Lihat spesifikasi topik "cylinder head valves" untuk mengetahui keausan max yg diizinkan pada valve guide. Perbaiki cylinder head diperlukan

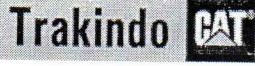
5). Ring Piston aus / ring piston yg terpasang tidak benar

~~Tekanan Blowby = 50.8 kPa (2" dari H₂O)~~

2. Tekanan Blowby = 50.8 kPa (2" dari H₂O)

3. Terdapat 2 PN

~~Tekanan Blowby = 50.8 kPa (2" dari H₂O)~~



PT. Trakindo Utama
SERVICE PARTS REQUISITION 4.3

WORK ORDER NO.	A/C NO.	CUSTOMER SMKN 1 SINGOSARI	MODEL 3306 B	SERIAL NO. 8521	1	WARRANTY	
					2	UNIT DOWN	
					3	SCHEDULE	<input checked="" type="checkbox"/>

SEG NO. OPR NO. JOB OUT LINE COMMENT : _____ SMU : _____

DELIVER TO : SMKN 1 Singosari	DATE/TIME OF : 27 Januari / 15.42	CATERPILLAR PARTS ? DELIVERY : <input type="checkbox"/> YES <input type="checkbox"/> NO	INITIAL SUPPLY PSO REF. NO.
---	--	--	-----------------------------

CUSTOMER REPRESENTATIVE NAME SETIAWAN TUHU BASUKI	CUSTOMER REPRESENTATIVE SIGNATURE	TOTAL PARTS ESTIMATE
---	-----------------------------------	----------------------

PREPARED BY: SN : 24315 / 096.018	APPROVED BY :	DATE/TIME
NAME : ZAYED SYAVIQ A.		APPROVED

NO.	PART NO.	CHANGED TO	DESCRIPTION	QTY		APPRO VAL	PRICE		RECD
				EST	ACT		UNIT	EXTENDED	
1	2P4004	1R-1807	Advanced efficiency Engine oil Filter	1	1		Rp. 421.824	Rp. 421.824	
2	1R0750	1R0750	Filter AS - Fuel	1	1		Rp. 436.358	Rp. 436.358	
3	6I-2503	6I-2503	Element AS - Prim	1	1		Rp. 1.486.355	Rp. 1.486.355	
4	6I-2504	6I-2504	Element AS - Sec	1	1		Rp. 1.051.518	Rp. 1.051.518	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
							TOTAL C/F	Rp. 3.396.080,00	

- * APPROVAL CODES
- C = CUSTOMER REQUEST
 - I = FOUND BY INSPECTOR
 - R = FOUND DURING REPAIR
 - O = APPROVED BY CUSTOMER
 - X = NOT APPROVED BY CUSTOMER

3306B Genset Engine 85Z.

1. Untuk Engine 3306B SN 08Z82840-up selesaikan beberapa trouble berikut ini:

- Terdapat oli di cooling system. ✓
- Terdapat oli di Exhaust gas manifold. ✓
- Temperatur Engine terlalu dingin. ✓
- Terlalu banyak gas buang berwarna hitam. ✓
- Terlalu banyak gas buang berwarna biru. ✓

2. Berapa tekanan normal blowby pada engine ini? ✓

3. Tuliskan part no refractometer untuk tester coolant / battery? ✓

4. Tuliskan PN Piston Ring Groove gauge serta media Number untuk guideline instructions Piston? ✓

5. Tuliskan Part No Drain dan Ammeter yang digunakan pada service manual ini? ✓

6. Tuliskan berat generator pada unit generator set 3306B. ✓

7. Jelaskan pengertian magnetic Pickup (MPU) cara kerja serta fungsinya. ✓

8. Pada Electric Protection System jelaskan fungsi dan cara kerja circuit Breaker (CCB). ✓

9. Tuliskan berat cylinder head Assembly untuk engine 3306 85Z1-up. ✓

10. Tuliskan PN Battery pada group 767871. ✓

11. Tuliskan PN Spin-ON SCA untuk genset engine 3306B. 85Z1-up. ✓

12. Sejak kapan 0,05% sulfur Diesel fuel digunakan? ✓