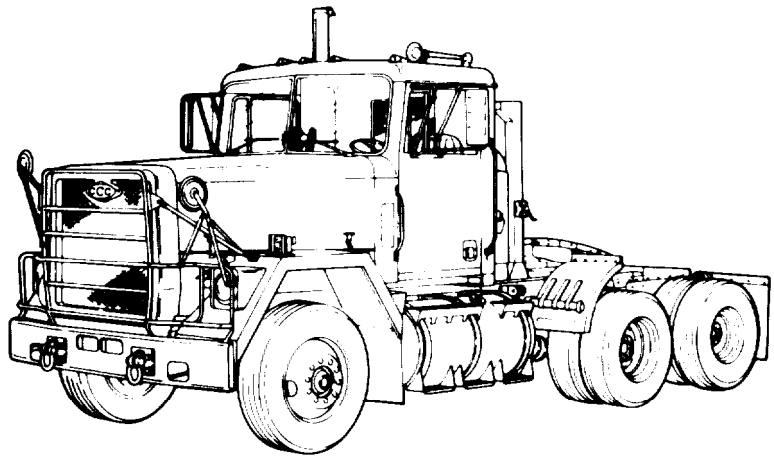
TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

TRUCK TRACTOR, LINE HAUL, 50,000 GVWR, 6 x 4, MQ 15A1

(NSN 2320-01-125-2640)



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HEADQUARTERS,
DEPARTMENT OF THE ARMY

DECEMBER 1983

TECHNICAL MANUAL
TM 9-2320-283-34-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, *16 December 1983*

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

TRUCK TRACTOR, LINE HAUL, 50,000 GVWR, 6 X 4, M915A1

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to Commander, U.S. Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090.. A reply will be furnished to you.

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Section VII. FRONT AXLE

3-58. GENERAL.

This section provides procedures authorized at direct and general support maintenance levels to replace front axle components. To find a specific procedure contained in this section, see the task summary below:

3-59. TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS
ALL.

TEST EQUIPMENT
None.

SPECIAL TOOLS
None.

MATERIALS/PARTS (P/N)
None.

PERSONNEL REQUIRED
Two (MOS-63W).

REFERENCE (TM)
TM92320-283-10
TM 9-2320-283-20.

TROUBLESHOOTING REFERENCES
None.

EQUIPMENT CONDITION

PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-283-10.	Air drained from air system.
TM 9-2320-283-20.	Drums, hubs, bearings, and seals removed.
TM 9-2320-283-20.	Spiders and back plates removed.
TM 9-2320-283-20.	Shocks removed.
TM 9-2320-283-20.	Drag link removed.

SPECIAL ENVIRONMENTAL CONDITIONS
None.

GENERAL SAFETY INSTRUCTIONS
Block rear wheels.

LIST OF TASKS

TASK	TASK REF	TROUBLESHOOTING REF NO. (PARA)
Front Axle Replacement	3-60	
a. Removal.	3-60a	
b. Cleaning.	3-60b	
c. Inspection.	3-60c	
d. Installation.	3-60d	

FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT.

THIS TASK COVERS:

a. Removal.
b. Cleaning.
c. Inspection.
d. Installation.

INITIAL SETUP

APPLICABLE CONFIGURATIONS
ALL.

TEST,EQUIPMENT
None.

SPECIAL TOOLS
None.

MATERIALS/PARTS (P/N)
None.

PERSONNEL REQUIRED
Two (MOS-63W).

REFERENCES (TM
TM 9-2320-283-10
TM 9-2320-283-20

TROUBLESHOOTING REFERENCES
None.

EQUIPMENT CONDITION

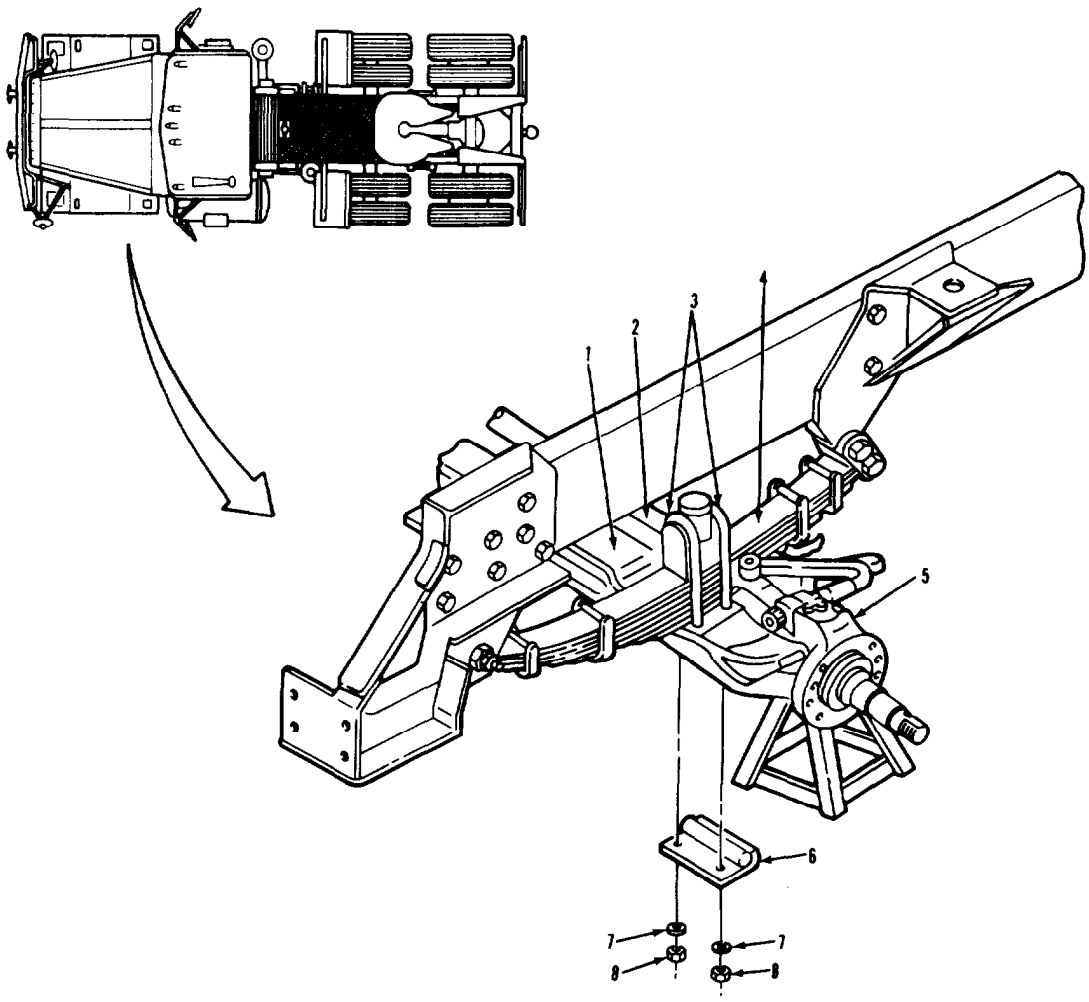
PARAGRAPH	CONDITION DESCRIPTION
TM-9-2320-283-10	Air drained from air system.
TM 9-2320-283-20.	Drums, hubs, bearings, and seals removed.
TM 9-2320-283-20.	Brake shoes, spiders, and backplates removed.
TM 9-2320-283-20.	Shocks removed.
TM 9-2320-283-20.	Drag link removed.

SPECIAL ENVIRONMENTAL CONDITIONS
None.

GENERAL SAFETY INSTRUCTIONS
Block rear wheels.

FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT (Continued).



LEGEND:

1. FRONT NONDRIVING AXLE ASSEMBLY
2. TIE ROD TUBE ASSEMBLY
3. U-BOLT (4)
4. FRONT SPRING ASSEMBLY (2)
5. STEERING MECHANISM
6. LOWER SHOCK MOUNTING BRACKET (2)
7. FLAT WASHER (8)
8. HEXAGON HEAD NUT (8)

TA 23338334

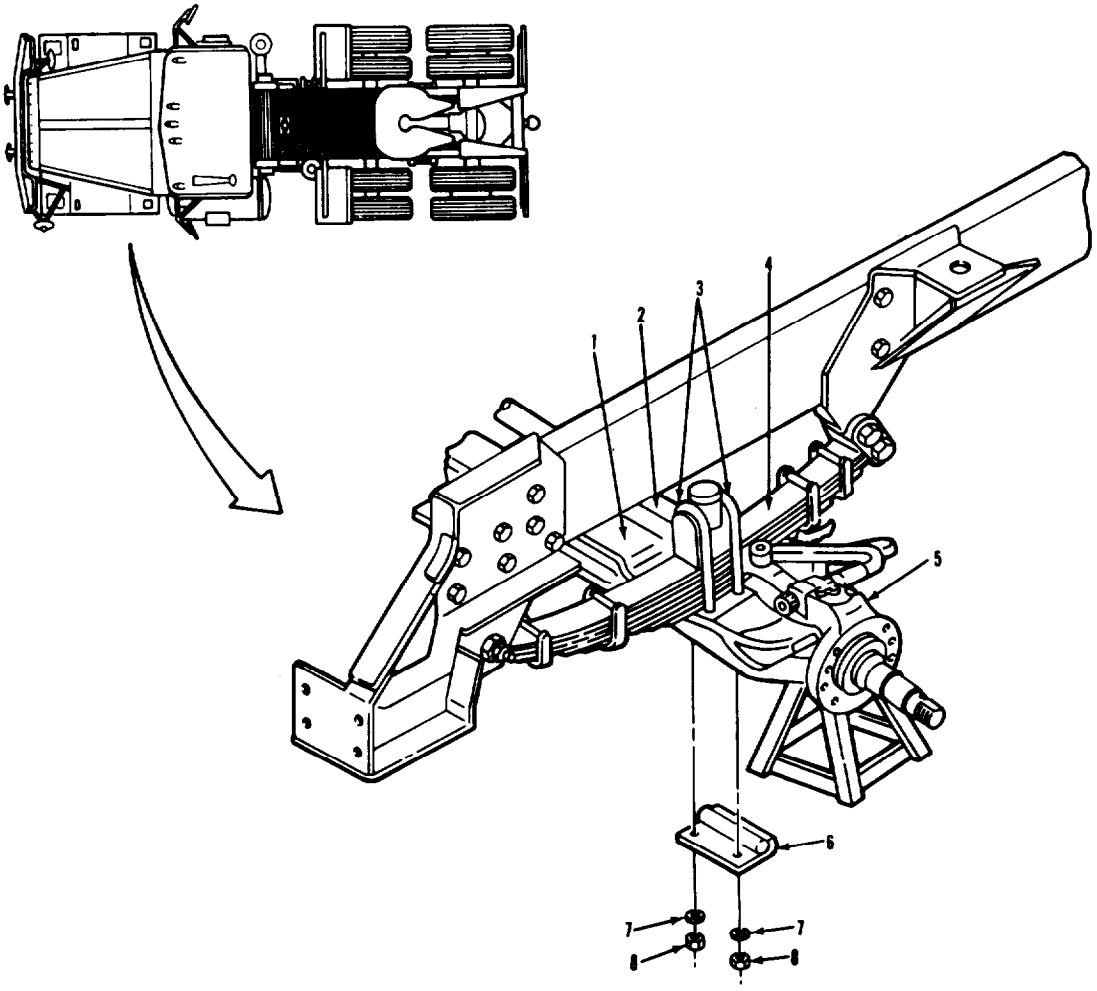
FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL		
	NOTE Before removing front axle, make sure front of vehicle is supported by two jack stands as shown in illustration.	
1. Front nondriving axle assembly (1).	Position floor jack under center and raise until weight of item (1) is supported.	Use floor jack rated for ten ton capacity.
2. Eight nuts (8), washers (7), and two brackets (6).	Remove from four items (3) and item (1).	It is not necessary to remove four items (3) from two items (5).
3. Front nondriving axle assembly (1).	a. Using floor jack, lower and remove from under vehicle. b. Using suitable lifting device, lift off of floor jack and place on clean work surface.	Have assistant help guide item (1) during removal.
B. CLEANING		
4. All parts.	Clean.	Refer to paragraph 3-4.
C. INSPECTION.		
5. All parts.	Inspect.	Refer to paragraph 3-5. If either items (20) or items (4) are damaged, refer to TM 9-2320-283-20 for repair. If item (1) is damaged, replace it with items (5) and (2) attached.

FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT (Continued).



LEGEND:

1. FRONT NONDRIVING AXLE ASSEMBLY
2. TIE ROD TUBE ASSEMBLY
3. U-BOLT (4)
4. FRONT SPRING ASSEMBLY (2)
5. STEERING MECHANISM
6. LOWER SHOCK MOUNTING BRACKET (2)
7. FLAT WASHER (8)
8. HEXAGON HEAD NUT (8)

TA 238335

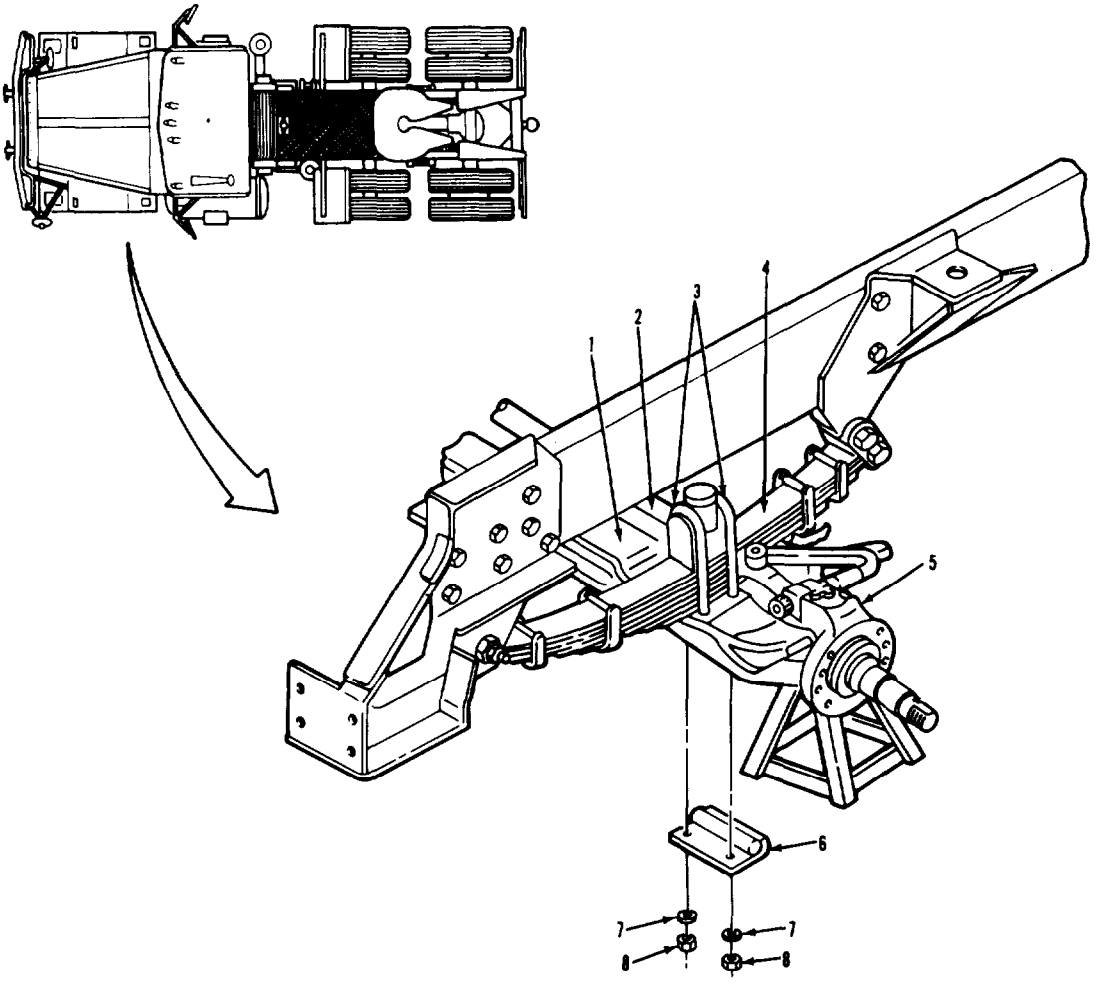
FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. INSTALLATION.		
6. Front nondriving axle assembly (1).	a. Using suitable lifting device, place on floor jack.	Make sure item (1) is centered on floor jack before doing step 6b.
	b. Using floor jack, roll into position under vehicle and raise until item (1) is against two items (4).	Have assistant help guide item (1) during installation. Make sure center bolt of item (4) enters guide hole of item (1).
	NOTE Tighten each nut so that approximately the same number of threads protrude beyond nut on each side of U-bolt.	
7. Two brackets (6): eight nuts (8), and four items (3). washers (7).	Install on item (1) and	Torque eight items (8) to 350-375 lb-ft.
	NOTE Follow-on maintenance action required: Install drag link (TM 9-2320-283-20). Install shocks (TM 9-2320-283-20). Install brake shoes, spiders and backplates (TM 9-2320-283-20). Install drums, hubs, bearings, and seals (TM 9-2320-283-20). Remove jack stands and jack. Check front end alinement and adjust if necessary (TM 9-2320-283-20). Road test vehicle and check for vibration, steering, or brake problems.	

FRONT AXLE.

3-60. FRONT AXLE REPLACEMENT (Continued).



LEGEND:

1. FRONT NONDRIVING AXLE ASSEMBLY
2. TIE ROD TUBE ASSEMBLY
3. U-BOLT (4)
4. FRONT SPRING ASSEMBLY (2)
5. STEERING MECHANISM
6. LOWER SHOCK MOUNTING BRACKET (2)
7. FLAT WASHER (8)
8. HEXAGON HEAD NUT (8)

TA 238336

Section VIII. REAR TANDEM AXLES

3-61 GENERAL .

This section provides procedures authorizedat direct and general support maintenance levels to rep1ace and repair rear tandem axle components. To find a specific procedure contained in this section, see the task summary below:

3-62. TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS
ALL.

EQUIPMENT CONDITION

PARAGRAPH	CONDITION DESCRIPTION
(Refer to specific paragraph for this information).	

TEST EQUIPMENT
None.

SPECIAL TOOLS
Flange tool
(33287) J3453.

Staking tool
(33287) J-26883.

MATERIALS/PARTS (P/N)
Grease, automotive and artillery
Item 7, Appendix B.
Sealant, silicone rubber
Item 27, Appendix B.
Oil, lubricating, engine, OE/HDO-10
Item 16, Appendix B.
Oil, lubricating: OE/HDO-30
Item 17, Appendix B.
Seal, oil
(52304) 64656.
Seal, oil
(52304) 63910.
O-ring, output shaft (2)
(52304) 46526.
Locknut, hex head (8)
(52304) 57637.
O-ring
(52304) 10620.
Cone, inner pinion bearing
(52304) 85439.
Cone, outer pinion bearing
(52304) 110846.
Cup, inner pinion bearing
(52304) 14217.
Cup, outer pinion bearing
(52304) 35502.
Pin, cotter
(52304) 90873.
Screw, hex head (12)
(52304) 96271.
Grommet, push rod
(52304) 32826.
Grommet, piston
(52304) 32832.
Oiler, piston, felt
(52304) 96916.
Grormnet, cover
(52304) 32831.
Pin, cotter
(52304) 90876.
Cone, pinion bearing (2)
(52304) 12496.
Seal, oil
(52304) 79470.
Cup, pinion bearing (2)
(52304) 12495.
Bearing, pinion pilot
(52304) 15828.
Cup differential bearing
(52304) 9803.
Cone, differential
(52304) 27813.
bearing
Cone, differential bearing
(52304) 6082.
Cup differential bearing
(52304) 90943.
Pin, dowel (16)
(52304) 7641.

PERSONNEL REQUIRED
Two (MOS-63W).

SPECIAL ENVIRONMENTAL CONDITIONS
Work area clean and away from blowing dirt and dust.

REAR TANDEM AXLES.

3-62. TASK SUMMARY (Continued).

INITIAL SETUP (Continued).

REFERENCES (TM
TM 9-2320- 283-10.
TM 9-2320-283-20.
LO 9-2320-283-12.

TROUBLESHOOTING REFERENCES
Paragraph 2-7.

GENERAL SAFETY INSTRUCTIONS
Block front and rear tires.

Snaprings are made from spring steel and may pop off during removal. Wear face shield to prevent possible injury.

When using a hydraulic press for removal or installation of bearings, wear a face shield to prevent possible injury.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF NO. (PARA)
1	Forward-Rear Axle Replacement	3-63	2-7
	a. Removal.	3-63a	
	b. Cleaning.	3-63b	
	c. Inspection.	3-63c	
	d. Installation.	3-63d	
2	Forward-Rear Axle Housing and Cover Repair	3-64	2-7
	a. Disassembly.	3-64a	
	b. Cleaning.	3-64b	
	c. Inspection.	3-64c	
	d. Assembly.	3-64d	
3	Forward-Rear Axle Yoke and Oil Seal Replacement	3-65	2-7
	a. Removal.	3-65a	
	b. Cleaning.	3-65b	
	c. Inspection.	3-65c	
	d. Installation.	3-65d	
4	Forward-Rear Axle Flange and Oil Seal Replacement	3-66	2-7
	a. Removal.	3-66a	
	b. Cleaning.	3-66b	
	c. Inspection.	3-66c	
	d. Installation.	3-66d	

REAR TANDEM AXLES.

3-62. TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF NO. (PARA)
5	Differential Carrier Cover Replacement	3-67	2-7
	a. Removal.	3-67a	
	b. 'Inspection.	3-67b	
	c. Checking End Play.	3-67c	
6	Differential Carrier Cover Repair	3-68	2-7
	a. Disassembly.	3-68a	
	b. Cleaning.	3-68b	
	c. Inspection.	3-68c	
	d. Installation.	3-68d	
	e. Adjusting End Play.	3-68e	
7	Forward-Rear Axle Carrier Replacement	3-69	
	a. Removal.	3-69a	
	b. Cleaning.	3-69b	
	c. Inspection.	3-69c	
	d. Installation.	3-69d	
8	Forward-Rear Axle Carrier Repair	3-70	2-7
	a. Disassembly.	3-70a	
	b. Cleaning and Inspection.	3-70b	
	c. Assembly.	3-70c	
	d. Adjusting Pinion Bearing Preload.	3-70d	
	e. Adjusting Differential Preload.	3-70e	
	f. Adjusting Ring Gear Backlash.	3-70f	
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	h. Adjusting Tooth Contact Pattern.	3-70h	
	i. Final Assembly.	3-70i	
9	Differential Lockout Replacement and Repair	3-71	2-7
	a. Disassembly.	3-71a	
	b. Cleaning.	3-71b	
	c. Inspection.	3-71c	
	d. Reassembly.	3-71d	

REAR TANDEM AXLES.

3-62. TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF NO. (PARA)
10	Rear-Rear Axle Replacement	3-72	2-7
	a. Removal.	3-72a	
	b. Cleaning.	3-72b	
	c. Inspection.	3-72c	
	d. Installation.	3-724	
11	Rear-Rear Axle Housing Repair	3-73	2-7
	a. Disassembly.	3-73a	
	b. Cleaning.	3-73b	
	c. Inspection.	3-73c	
	d. Assembly.	3-734	
12	Rear-Rear Axle Flange and Oil Seal Replacement	3-74	2-7
	a. Removal.	3-74a	
	b. Cleaning.	3-74b	
	c. Inspection.	3-74c	
	d. Installation.	3-74d	
13	Rear-Rear Axle Carrier Replacement	3-75	2-7
	a. Removal.	3-75a	
	b. Cleaning.	3-75b	
	c. Inspection.	3-75c	
	d. Installation.	3-75d	
14	Rear-Rear Axle Carrier Repair	3-76	2-7
	a. Disassembly.	3-76a	
	b. Cleaning.	3-76b	
	c. Inspection.	3-76c	
	d. Assembly.	3-76d	
	e. Adjusting Pinion Bearing Preload.	3-76e	
	f. Adjusting Differential Preload.	3-76f	
	g. Adjusting Ring Gear Backlash.	3-769	
	h. Ring Gear and Pinion Tooth Contact.	3-76h	
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	j. Final Assembly.	3-76j	