Demonstrate Carrying Out Jacking, Blocking and Lifting of Heavy Equipment and Components Safely

Skill Number CO-OP15GN108

Full Name: Dimas Surya H.W **SN/SAP ID:** _____

Job Title: DA Differential **Branch/Area:** SHKN 1 Singosari

PERFORMANCE TASK:

Given a large machine component, the necessary lifting equipment and lifting chains/slings, the student is to lift and move the component from one location to another. The component is to be correctly supported once placed on the ground or workbench. The component is to be supported in a manner that will enable service work to be carried out.

The student must be able to:

- Selecting tools used and identify SWL correctly
- Jack and block Heavy Equipment correctly and safely
- Lift and support engine or machine component correctly
- Follow service procedure on Service Manual correctly
- Follow standard safety & contamination control procedure related to the job
- Perform communication & etiquette manner

Students are to be given a copy of TCL005 Practical Activity 2 – Student Performance sheet and fill out appropriate areas. It is recommended that Facilitators put questions to students regarding the findings of their inspections and subsequent report. The student will also be required to complete relevant workplace documentation and is to observe the correct safety procedures at all times

Safety and Contamination Control must be applied to this process at all times.

Prerequisite	Yes	No	N/A	Hints
The Student must complete the knowledge assessment. Minimum passing grade 80%.	✓ 80			Score jacking, blocking, and lifting course or subject.

Tasks	Completed Yes	No	N/A	Observation
Preparation				
Prepare related literature Work instructions are used to determine job requirements, including method, process and equipment Job specifications are read and interpreted. Information is accessed from manufacturer/ component supplier specifications and correctly incorporated. Information is accessed from manufacturer/ component supplier specifications and correctly incorporated	✓			*Practical Activity 1* *Observe if candida to Manufacturer's s and/ or service inte* *Observe if candida to and observing M specifications and intervals*
Prepare required equipment	✓			
Prepare related tools Materials, components, equipment and tooling are identified and checked for safe and effective operation	✓			*Refer to MOD re Material, compone and equipment work are identified, prepared in accorda procedures*
Prepare Safety & Contamination Control equipment	✓			

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

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Visual Check				
Pre-inspection procedures	✓			*Location of site to move component, personnel in the area, support material available at site*
Crane/Lifting apparatus inspection	✓			*Inspection of crane or lifting apparatus*
Lifting equipment	✓			*Inspection of chains/slings or other lifting apparatus.*
Support materials	✓			*Serviceable and will complete the task safely.*

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Visual Check				
Site location selected	✓			Safe and secure area, will not affect other Personnel
Supports in place	✓			Tail rope, if required
Jacking and Blocking				
Jacking procedures	✓			*Type of load, center of gravity, jacking points, SWL equipment and jacking tool, area ideal for jacking procedure.*
Jack conducted	✓			*Jack in correct position*
Blocking procedure	✓			*Type of blocking that use, SWL, Blocking points.*
Blocking conducted	✓			*Lowered correctly, supports in place, load secured and not moving once placed on ground or bench, jacking tool removed and moved out of the way*
Blocking allows for service work to be conducted	✓			*Job supported to allow work to be conducted.*
Lifting				
Hook up procedures	✓			*Check as per 10 steps of safe lifting in Student/Facilitator Guide, type of load, center of gravity, hook up points, hook up*

				points checked, p hooks, hook-up secur
Lift conducted	✓			*Checked security o points, load lifted slig center of gravity, twisted, kinked, bindi and not jerky, lift strai down - no angle on cr*
Load moved to chosen site	✓			*Minimum distance off to complete tas personnel considere of the load controlled.*
Load lowered and supported	✓			*Lowered correctly, s place, load secure moving once placed or bench, lifting tackl and moved out of the*
Support allows for service work to be conducted	✓			*Job supported to allo be conducted.* *Use of Tools and Equ*

Tasks	Completed			Observation / H
	Yes	No	N/A	
Use of Tools and Equipment				
Tests and adjustments carried out according to manufacturer's specifications and procedures	✓			
Service is completed without damage to equipment and tools	✓			*Tooling is chec serviceability and r found unserviceable*
Equipment and tooling is cleaned and returned to its correct location	✓			*Unserviceable equipn tooling is tagged identified in accord workshop requiremen*
Work area left clean and tidy	✓			

General Comments

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

	Name	Date	Signature
Serviceman:	Dimas Surya H.W	24-12-2025	
Assessor:	Ibrahim	24/12-2025	
Supervisor:			
Data Recorded:			

Demonstrate Carrying Out Jacking, Blocking and Lifting of Heavy Equipment and Components Safely

Skill Number CO-OP15GN108

Full Name: Dimas Surya H.W SN/SAP ID: _____

Job Title: DA Differential Branch/Area: SMKN 2 Singosari

PERFORMANCE TASK:

Given a large machine component, the necessary lifting equipment and lifting chains/slings, the student is to lift and move the component from one location to another. The component is to be correctly supported once placed on the ground or workbench. The component is to be supported in a manner that will enable service work to be carried out.

The student must be able to:

- Selecting tools used and identify SWL correctly
- Jack and block Heavy Equipment correctly and safely
- Lift and support engine or machine component correctly
- Follow service procedure on Service Manual correctly
- Follow standard safety & contamination control procedure related to the job
- Perform communication & etiquette manner

Students are to be given a copy of TCL005 Practical Activity 2 – Student Performance sheet and fill out appropriate areas. It is recommended that Facilitators put questions to students regarding the findings of their inspections and subsequent report. The student will also be required to complete relevant workplace documentation and is to observe the correct safety procedures at all times

Safety and Contamination Control must be applied to this process at all times.

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

Tasks	Completed Yes	No	N/A	Observation
Preparation				
Prepare related literature Work instructions are used to determine job requirements, including method, process and equipment Job specifications are read and interpreted. Information is accessed from manufacturer/ component supplier specifications and correctly incorporated. Information is accessed from manufacturer/ component supplier specifications and correctly incorporated	✓			
Prepare required equipment	✓			
Prepare related tools Materials, components, equipment and tooling are identified and checked for safe and effective operation	✓			
Prepare Safety & Contamination Control equipment	✓			

Tasks	Completed Yes	No	N/A	Observation
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.	✓			

Demonstrate Inspecting and Servicing Various Bearing, Seal and Gasket Used in Heavy Equipment

Skill Number CO-OP15GN106

Full Name: Dimas Surya H.W No ID: _____

Validation Date: 24-12-2025 School: SMKN 1 Singosari

PERFORMANCE TASK:

Given assorted bearings, seals and gaskets, the student is requested to perform the following tasks on the components:

- Removing
- Inspection
- Installing

The student must be able to perform the following task:

- Demonstrate removing, inspection and installing Bearing, Seals and Gasket.

It is recommended that assessor put questions to student regarding the findings of their inspections and subsequent report. Literature and measuring tools will be made available but will not be provided directly to the student.

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 seal, bearing, gasket course or subject.

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Preparation				
Prepare related literature	✓			Observe if the candidate is referring to the Manufacturer's Literature
Prepare required equipment	✓			Observe if the candidate is preparing bearings, seals, and gaskets
Prepare related tools	✓			Observe if the candidate is preparing related tools (e.g.: Hand tools, bearing puller, Bearing heater, Infrared Thermometer, etc.)
Prepare Safety & Contamination Control equipment	✓			Observe if the candidate is preparing related Safety & CC Equipment (e.g.: PPE, Blue Towel, Plastic Wrap, etc.)

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

Tasks	Completed			Observation / Hints
	Yes	No	N/A	
Remove, Inspect and Install Bearings, Seals and Gaskets				
1. Accessing Information	✓			Observe if the candidate is access information relating task from man literature
2. Bearing, Seals & Gasket Removal	✓			Observe if the candidate is removi seals and gasket following instruct manufacturer's literature
3. Determine bearing reusability of bearings, seals, and gasket	✓			Observe if the candidate is inspect seals and gasket following in manufacturer's literature
4. Bearing, Seals & Gasket Installation	✓			Observe if the candidate is install seals and gasket following in manufacturer's literature
5. Equipment and tooling are used in the correct way	✓			
6. Equipment and tooling are cleaned and returned to its correct location	✓			
Documentation:				
Take picture if needed	✓			

General Comments

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

Student:	Dimas Surya H-W Name	24-12-2025 Date	 Signature
Assessor:	Setiawan TB Name	24/12/2025 Date	 Signature
Supervisor:	 Name	 Date	 Signature
Data Recorded:	 Name	 Date	 Signature

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	
Safety			
Using APD related to the job	✓		
Follows relevant Workplace Safety Guidelines (LOTO, 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	Completed		Observation / Hints
	Yes	No	
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.	✓			

General Comments

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

	Name	Date	Signature
Student:	Dimas Surya H.W	24-12-2025	
Assessor:	Setiawan	24/12/2025	
Supervisor:			
Data Recorded:			

Demonstrate Inspecting and Servicing Various Bearing, Seal and Gasket Used in Heavy Equipment

Skill Number CO-OP15GN106

Full Name: Dimas Surya HW **No ID:** _____

Validation Date: 24-12-2025 **School:** SMKN 1 Singosari

PERFORMANCE TASK:

Given assorted bearings, seals and gaskets, the student is requested to perform the following tasks on the components:

- Removing
- Inspection
- Installing

The student must be able to perform the following task:

- Demonstrate removing, inspection and installing Bearing, Seals and Gasket.

It is recommended that assessor put questions to student regarding the findings of their inspections and subsequent report. Literature and measuring tools will be made available but will not be provided directly to the student.

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 /
	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	
Remove, Inspect and Install Bearings, Seals and Gaskets				
1. Accessing Information	✓			
2. Bearing, Seals & Gasket Removal	✓			
3. Determine bearing reusability of bearings, seals, and gasket	✓			
4. Bearing, Seals & Gasket Installation	✓			
5. Equipment and tooling are used in the correct way	✓			
6. Equipment and tooling are cleaned and returned to its correct location	✓			
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				
Ensure all systems or conditions are in standard condition.	✓			

19/03/2024 **Differential and Bevel Gear (Front and Rear) - Disassemble (UENR4227-16)**

SMCS - 3256, 3258 i10135287

Disassembly Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1U-7502	Repair Stand	1
B	439-3938	Link Bracket As	2
C	456-4371	Lever Hoist	1
D	1P-5546	Crossblock	1
E	6V-3160	Double Acting Cylinder	1
F	1P-0520	Driver Group	1
H	6V-4070	Spanner Wrench	1
J	8B-7551	Bearing Puller	1
K	5F-7343	Bearing Puller Gp	1

Start By:

a. Remove the front or rear differential assembly. Refer to Differential and Bevel Gear (Front and Rear) - Remove and Install .

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Apply location marks on all housings and case assemblies for assembly purposes.

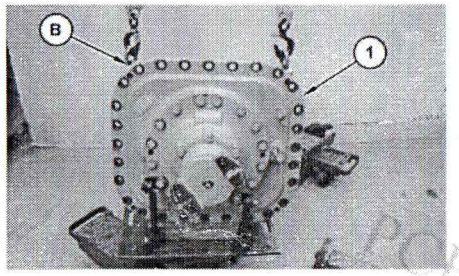


Illustration 1 g03865438

2. Attach Tooling (B) and a suitable lifting device to differential and bevel gear ass
The weight of differential and bevel gear assembly (1) is approximately 322 kg

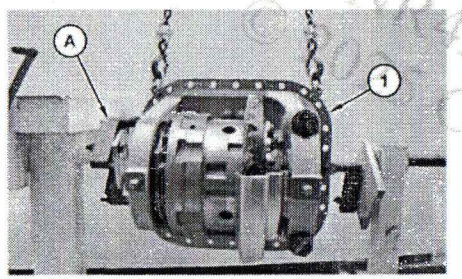


Illustration 2 g03865440

3. Position and place differential and bevel gear assembly (1) onto Tooling (A). Re
Tooling (B) and the suitable lifting device.

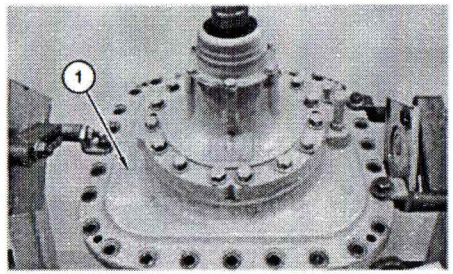


Illustration 3 g03865449

4. Rotate differential and bevel gear assembly (1) by 90 degrees.

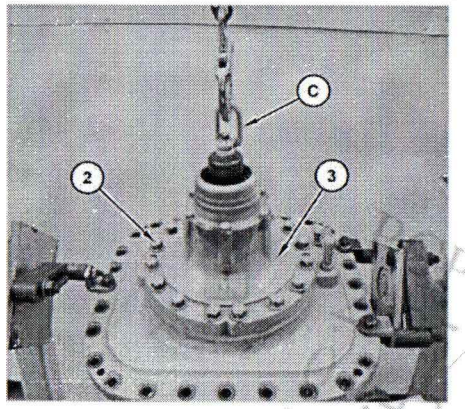


Illustration 4 g03865468

5. Attach Tooling (C) and a suitable lifting device to the yoke. The weight of pinion housing (3) is approximately 75 kg (165 lb). Remove bolts (2).

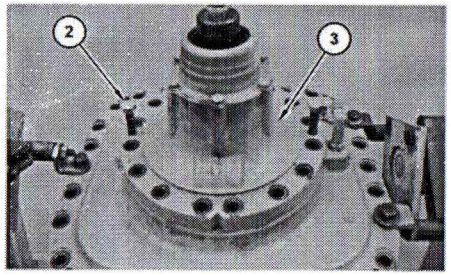


Illustration 5 g03865471

6. Install two bolts (2) in the threaded holes of pinion housing (forcing bolt holes). Tighten two bolts (2) evenly to separate pinion housing (3). Remove pinion housing (3).

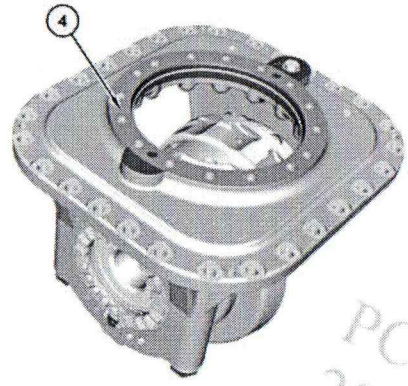


Illustration 6 g03865526

7. Remove shims (4).

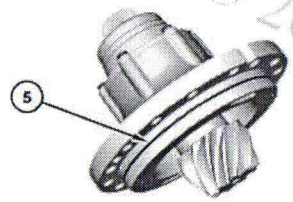


Illustration 7 g03865544

8. Remove O-ring seal (5).

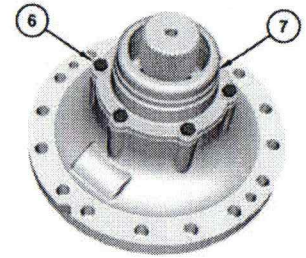


Illustration 8 g03865553

9. Position the pinion housing onto suitable cribbing.

10. Remove bolts (6) and retainer (7).

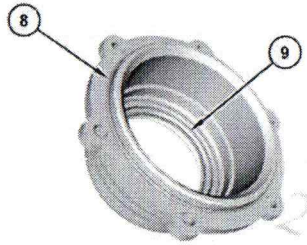


Illustration 9 g03865904

11. Remove O-ring seal (8) and lip seal (9).

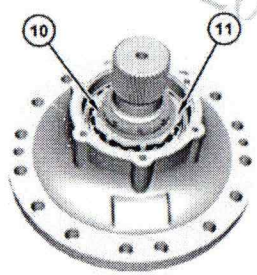


Illustration 10 g03865905

12. Remove retaining ring (10) and locking washer (11).

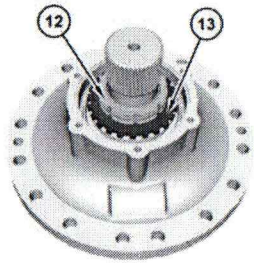


Illustration 11 g03865906

13. Use Tooling (H) (not shown) to remove locknut (12). Remove locknut (12) and n washer (13).

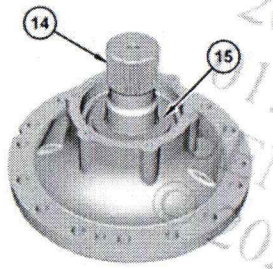


Illustration 12 g03865972

14. Use a suitable press to remove pinion shaft (14) from bearing cone (15).

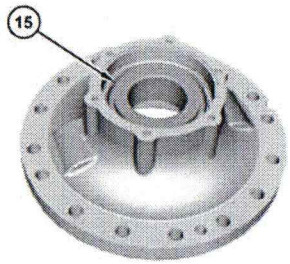


Illustration 13 g03865973

15. Remove bearing cone (15).

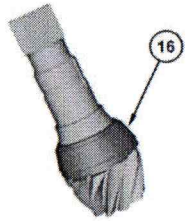


Illustration 14 g03865974

Typical Example

16. Use a suitable press and Tooling (J) (not shown) to remove bearing cup (16).

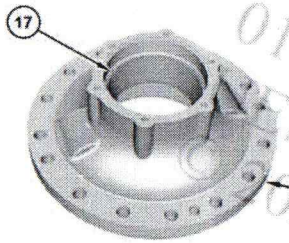


Illustration 15 g03865975

17. Remove bearing cup (17) and bearing cup (17a).

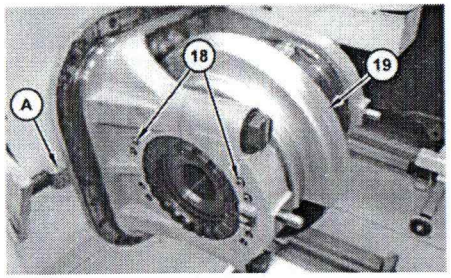


Illustration 16 g03865976

18. Rotate the carrier and differential assembly by 90 degrees on Tooling (A).

19. Remove four bolts (18) and guard (19).

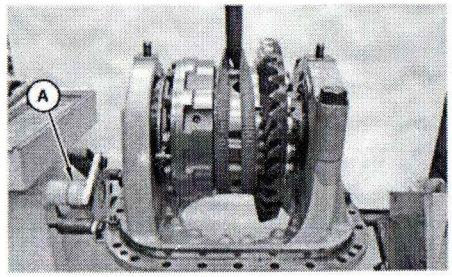


Illustration 17 g03865999

20. Use a suitable lifting device to position the carrier and differential assembly on T
The weight of the carrier and differential assembly is approximately 234 kg (516

21. Rotate the carrier and differential assembly an additional 90 degrees on Tooling

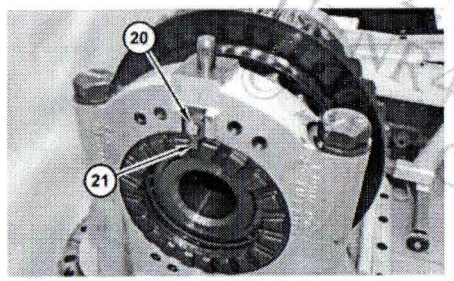


Illustration 18 g03866003

22. Remove bolt (20) and lock (21). Repeat for the opposite side.

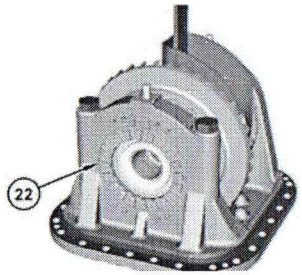


Illustration 19 g03866009

Do not remove suitable lifting device from the carrier and differential assembly.

23. Remove adjusting ring (22). Repeat for the opposite side.

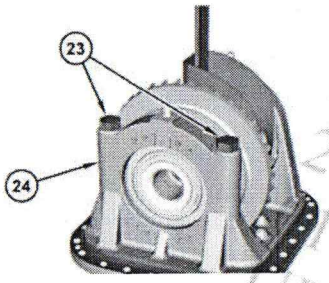


Illustration 20 g03866014

24. Remove bolts (23) and bearing cap (24).

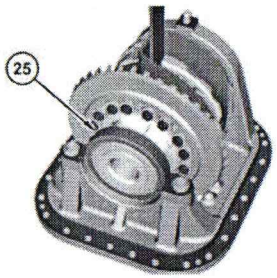


Illustration 21 g03866037

25. Remove bearing cup (25).

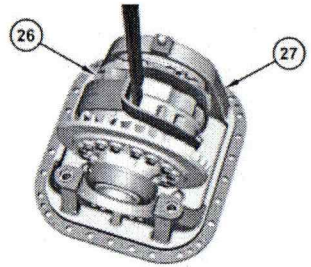


Illustration 22 g03866038

26. Use the suitable lifting device to remove differential assembly and bevel gear (26) carrier assembly (27). The weight of differential assembly and bevel gear (26) is approximately 115 kg (254 lb).

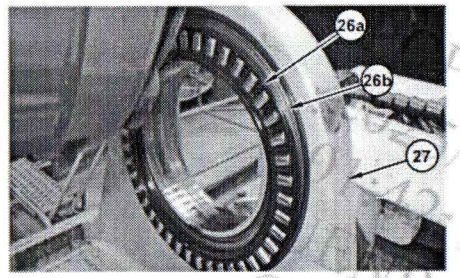


Illustration 23 g03866235

27. Remove bearing (26a) from carrier assembly (27). Remove bearing race (26b).

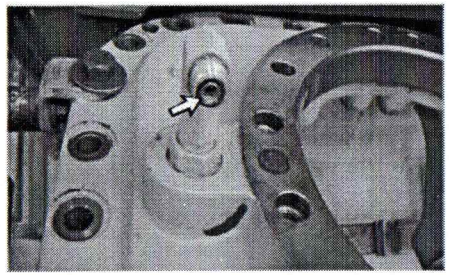


Illustration 24 g03866236

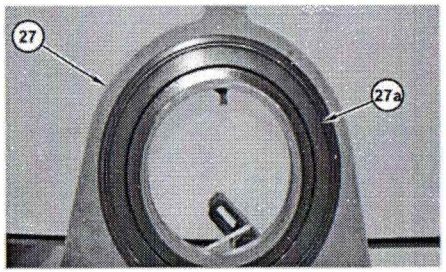


Illustration 25 g03866237

WARNING

Personal injury can result from air pressure against the piston.

The piston can come out of the housing assembly with force when air pressure is applied.

To prevent possible personal injury, the piston must be retained in the housing assembly when applying air pressure.

28. Apply air pressure to remove clutch piston (27a) from carrier assembly (27). Remove clutch piston (27a).

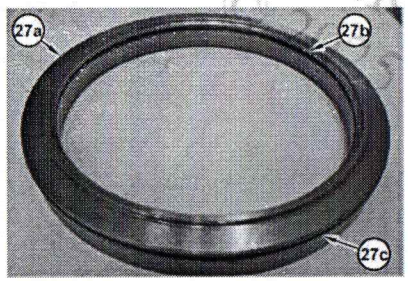


Illustration 26 g03868985

29. Remove D-ring seal (27b) and D-ring seal (27c) from clutch piston (27a).

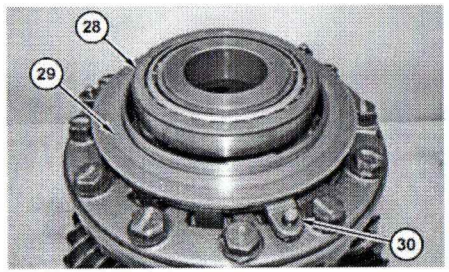


Illustration 27 g06636611

30. Position the differential assembly and bevel gear on suitable cribbing (not shown

31. Remove bearing cup (28) and O-ring seals (30).

32. Remove thrust ring (29).

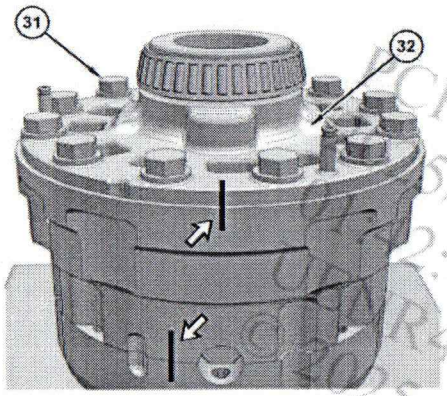


Illustration 28 g06637042

Typical Example

Note: Mark the orientation of the housing joints prior to disassembly for the asse purposes.

33. Remove bolts (31) and top clutch housing (32).

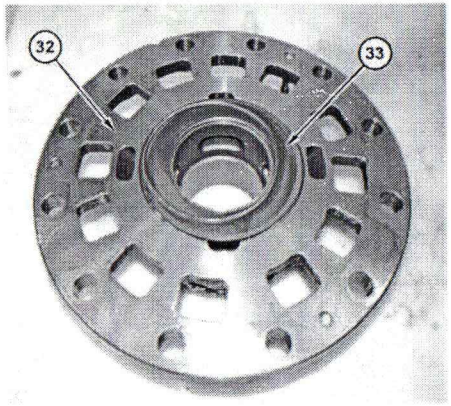


Illustration 29 g06637152

34. Remove thrust washer (33) form back side of top clutch housing (32).

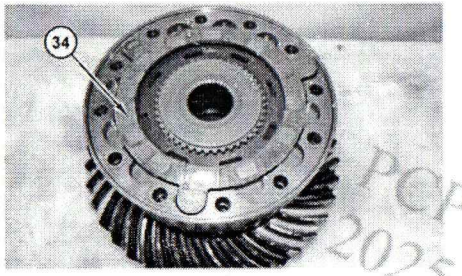


Illustration 30 g03866103

35. Remove thrust plate (34).

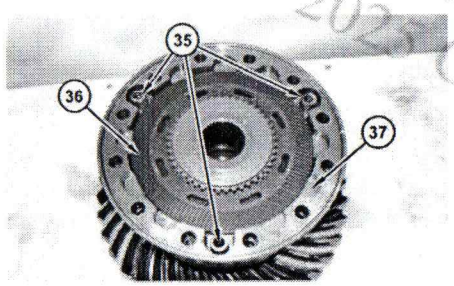


Illustration 31 g03866114

36. Remove springs (35), eight friction discs (36), and eight separator plates (37).

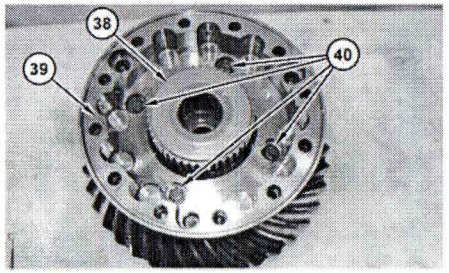


Illustration 32 g03866119

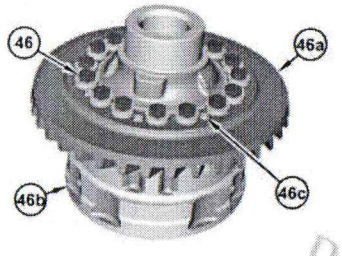


Illustration 33 g03870565

37. Remove gear (38) and bolts (40).

38. Remove spring pins (46c). Remove bolts (46). Remove bevel gear (46a) from dif
housing (46b) and separate housing (39).

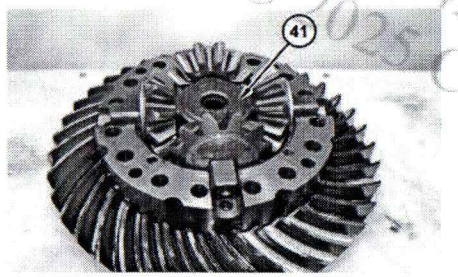


Illustration 34 g03866124

39. Remove spider gear assembly (41).

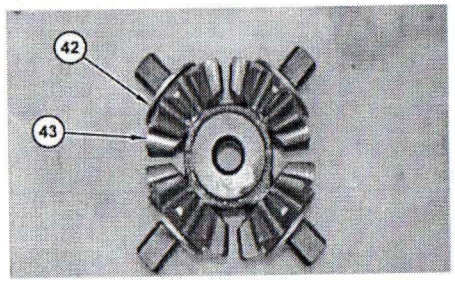


Illustration 35 g03866131

40. Remove thrust washers (42) and gears (43).

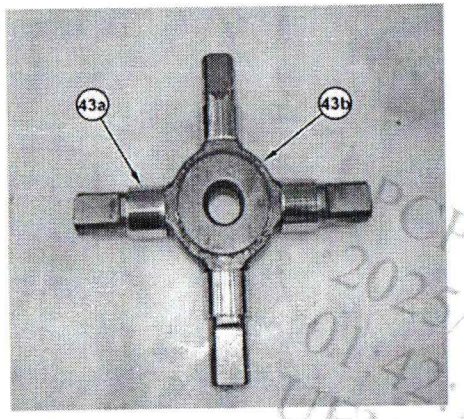


Illustration 36 g03870010

41. Remove gear sleeves (43a) from spider (43b).

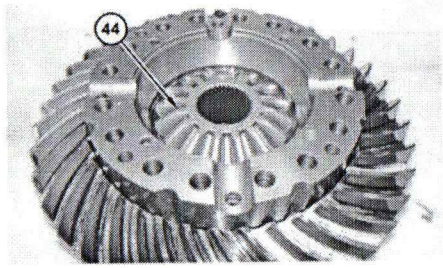


Illustration 37 g03866169

42. Remove gear (44).

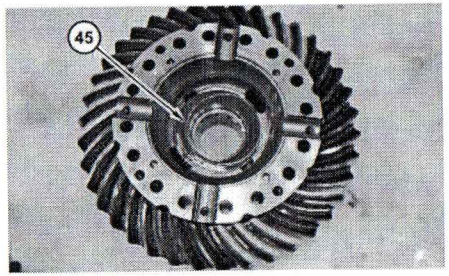


Illustration 38 g03866175

43. Remove thrust washer (45).

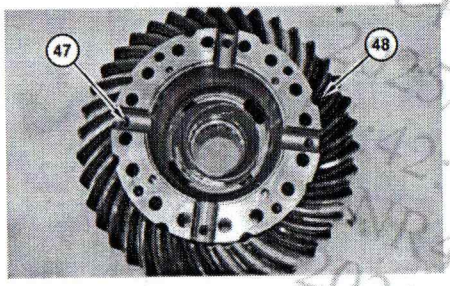
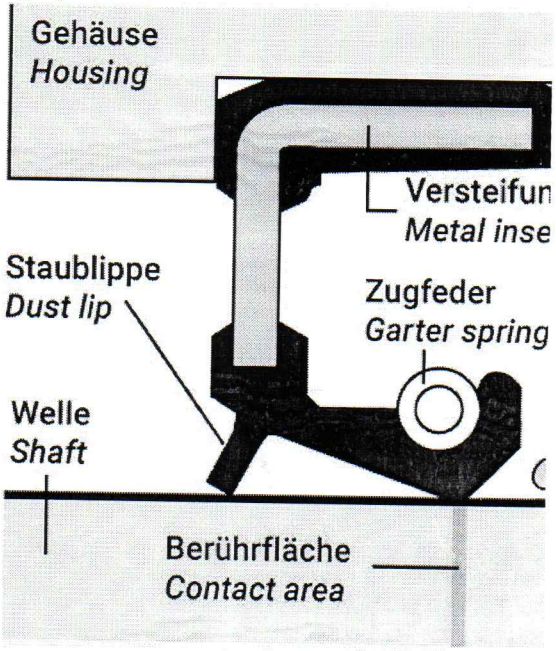


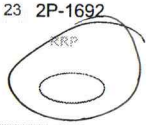
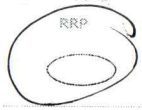
Illustration 39 g03866231

44. Remove roll pins (47) and bevel gear (48).

PCP-00022950
2025/12/24
01:42:13+07:00
i06233843


Gehäuse
Housing
Versteifun
Metal inse
Staublippe
Dust lip
Zugfeder
Garter spring
Welle
Shaft
Berührfläche
Contact area

	Part Number	Part Name	Quantity Req'd		
12	367-6002	Plug AS	1		
↳	3J-7354 RRP  Alternate	Seal-O-Ring	1	1	
↳	360-3677 	Plug (7/16-20-THD)	1	1	
13	368-5693 	Retainer-Seal	1	1	
14	369-6615 RRP 	Shim Pack (Includes 14-SHIMS)	1	1	
17	110-6349 	Fitting AS (Quick Disconnect)	1	1	
18	1L-7518 RRP 	Cone-Bearing	1	1	
19	235-8810	Bolt (M16X2X140-MM) M	16	16	
20	271-9098 RRP 	Bearing AS-Tapered Roller	1	1	
21	2D-9454 RRP	Cup-Bearing	1	1	

	Part Number	Part Name	Quantity Req'd		
					
22	2D-9455 RRP 	Cone-Bearing	1	1	
23	2P-1692 RRP 	Seal-O-Ring	1	1	
24	317-1009 	Washer (18X35X8-MM Thk)	16	16	
25	5P-8247  Alternate	Washer-Hard (17X32X3.5-MM Thk)	16	16	
26	6B-4370 RRP 	Cup-Bearing	1	1	
27	6V-5196	Bolt-Socket Head (M8X1.25X80-MM) M	4	4	
28	6V-8210 	Bolt (M8X1.25X16-MM) M	2	2	
29	8J-8879 RRP 	Seal-O-Ring	1	1	

	Part Number	Part Name	Quantity Req'd		
30	8S-9075 RRP 	Cone-Bearing	1	1	
31	8S-9076 RRP 	Cup-Bearing	1	1	
32	8T-0357 	Bolt (M16X2X70-MM) M	16	16	
33	8T-4121  Alternate	Washer-Hard (11X21X2.5-MM Thk)	6	6	
34	8T-4136 	Bolt (M10X1.5X25-MM) M	6	6	
35	9X-2619 RRP 	Pin-Spring	8	8	
36	9X-2620 RRP 	Pin-Spring	8	8	

Trakindo CAT

Nomor Formulir / *Form Number*	SHE.SHE.FRM.005.R04

ANALISIS LINGKUNGAN KESELAMATAN KERJA / *JOB SAFETY ENVIRONMENT ANALYSIS*

Pekerjaan / *Task*	DA Differential	Nomor JSEA / *JSEA Number*		Halaman / *Page*	1	Dari / *Of*	2
Tanggal Pembuatan JSEA / *Date of JSEA*	24,12,2025	Departemen / *Dept*	TAB	Tempat Kerja / *Work Location*	Workshop TAB		
Disusun Oleh / *Compiled By*	Surya	TTD / *Sign*		Review Oleh / *Reviewed By*		TTD / *Sign*	Atasan / *Superior*	TTD / *Sign*

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*		Medan / *Terrain*	

Pengendalian Sumber Bahaya / *Hazardous Energy Control*				
	☐ Listrik / *Electrical*	☑ Gravitasi (Benda jatuh,tertimpa) / *Gravitation (Falling objects, struck down)*	☐ Pneumatik / *Pneumatic*	
	☐ Hidraulik / *Hydraulic*	☑ Mekanis / *Mechanical*	☐ Panas / *Thermal*	

APD yang diperlukan / *Required PPE*			
☑ Helm / *Safety Helm*	☐ Pelindung Muka / *Face shield*	☐ Kacamata / *Safety Glass*	
☑ Sarung Tangan / *Hand Gloves*	☐ Pelindung Pernafasan / *Respiratory Protection*	☐ Perlindungan Kejatuhan / *Fall Protection*	
☑ Sepatu / *Safety Shoes*	☐ Pelindung Telinga / *Hearing Protection*	☐ Lain-Lain / *Other .....*	

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

1. **Bahaya Keselamatan** : Kondisi tidak aman yang dapat menyebabkan injury atau kematian seperti terjepit, terpeleset/terjatuh, tertimpa dll.
   Safety Hazard : unsafe conditions that can cause injury or even death, such as spill/falls, pinch point, struck by, etc.
2. **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.
3. **Bahaya Kimia** : Terhirup, terkena kulit, injeksi, tertelan, terserap.
   Chemical Hazards : Inhalation, skin contact, injection, ingestion, absorption.
4. **Bahaya Biologi** : Patogen yang ditularkan melalui darah, jamur, tanaman/serangga/hewan.
   Biological Hazards : bloodbone pathogens, mold, Plant/Insect/Animals
5. **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.
6. **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	Terpeleset oli yg berceceran	1.1 Bersihkan oli dengan absorbentpad
		Tersandung komponen	1.1 Pindahkan komponen yg menghalangi
2.	Prepare tools	Kejatuhan tools	1.1 Berhati-hati saat menggunakan tools
			1.2 Gunakan safety shoes
		Terjepit laci tool box	2.1 Hindari titik jepit
			2.1 Gunakan APD lengkap
		Tersandung tool box	3.1 Pindahkan tool box
3.	Doing Disassambly Differential	Posisi tubuh tidak benar	1.1 Posisikan tubuh dg nyaman
		Tool terpental	2.1 Ayang posisi yg tepat
			2.2 Gunakan APD lengkap
		Terjepit komponen	3.1 Hindari titik jepit
			3.2 fokus saat bekerja
			3.3 Gunakan APD lengkap
		Kejatuhan komponen	4.1 Jaga jarak saat mengoprasikan crane
			4.2 Gunakan APD lengkap
		Terpeleset oli	5.1 Bersihkan oli
4.	Clean the komponen	Terciprat Solar	1.1 Pelan-pelan saat membersihkan
			1.2 Pakai APD lengkap