

Demonstrate Selecting, Using and Maintaining a range of Precision and Non-Precision Tools to Accurately Measure

Skill Number CO-OP15GN105

Full Name: Bahri Kurniawan

No ID: _____

Validation Date: 24 / 12 / 25

School: SMKN 1 Singosari

PERFORMANCE TASK:

Given some measuring tools, the student is requested to perform the following tasks on various measuring tools:

- Selecting
- Using
- Recording
- Maintaining

The student will be instructed to measure with a non-precision gauge such as, steel ruler, feeler gauge and precision tools such as vernier calipers, outside, inside and depth micrometer the dimension of some given parts. Literature and measuring tools will be made available but will not be provided directly to the student.

The student must be able to perform the following task:

- Demonstrate using various measuring tools on an engine or other system components.

Safety and Contamination Control must be always applied to this process.

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, Using and Maintaining a range of Precision and Non-Precision Tools				
1. Inspect the measuring tool before using	✓			
2. Clean tool and component	✓			
3. Calibrate measuring tools before using	✓			
4. Measure component use measuring tools with tolerance allowance 0.5 mm (0.02" or 1/25") for non-precision measuring tools and 0.025 mm (0.001") for precision measuring tools.	✓			
5. Tasks completed without damage to equipment and tools	✓			
6. Equipment and tooling are cleaned and returned to its correct location	✓			
7. Record the reading of the measurements	✓			
Documentation:				
Take picture if needed				

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CO-OP

CO-OP15GN105 – Candidate Performance Guide

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

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Safety				
Using PPE related to the job	✓			
Follows relevant Workplace Safety Guidelines (LOTO, Safety Equipment)	✓			
State and follow Safety Precautions	✓			
Serviceperson completes job without accident due to incorrect procedure using hand tools.	✓			
Tasks completed without damage equipment and tools	✓			

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Contamination Control				
Environmental Practices & Housekeeping	✓			

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

CO-OP

CO-OP15GN105 – Candidate Performance Guide

General Comments

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

Student: Bahrii Kurniawan 24/12/25

Name: Bahrii Kurniawan Date: 24/12/25 Signature: 

Assessor: Sabara EP 24/12/25

Name: Sabara EP Date: 24/12/25 Signature: 

Supervisor: _____

Name: _____ Date: _____ Signature: _____

Data Recorded: _____

Name: _____ Date: _____ Signature: _____



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Demonstrate Selecting, Using and Maintaining a range of Precision and Non-Precision Tools to Accurately Measure

Skill Number CO-OP15GN105

Full Name: Bavit Kurniawan

No ID: _____

Validation Date: 24 / 12 / 25

School: SMKN 1 Singosari

PERFORMANCE TASK:

Given some measuring tools, the student is requested to perform the following tasks on various measuring tools:

- Selecting
- Using
- Recording
- Maintaining

The student will be instructed to measure with a non-precision gauge such as: steel ruler, feeler gauge and precision tools such as vernier callipers, outside, inside and depth micrometer the dimension of some given parts. Literature and measuring tools will be made available but will not be provided directly to the student.

The student must be able to perform the following task:

- Demonstrate using various measuring tools on an engine or other system components.

Safety and Contamination Control must be always applied to this process.

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

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.	✓			• Perform smile & Introduce Student
Explain the purpose of Student's activity.	✓			
Ask permission to perform the job.	✓			

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
1. Inspect the measuring tool before using	✓			Visual inspection of the measur wear, cracks, damage
2. Clean tool and component	✓			Using of consumables CC tools
3. Calibrate measuring tools before using	✓			Tools should be calibrated procedure
4. Measure component use measuring tools with tolerance allowance 0.5 mm (0.02" or 1/25") for non-precision measuring tools and 0.025 mm (0.001") for precision measuring tools.	✓			Thread identification gauge pressure gauge without toleranc
5. Tasks completed without damage to equipment and tools	✓			Component and tooling are clean assembled as given procedure
6. Equipment and tooling are cleaned and returned to its correct location	✓			Cleaned and stored equipment th right place.
7. Record the reading of the measurements	✓			Write the actual reading on the p by the assessor
Documentation:				
Take picture if needed				



Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Perform close the job by ensuring all systems or conditions is in the standard condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Find the improper condition. Communicate the finding to the customer/assessor.
Ensure all systems or conditions are in standard condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Reporting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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 SPR, if required Documenting the failed or damaged parts, if required Provide Technical Analysis Report/Failure Analysis Report, if required.
All relevant documentation completed correctly and approved by customer (if required).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Using PPE related to the job	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Follows relevant Workplace Safety Guidelines (LOTO, Safety Equipment)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Comply with safety regulation that applied on the workplace
State and follow Safety Precautions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Correct working position Correct hand tool related to the job
Tasks completed without damage equipment and tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Tasks	Completed			Observation / Hint
	Yes	No	N/A	
Contamination Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ol style="list-style-type: none"> Waste is minimized, waste including sludge, solids and wastes are sorted and store recycling or disposal Packaging of goods receive and reused or disposed of in cleaned and stored Materials that can be reuse Waste and scrap are remove following workplace proced All fluids are disposed of in with enterprise policies and
Environmental Practices & Housekeeping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Tasks	Completed			Observation
	Yes	No	N/A	
Perform etiquette/manner after completing the job	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Perform smile & gr Ask permission to the interaction.
Perform etiquette/manner when closing the communication.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



General Comments

pekerjaan parahtan man terhang
kelahiran Acet uber

RESULT: COMPETENT NOT YET COMPETENT (please check (N))

Student: Paerli Kurniawan Date 24/12/25

Signature 

Assessor: Shivana TR Date 24/12/25

Signature 

Supervisor: Name _____ Date _____ Signature _____

Data Recorded: Name _____ Date _____ Signature _____



ANALISIS LINGKUNGAN KESELAMATAN KERJA / JOB SAFETY ENVIRONMENT ANALYSIS

Pekerjaan Task	DA Gear Pump 459667	Nomor JSEA JSEA Number	Halaman Page	1	Dari Of	2
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Tanggal Pembuatan JSEA Date of JSEA	Departemen Dept	Service	Tempat Kerja Work Location	Workshop TAB
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Disusun Oleh Compiled By	Bahri	TTD Sign		Review Oleh Reviewed By	TTD Sign	Atasan Superior	TTD Sign
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Apakah Anda sudah terlatih untuk melakukan pekerjaan ini ? / Are you properly trained to complete these task ? Ya / Yes Tidak / No

Apa yang Anda perlukan untuk memastikan bahwa pekerjaan selesai tanpa adanya kecelakaan kerja ? / What do you need to ensure this job is completed incident free ?

Tools yang digunakan sudah sesuai dengan Manual

Siapa yang bertanggung jawab untuk menghentikan pekerjaan jika terjadi perubahan pekerjaan atau gangguan kondisi lingkungan kerja ? / Who is responsible for Stop Work Authority if change job or workplace distraction could ?

ABCD-1 (Technician Leader) / Mr. X (Customer)

Apakah Anda memerlukan peralatan LOTO ? / Are you need LOTO Equipments ? Ya / Yes Tidak / No

Apakah Anda mengetahui ERP/MERP dari pekerjaan yang sedang dilakukan ? Ya / Yes Tidak / No *Jika tidak, silahkan tambahkan dalam urutan langkah tugas diawal*

Kondisi Lingkungan / Environmental Conditions	Cuaca / Weather	Cerah	Medan / Terrain	Rata
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Pengendalian Sumber Bahaya / Hazardous Energy Control	<input type="checkbox"/> Listrik / Electrical	<input checked="" type="checkbox"/> Gravitasi (Benda jatuh,tertipa) / Gravitation (Falling objects, struck down)	<input type="checkbox"/> Pneumatik / Pneumatic
	<input type="checkbox"/> Hidraulik / Hydraulic	<input type="checkbox"/> Mekanis / Mechanical	<input type="checkbox"/> Panas / Thermal

APD yang diperlukan / Required PPE	<input checked="" type="checkbox"/> Helm / Safety Helm	<input type="checkbox"/> Pelindung Muka / Face shield	<input checked="" type="checkbox"/> Kacamata / Safety Glass
	<input checked="" type="checkbox"/> Sarung Tangan / Hand Gloves	<input type="checkbox"/> Pelindung Pernafasan / Respiratory Protection	<input type="checkbox"/> Perlindungan Kejatuhan / Fall Protection
	<input checked="" type="checkbox"/> Sepatu / Safety Shoes	<input type="checkbox"/> Pelindung Telinga / Hearing Protection	<input type="checkbox"/> Lain-Lain / Other

Hal yang perlu dipertimbangan dalam mengidentifikasi bahaya / These to consider in identify hazards :

Bahaya Keselamatan : Kondisi tidak aman yang dapat menyebabkan injury atau kematian seperti terpelesek/terjatuh, tertimpa dll.

Safety Hazard : unsafe conditions that can cause injury or even death, such as spill/falls, pinch point, struck by, etc.

Bahaya Fisik : Listrik, Api/ledakan, Kebisingan, Radiasi, Panas, Tekanan, Terjepit, Tersandung/Terjatuh, Tertimpa, Getaran.

Physical Hazards : Electrical, Fire/Explosion, Noise, Radiations, Thermal, Pressure, Pinch Point, Slips/Falls, Struck by, Vibration.

Bahaya Kimia : Terhirup, terkena kulit, injeksi, tertelan, terserap.

Chemical Hazards : Inhalation, skin contact, injection, ingestion, absorption.

Bahaya Biologi : Patogen yang ditularkan melalui darah, jamur, tanaman/serangga/hewan.

Biological Hazards : bloodbone pathogens, mold, Plant/Insect/Animals

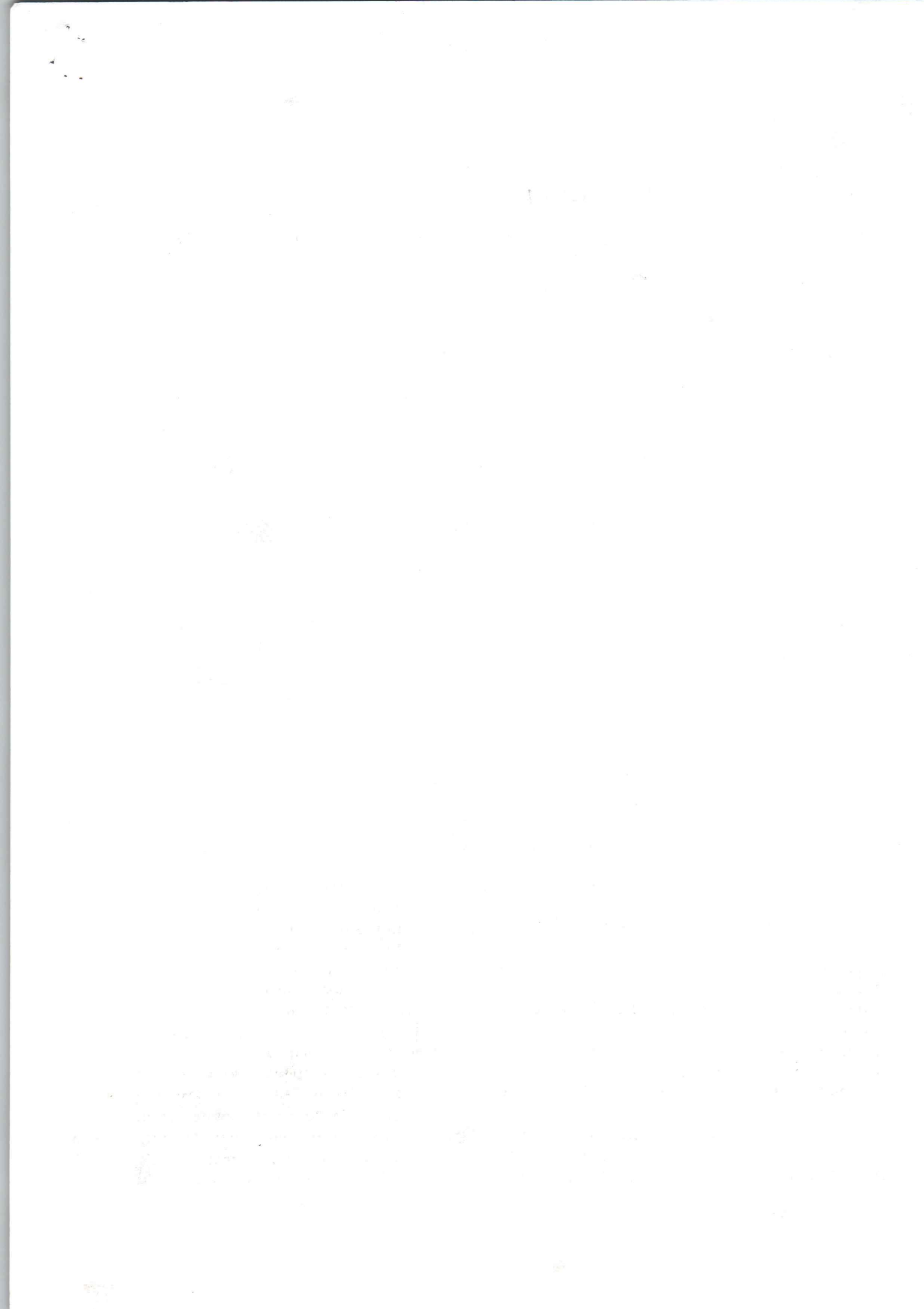
Bahaya Ergonomi : Gerakan berulang-ulang, beban yang berlebihan, Postur Janggal, Durasi kerja, Desain area kerja.

Ergonomic Hazards : Repetitions, Forcefull extention, Awkward Posture, Duration, Work area desain.

Bahaya Organisasi : stres atau bahaya terkait dengan masalah tempat kerja yang menyebabkan efek jangka panjang atau pendek, beban kerja yang berat dan kekerasan ditempat kerja.

Organizational hazards : stressors or hazards associated with workplace issues that cause long or short term effects heavy workloads, stressful interactions and workplaces violence.

No	Urutan Dasar Langkah Tugas / Job Steps (* Maksimum 15 Langkah / Maximum 15 Steps)	Bahaya Yang Terkait / Potential Hazard(s)	Tindakan Perbaikan / Recommended Action
1	Walk Around Inspection	1.1 Kaki tersandung Forklift 1.2 kursi memasuki area kerja	1.1.1 Perhatikan Jalan saat melangkah 1.1.2 Menggunakan safety shoes 1.2.1 Pindahkan kursi 1.2.2 Memakai safety shoes
2	Prepare the tools inspect. measuring gear & soft. check clearance fastener pastikan fastener pada pompa benar/serasi	2.1 Tangan terjepit toolbox 2.2 Kaki terseret roda toolbox 2.3 Tersandung barang berserakan 2.4 Toolbox terbalok barang berserakan	2.1.1 Berhati-hati saat menutup toolbox 2.1.2 Gunakan safety gloves 2.2.1 Hindari titik Jepit 2.2.2 Pakai safety shoes 2.3.1 Ambil Jalan yang lebih aman 2.3.2 Memakai safety shoes 2.4.1 Bersihkan dan tata barang 2.4.2 Pakai safety gloves dan shoes
3	doing disassembled the gear pump	3.1 Tangan terjepit 3.2 Kaki tertimpa komponen saat melepas	3.1.1 Hindari titik Jepit saat Pelepasan 3.1.2 Menggunakan safety gloves 3.2.1 Berhati-hati saat melepas komponen 3.2.2 pakai safety shoes
4	Doing Measure the gear pump	4.1 Tangan tergesas	4.1.1 Hati-hati saat pengukuran 4.1.2 Pakai safety gloves



ANALISIS LINGKUNGAN KESELAMATAN KERJA / JOB SAFETY ENVIRONMENT ANALYSIS

Pekerjaan Task

DA Gear Pump 459667

Nomor JSEA /SEA Number

Halaman Page

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Dari Of

2

No	Urutan Dasar Langkah Tugas / Job Steps	Bahaya Yang Terkait / Potential Hazard(s)	Tindakan Perbaikan / Recommended Action
		4.2 Tangan terjepit measuring tools	4.2.1 Hindari titik jepit saat pengukuran 4.2.2 Fokus saat pengukuran 4.2.3 Memakai safety gloves
		4.3 Kaki tertimpa measuring tools	4.3.1 Simpan alat dengan benar 4.3.2 Memakai safety shoes
5	Disassembling the gear pump	5.1 Tangan terjepit komponen saat pemasangan	5.1.1 Pastikan tangan di luar titik jepit 5.1.2 Fokus saat pemasangan 5.1.3 Gunakan safety gloves
		5.2 Tangan terjepit tools	5.2.1 Menghindari titik jepit 5.2.2 Pakai safety gloves
		5.3 Oli berceceran saat pemasangan	5.3.1 Bersihkan oli menggunakan absorbent pad
6	House keeping	6.1 Kaki tersandung tools	6.1.1 Rapihan tools selesai pemakaian 6.1.2 Menggunakan safety shoes
		6.2 Kaki tertimpa tools	6.2.1 Pastikan tools sudah pada tempatnya 6.2.2 gunakan safety shoes
		6.3 Terpapar oil berceceran	6.3.1 Bersihkan oil sampai bersih dari lantai 6.3.2 Memakai safety shoes
		6.4 Toolbox terbentur barang berserakan	6.4.1 Pindahkan barang berserakan

Bukti sosialisasi / Evidence of socialization :

No	Nama / Name	TTD / Sign
1	Bahar Kurniawan	
2		
3		
4		
5		

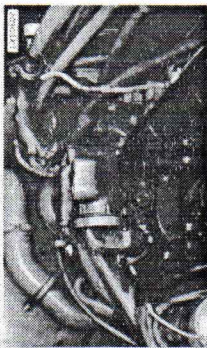
No	Nama / Name	TTD / Sign

No	Nama / Name	TTD / Sign



SMCS - 1302, 1304

Remove Oil Pump



preparatory step:

a) remove oil pan

1. Remove oil pump.

Install Oil Pump

1. Install oil pump.

concluding step:

a) install oil pan

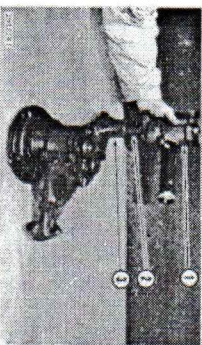
Disassemble Oil Pump

Tools Required		A
8B7548	Push Puller	1
8B7550	Leg	2
8B7558	Adapter	2
8B7563	Handle	1
8H684	Ratchet Box Wrench	1

preparatory step:

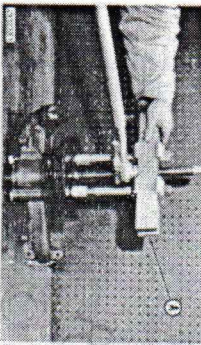
a) remove oil pump

1. Remove the oil pump suction bell, screen, and elbow.

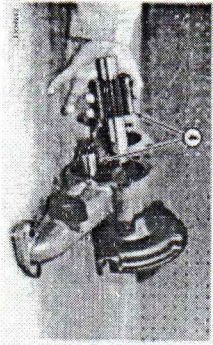


2. Remove the bypass valve body (1), spring (2) and plunger (3).

3. Remove the baffle.



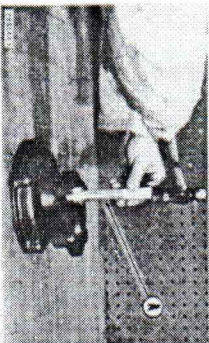
4. Remove the drive gear retaining nut, washer, and cotter pin. Using tool setup (A), oil pump drive gear. Remove key from shaft.



5. Remove the cover assembly. Remove the oil pump gears (4). Separate the cover (5) from pump body. Remove bearings from cover assemblies.

Assemble Oil Pump

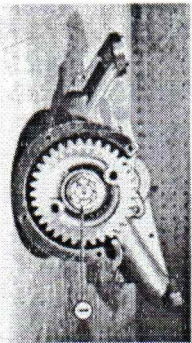
Tools Required		A
1P529	Handle	1
1P467	Drive Plate	1
1P468	Drive Plate	1



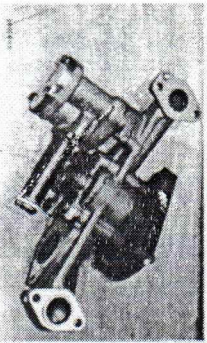
1. Using tool setup (A), install the bearings in the cover assemblies with oil holes in bearings aligned with oil holes in cover assemblies.

2. Position the front cover assembly on body assembly. Lubricate the gear and shaft assemblies, and install them in body assembly.

3. Position the rear cover assembly on body assembly, and install retaining bolts and locks.



4. Install the key and gear on shaft. Install gear retaining nut and washer. Tighten the nut (1) to 100 lb. ft. (13,83 mkg) plus amount to align cotter pin holes. Install cotter pin.



5. Install the baffle, retaining bolts, and locks.

6. Install the bypass valve body, plunger and spring.

7. Install the suction bell, screen and elbow.

concluding step:

a) install oil pump

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