

PARTS & SERVICE NEWS

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DATE	Jan. 18, 2002

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This PARTS & SERVICE NEWS supersedes the previous issue No. AT01187 dated Oct. 19, 2001 which should be discarded.

SUBJECT: MODIFICATION TO PREVENT INTERFERENCE OF HOSES AND HARNESSES FOR HYD. CIRCUIT ON HM400-1

PURPOSE: To introduce modification procedures to prevent interference of the hydraulic circuit hoses and the harnesses on HM400-1 dump trucks

APPLICATION: HM400-1 Dump Trucks, Serial Nos. 1001 thru 1003, 1005, 1007, 1008, 1010, 1013 thru 1016


FAILURE CODE: 6A00MV

DESCRIPTION:

1-1. Introduction

On the HM400 dump trucks, interference of the hydraulic circuit hose and the harness may occur when the axles are being oscillated or when the vehicle is making turns resulting in breakage of the harness. Therefore, make the modification being introduced in this Service News to prevent occurrence of such interference.


1-2. Revised places:

7 places 	Jan. 18, 2002	Added a modification item. (The oscillation test included)
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2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
56B-99-19560	Pipe	Replacement	2	For modification of the hose guide
07087-405A8 (07087-40508)	Hose (Hose)		2 (2)	For modification of the hoist return hose
07000-F3022 (07000-F3042)	O-ring (O-ring)		4 (4)	For modification of the hoist return hose Consumable parts
04434-51010	Clip	Addition	2	For modification of the center axle harness For modification of the rear axle harness
04434-51010	Clip		2	For modification of the center axle harness
04434-50810	Clip		2	For modification of the rear axle harness
419-15-17541	Spacer	Addition	2	For modification of the center axle harness For modification of the rear axle harness
01010-81025	Bolt		2	
01643-31032	Washer		4	
01580-11008	Nut		2	
01435-01040	Bolt		2	

Part No.	Part Name	Purpose of part	Q'ty	Remarks
56B-61-12562 (56B-61-12561)	Block (Block)	Replacement	1 (1)	For modification of the return cooling hose
56B-61-13531 (56B-61-13530)	Plate (Plate)		1 (1)	
07000-F3032 (07000-F3032)	O-ring (O-ring)		4 (4)	
07000-F3038 (07000-F3038)	O-ring (O-ring)		2 (2)	
56B-43-17854 (56B-43-17853)	Tube (Tube)	Replacement	1 (1)	For modification of the center rear axle brake hose
02765-004A8 (02765-00408)	Hose (Hose)		2 (2)	
02896-21009 (02896-21009)	O-ring (O-ring)		2 (2)	
02896-21012 (02896-21012)	O-ring (O-ring)		4 (4)	
08210-01805	Spiral tube	Addition	1	For modification of the center axle brake hose
08210-01804	Spiral tube		1	For modification of the rear axle brake hose
Δ 00506 02763-005A5 (02763-00505)	Hose (Hose)	Replacement	1 (1)	
02763-005A5 (02763-005A4)	Hose (Hose)		1 (1)	
02782-10522 (02781-00522)	Elbow (Union)		1 (1)	
02783-10522 (02781-10522)	Elbow (Elbow)		1 (1)	
07002-22434 (07002-22434)	O-ring (O-ring)	Replacement	2 (2)	
02896-21015 (02896-21015)	O-ring (O-ring)		2 (2)	
56B-61-12842 (56B-61-12841)	Hose (Hose)		1 (1)	
56B-61-12791 (56B-61-12790)	Hose (Hose)		1 (1)	
567-04-41330	Plate	Addition	1	For modification of the aeration hose
01435-01016	Bolt		2	
04434-51710	Clip		1	
01580-01008	Nut		1	
01643-31032	Washer		1	


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Part No.	Part Name	Purpose of part	Q'ty	Remarks
56B-43-17867 (56B-43-17866)	Tube (Tube)	} Replacement	1 (1)	} Rear brake tube
56B-43-17877 (56B-43-17876)	Tube (Tube)		1 (1)	
569-54-41380	Plate		2	
01435-01020	Bolt		2	
01580-11008	Nut		2	

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3. Contents of the modification

- ① Modification to prevent abrasion wear of the hose connecting the front and rear sections
- ② Modification to prevent moving out of the mouthpiece of the hoist cylinder return hose
- ③ Modification to prevent breakage of the rear harness
- ④ Modification to prevent interference of the retarder cooling hose
- ⑤ Modification to prevent interference of the center axle and rear axle brake hoses
- ⑥ Modification to prevent breakage of the suction hose for the center axle and rear axle differential locks
- ⑦ Modification to prevent breakage of the oil cooler outlet hose (Replacing the defectively produced parts with the normal parts)
- ⑧ Modification to add the clamp for the radiator aeration hose

 ⑨ Modification to prevent interference between the rear axle and the brake tube

4. Modification procedures

4-1. Preparations

- 1) Prepare a gas cutter and an arc welder.
- 2) Park the vehicle on a flat place and insert wedges under respective tires
- 3) Raise the body and insert the body stopper pin. (Both the LH and RH pins)
- 4) Loosen the oil filler cap of the hydraulic tank to lower the internal pressure of the tank.
Since there is a danger of suffering burns while the oil temperature is high, make this modification after the oil temperature has dropped.

4-2. Modification procedures to prevent abrasion wear of the hose connecting the front and rear sections

- 1) Remove the hose guide installed to the front section of the rear frame. (Refer to Fig. 1.)
- 2) Cut the end of the hose guide. (Refer to Fig. 2.)
- 3) Weld the pipe (56B-99-19560) to connect to the top end of the cut pipe. (Refer to Fig. 3.)
- 4) Finish the welded section to smooth surfaces by use of a grinder.
- 5) Make touch up by Black Gray paint color.
- 6) Install the hose guide to the rear frame

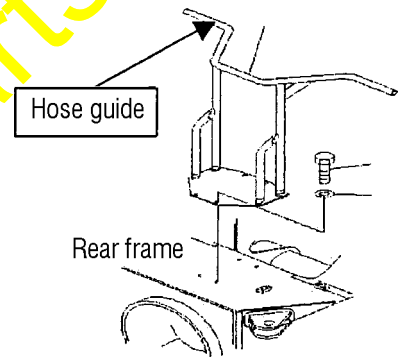


Fig. 1

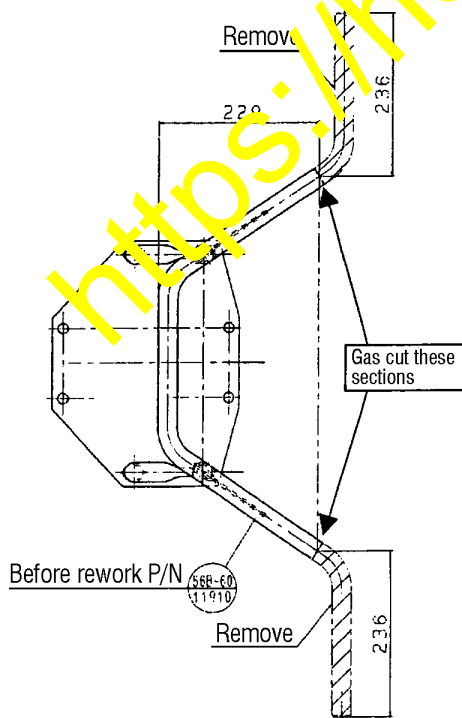


Fig. 2

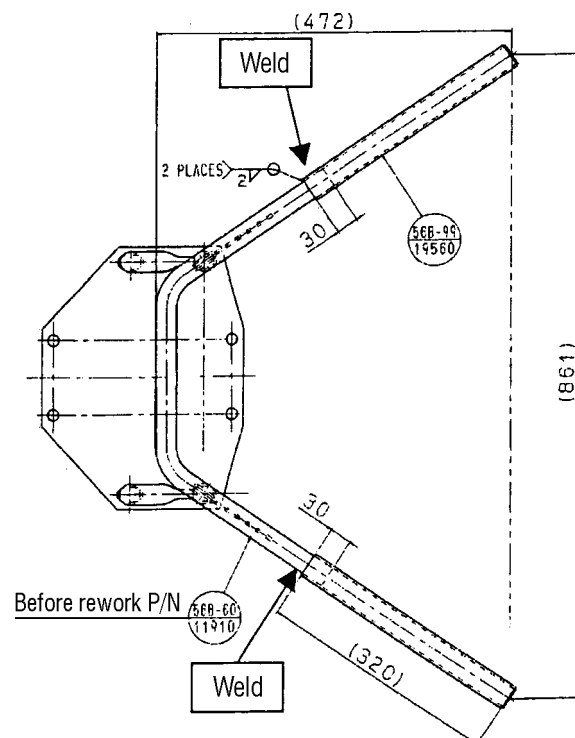


Fig. 3

4-3. Modification procedures for the hoist cylinder return hose

※ Regarding this modification item, the vehicles with the serial numbers of #1015 and #1016 have already been modified before shipment from the factory and it is not necessary to make this modification.

- 1) Disconnect the hoist cylinder return side hose (the thinner hose). (Refer to Fig. 4.)
- 2) Replace the above hose with the hose (07087-405A8) prepared for the modification.
<L = 800 mm → 850 mm>
Replace the O-ring (07000-F3022) with the new part at the same time.

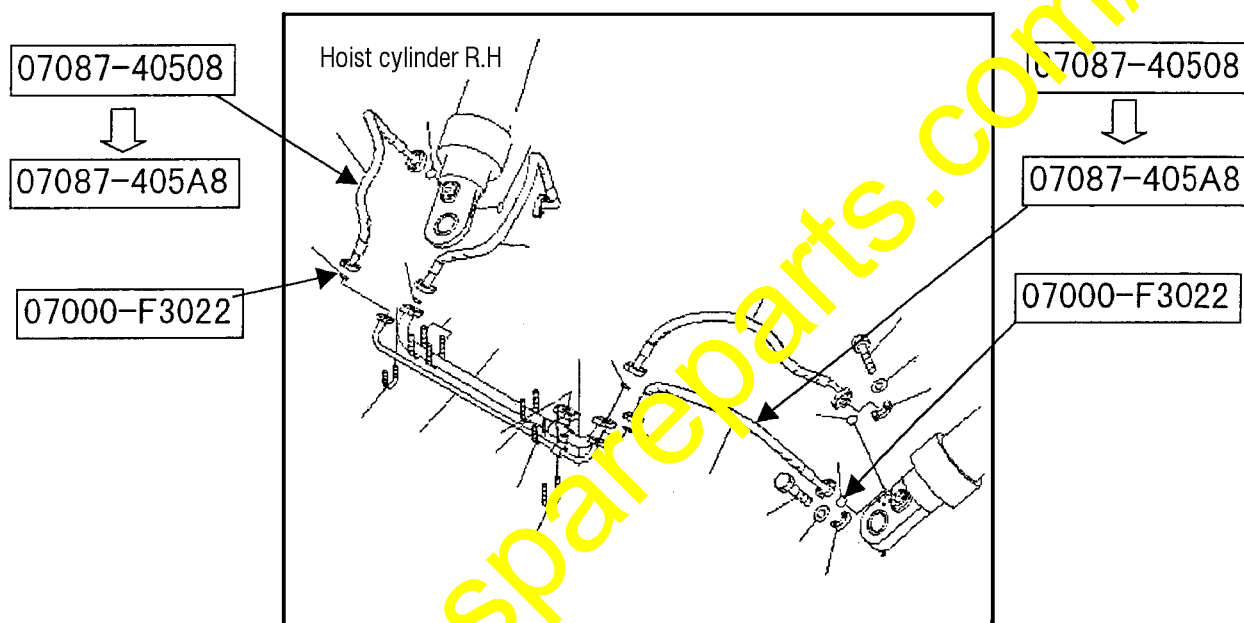
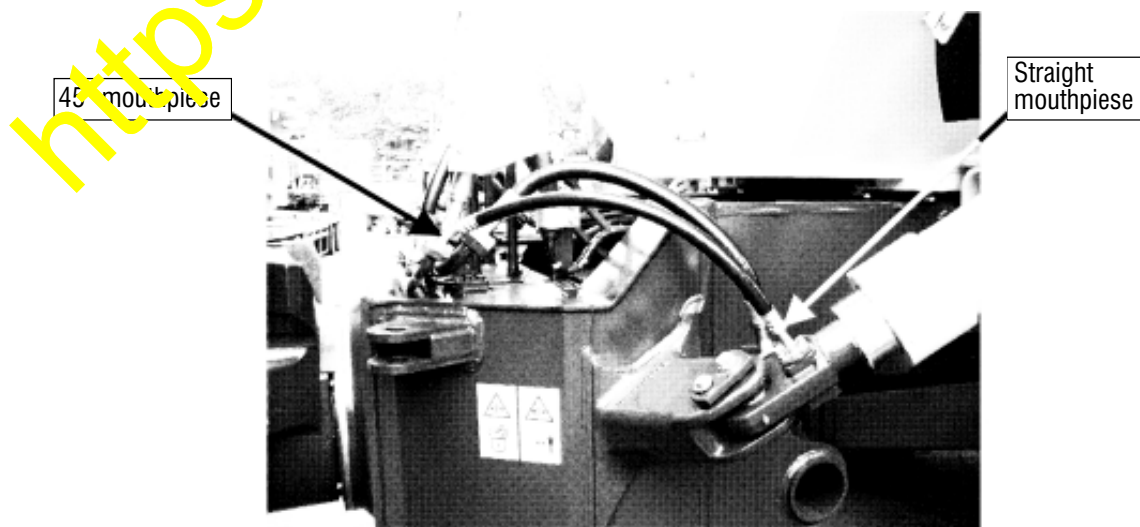


Fig. 4.



4-4. Modification procedures to prevent breakage of the rear harness

- 1) Remove the existing clamps. (Refer to Fig. 5.)

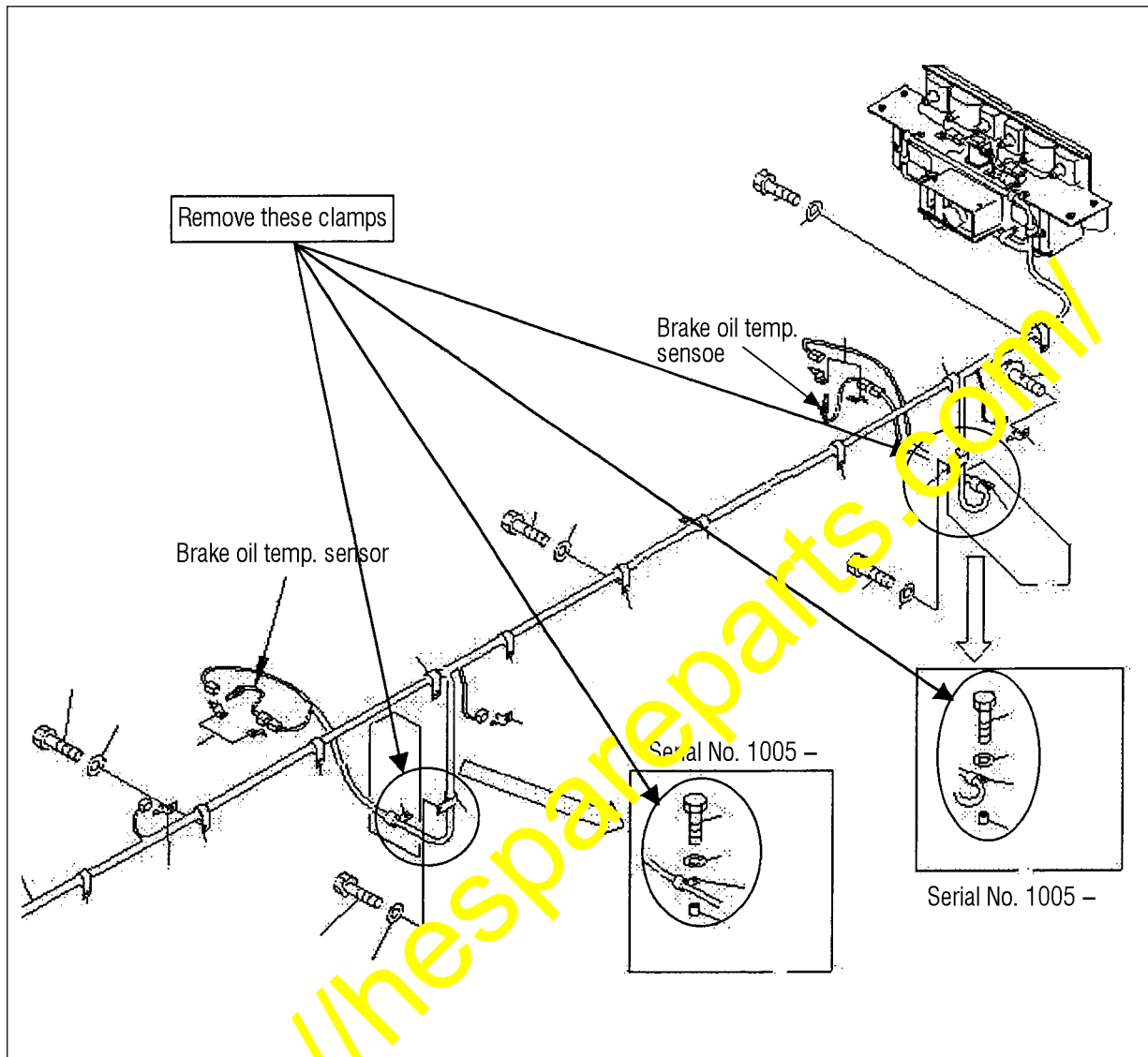


Fig. 5

<Center axle>

- 2) As for the axle side, clamp the harness together with the slack adjuster piping by the clips. (Refer to the Cross-Section A-A.)

Parts to be used: 04434-51510 (Clip)
 04434-51010 (Clip)
 01010-81025 (Bolt)
 01643-31032(2) (Washer)
 01580-11008 (Nut)

- 3) As for the frame side, clamp the harness by use of the spacer.

Parts to be used: 419-15-17541 (Spacer)
 01435-01040 (Bolt)
 04434-51010 (Clip)

01010-81025
 01643-31032 (2)
 01580-11008

04434-51510 (For the tube)

0443-51010 (For the harness)

Fig. 6

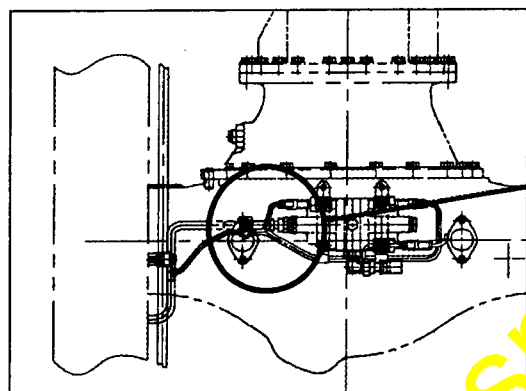
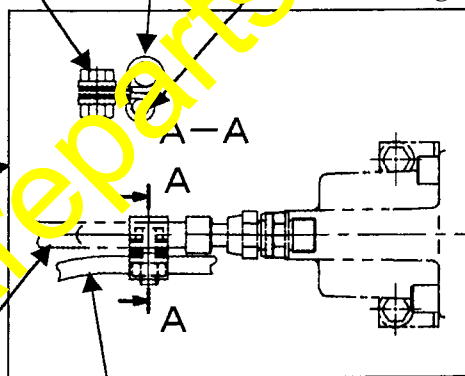
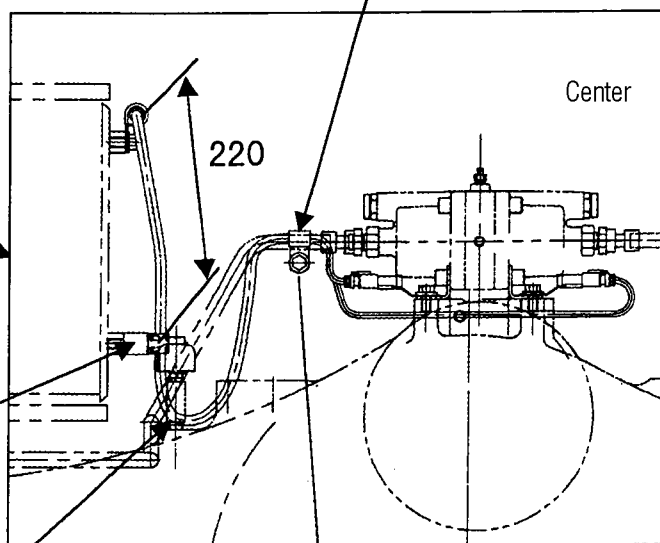


Fig. 7



Slack adjuster piping Harness Clamp it together with the adjuster piping

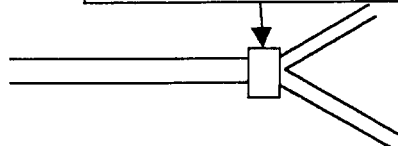
Fig. 8



419-15-17541
 01435-01040
 04434-51010

Slacken it in this section

Clamp at the branching position



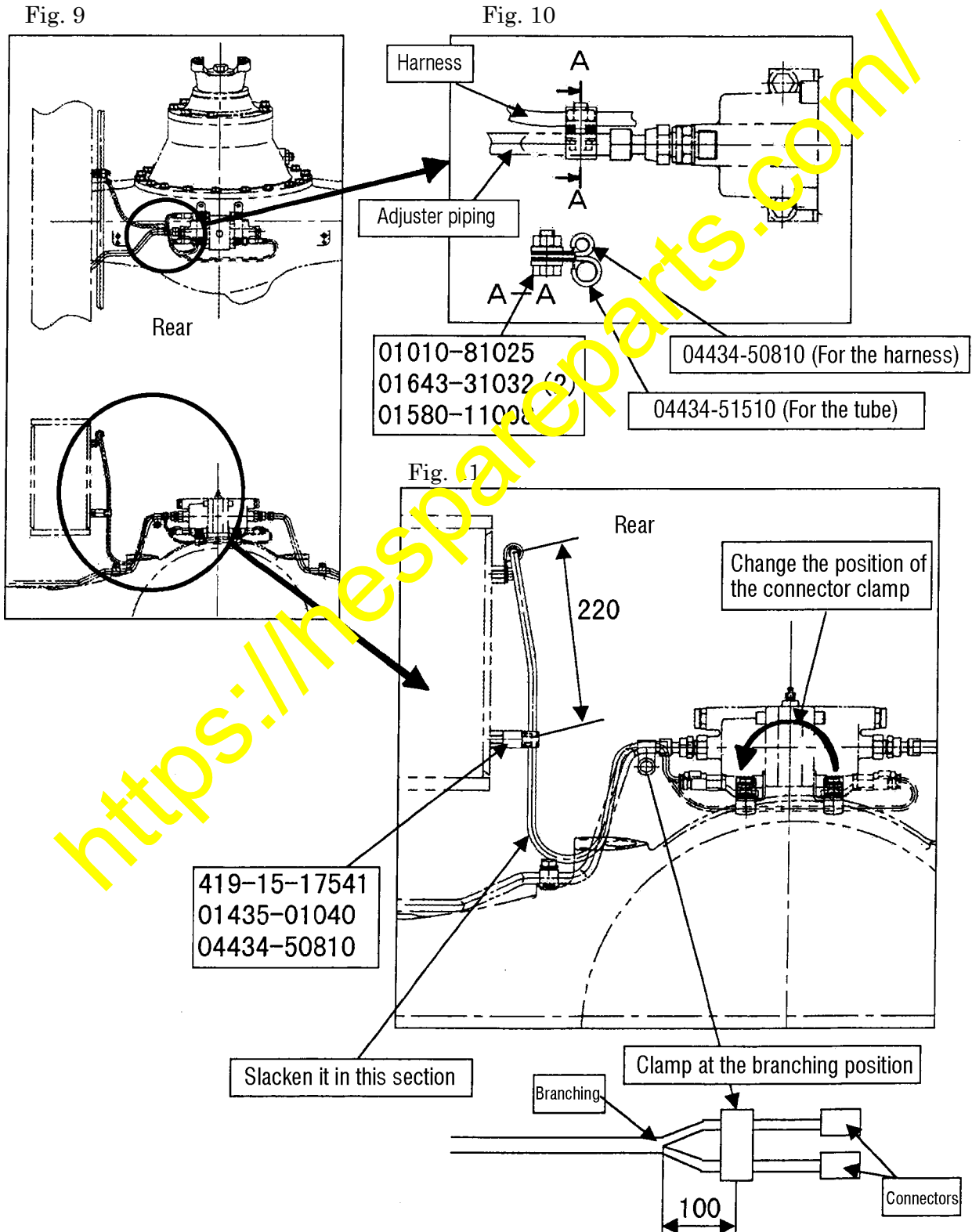
<Rear axle>

- 4) As for the axle side, clamp the harness together with the slack adjuster piping by the clips. (Refer to the Cross-Section A-A.)

Parts to be used: 04434-51510 (Clip), 04434-50810 (Clip)
 01010-81025 (Bolt), 01643-31032(2) (Washer)
 01580-11008 (Nut)

- 5) As for the frame side, clamp it by use of the spacer.

Parts to be used: 419-15-17541 (Spacer), 01435-01040 (Bolt)
 04434-50810 (Clip)



4-5. Modification procedures to prevent interference of the retarder cooling hose (Refer to Fig. 12, Fig. 13 and Fig. 14.)

- 1) Replace the block (56B-61-12561) with the block (56B-61-12562) developed for the modification.
- 2) Replace the plate (56B-61-13530) with the plate (56B-61-13531) developed for the modification.

Replace the O-rings (07000-F3032) and (07000-F3038) with new parts at the same time.

Fig. 12

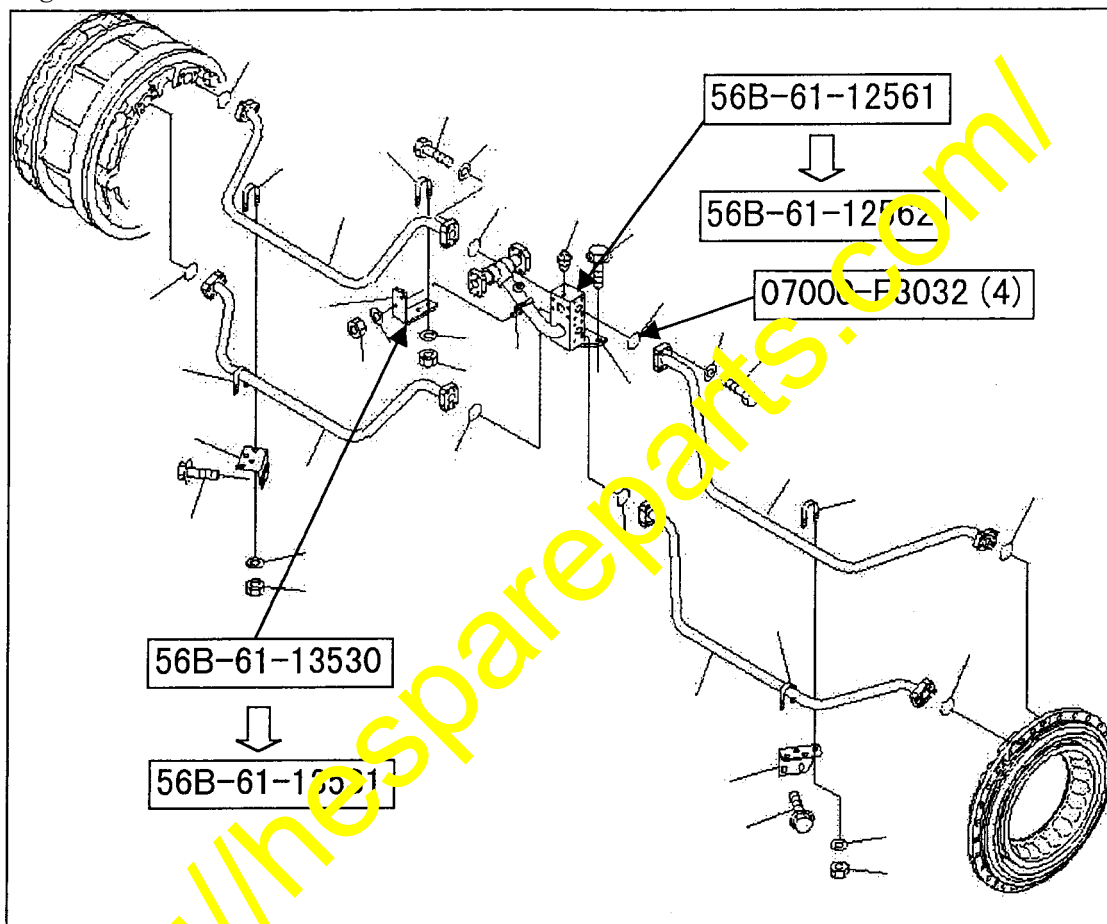


Fig. 13

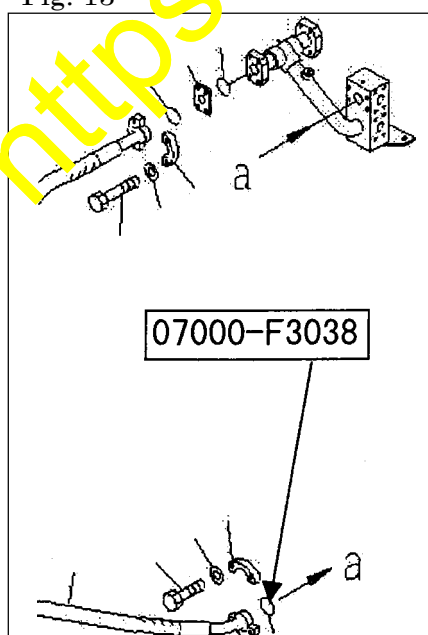
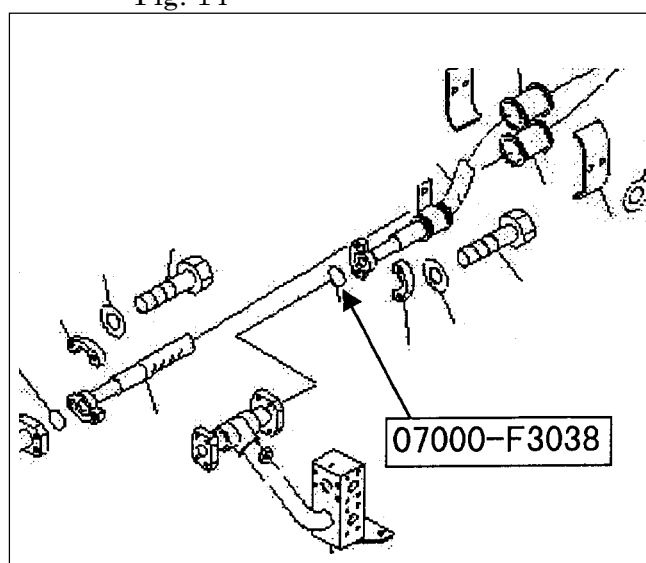


Fig. 14

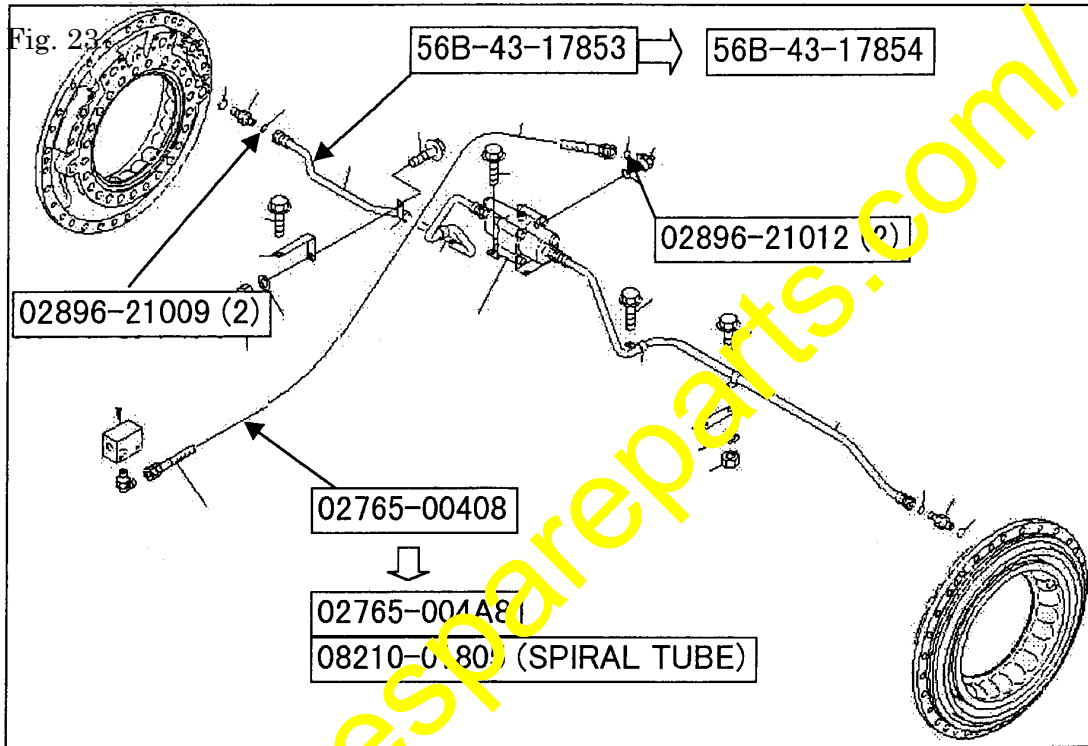


4-6. Modification procedures to prevent interference of the center axle and rear axle brake hoses

- 1) Replace the slack adjuster outlet tube (56B-43-17853) of the center axle with the tube (56B-43-17854) developed for the modification.
 - 2) Replace the slack adjuster inlet tube (02765-00408) of the center axle with the hose (02765-004A8) developed for the modification.
 - 3) Replace the slack adjuster inlet tube (02765-00408) of the rear axle with the hose (02765-004A8) developed for the modification.
- Replace the O-rings (02896-21009) and (02896-21012) with new parts at the same time.

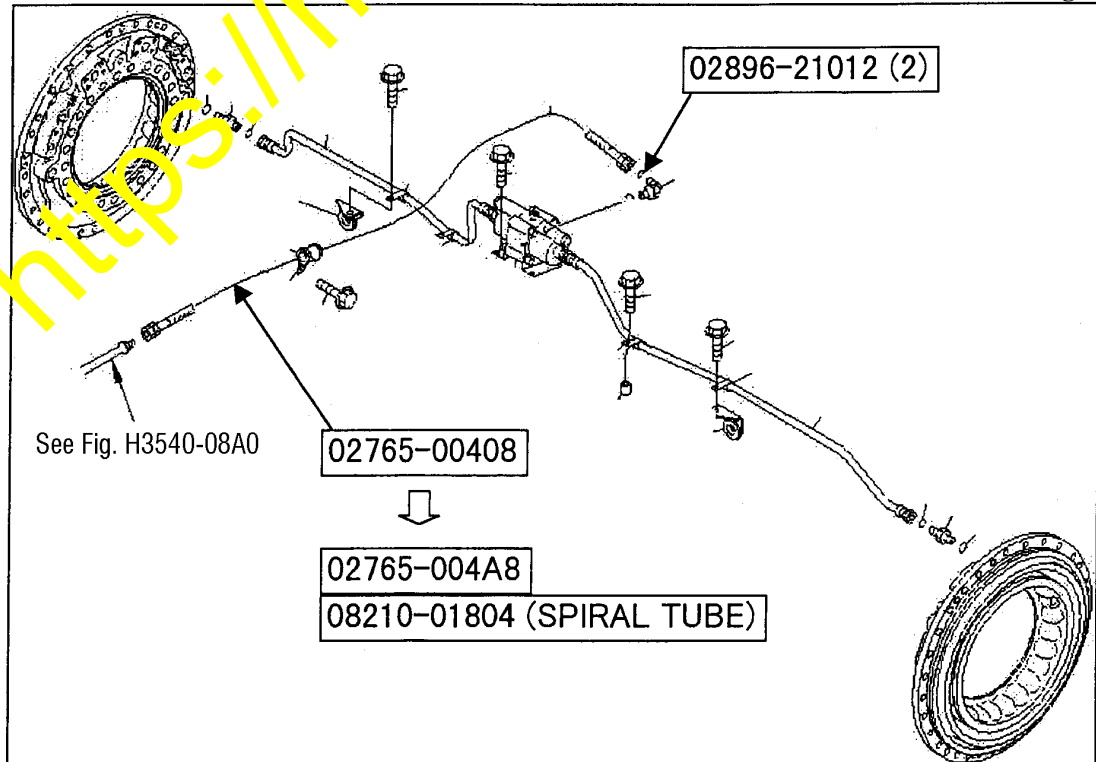
<Center axle>

Fig. 15



<Rear axle>

Fig. 16



- 4-7. Modification procedures for the center axle dif. lock hose (Refer to Fig. 17 and Fig. 18.)
- 1) Replace the union (02781-00522) with the elbow (02782-10522).
 - 2) Replace the hose (02763-00505) with the hose (02763-005A5). Replace the O-rings (07002-22434) and (02896-21015) with new parts at the same time.

Fig. 17

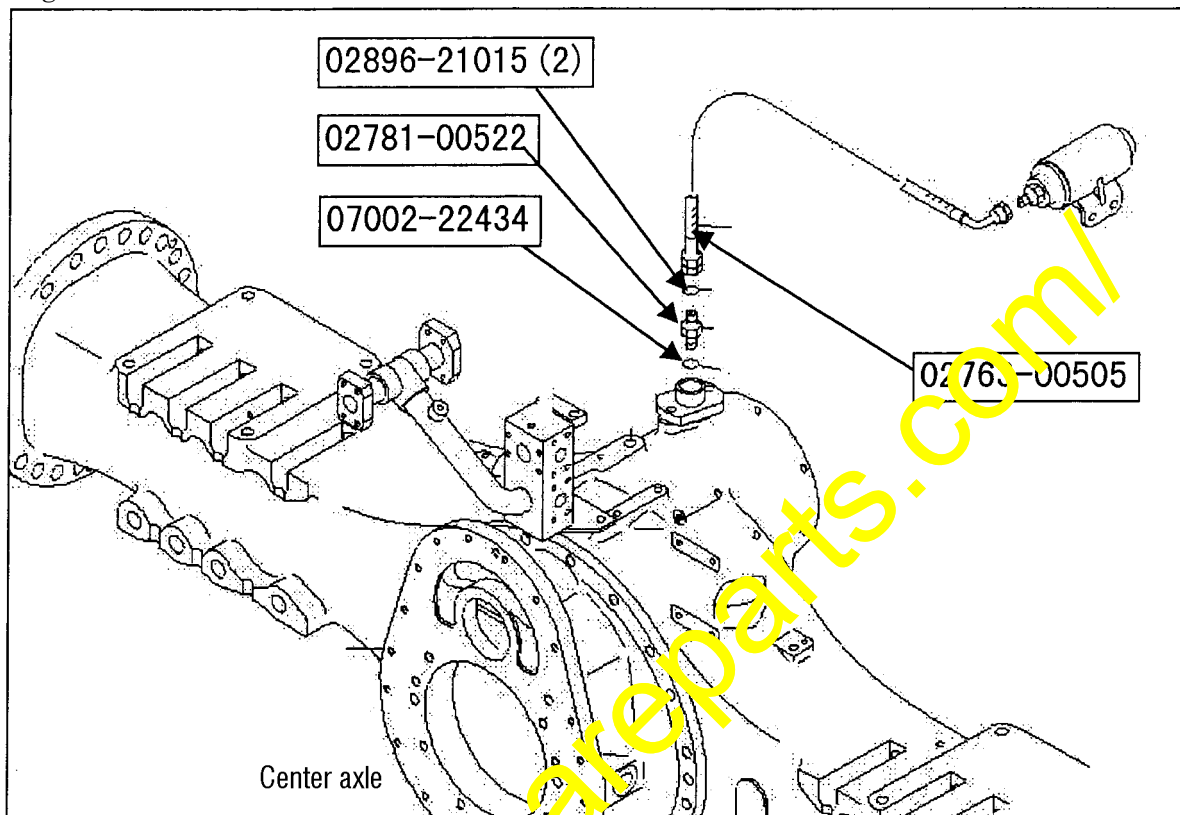
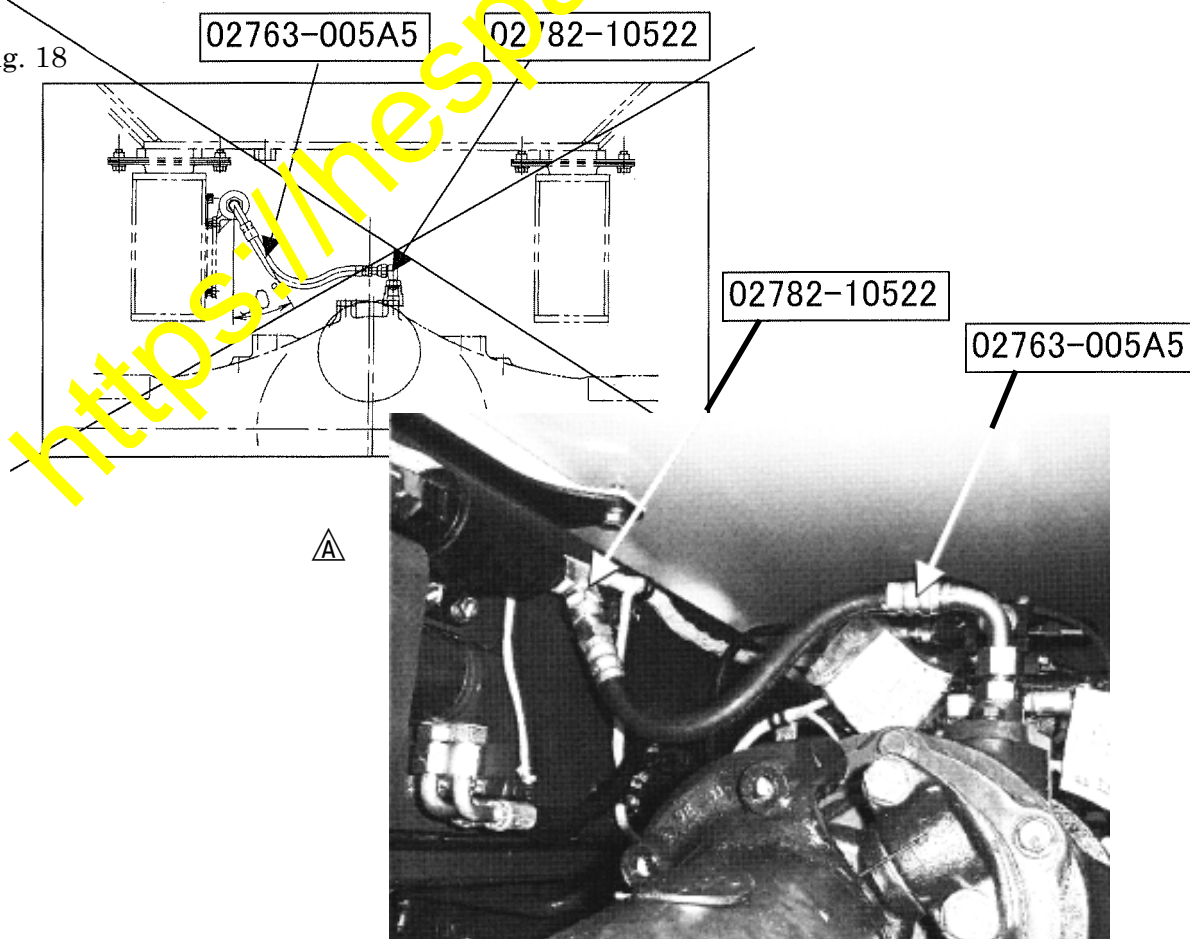


Fig. 18



- 4-8. Modification procedures for the rear axle dif. lock hose (Refer to Fig. 19 and Fig. 20.)
- 1) Replace the union (02781-00522) with the elbow (02783-10522).
 - 2) Replace the hose (02763-005A4) with the hose (02763-005A5). Replace the O-rings (07002-22434) and (02896-21015) with new parts at the same time.

Fig. 19

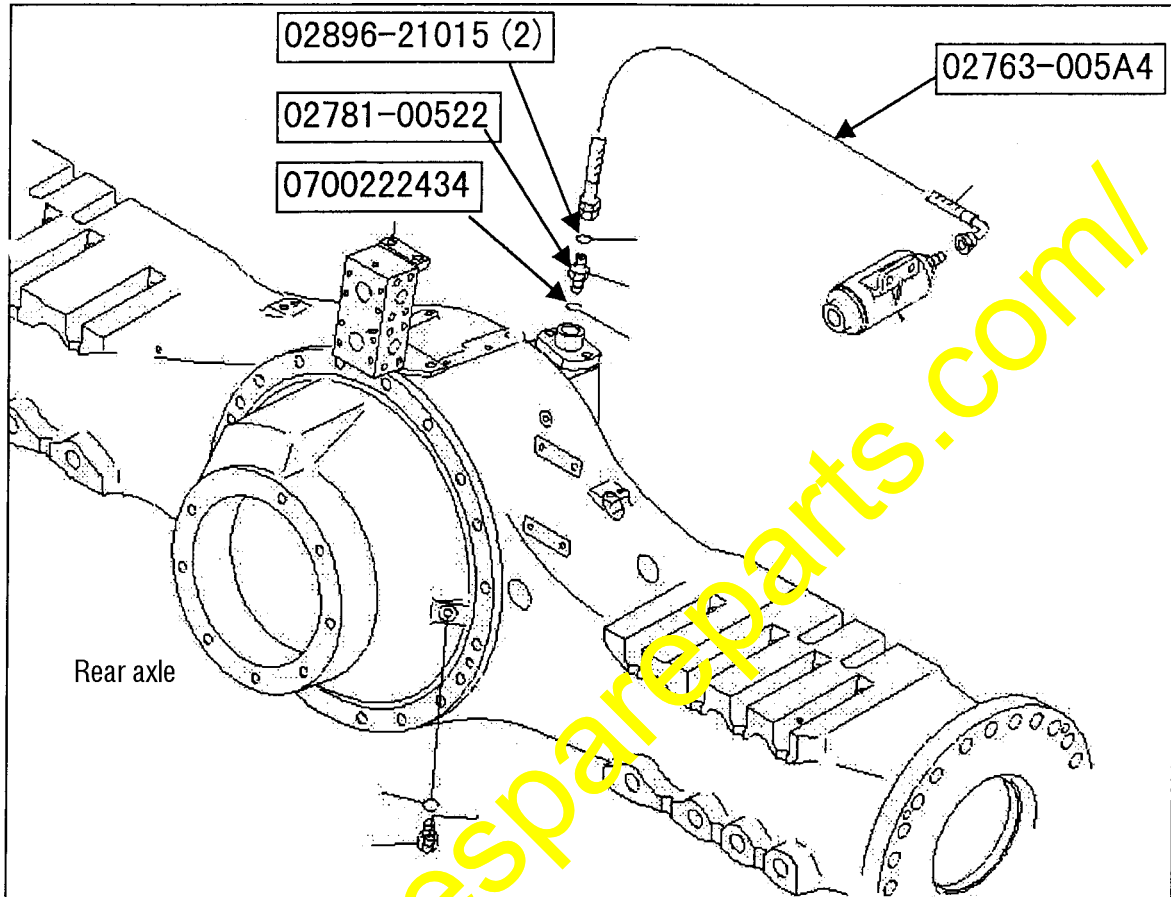
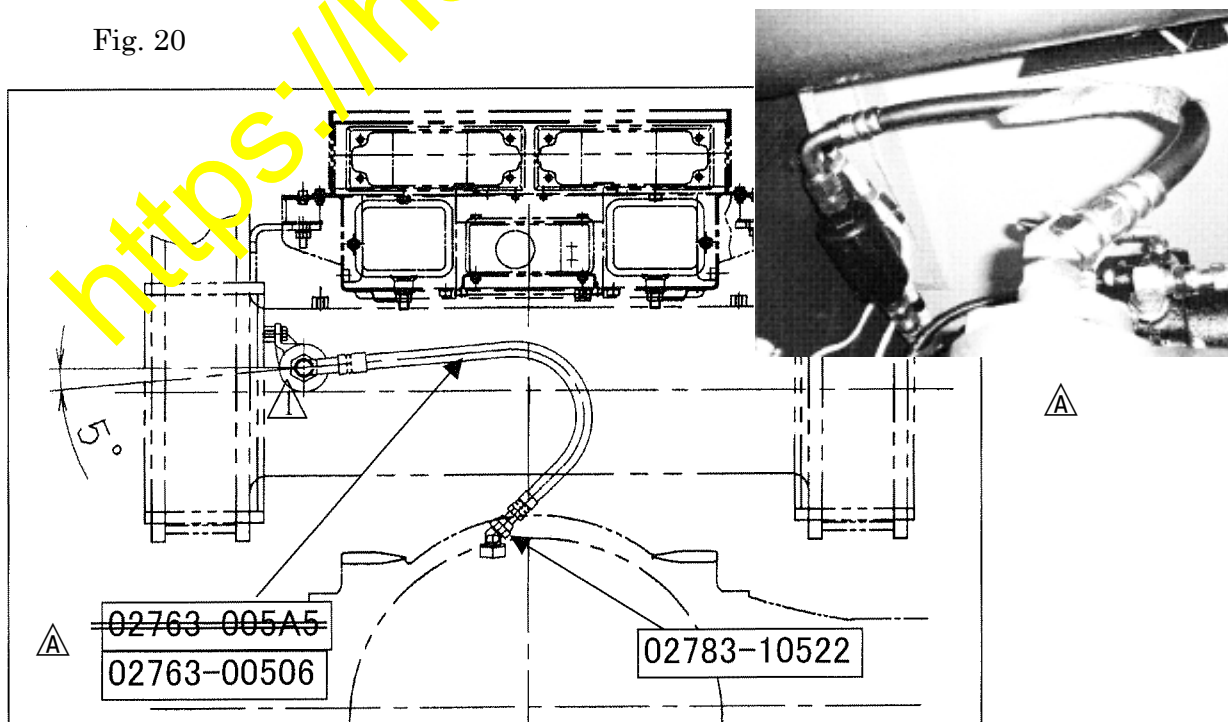


Fig. 20



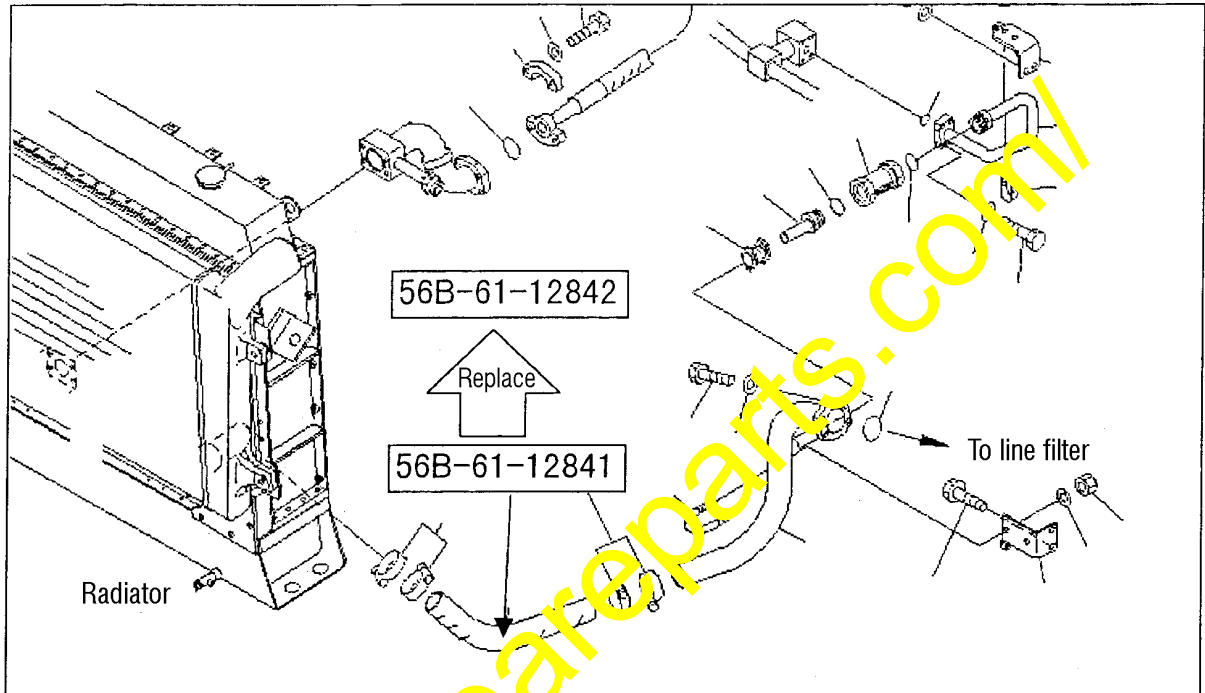
4-9. Modification to prevent breakage of the oil cooler outlet hose

※ Regarding this modification item, the vehicles with the serial numbers of #1013, #1015 and #1016 have already been modified before shipment from the factory and it is not necessary to make this modification.

- 1) Replace the hose (56B-61-12841) with the hose (56B-61-12842) developed for the modification.

(Since the current hose is a defectively produced hose, replace it with the correctly produced hose.)

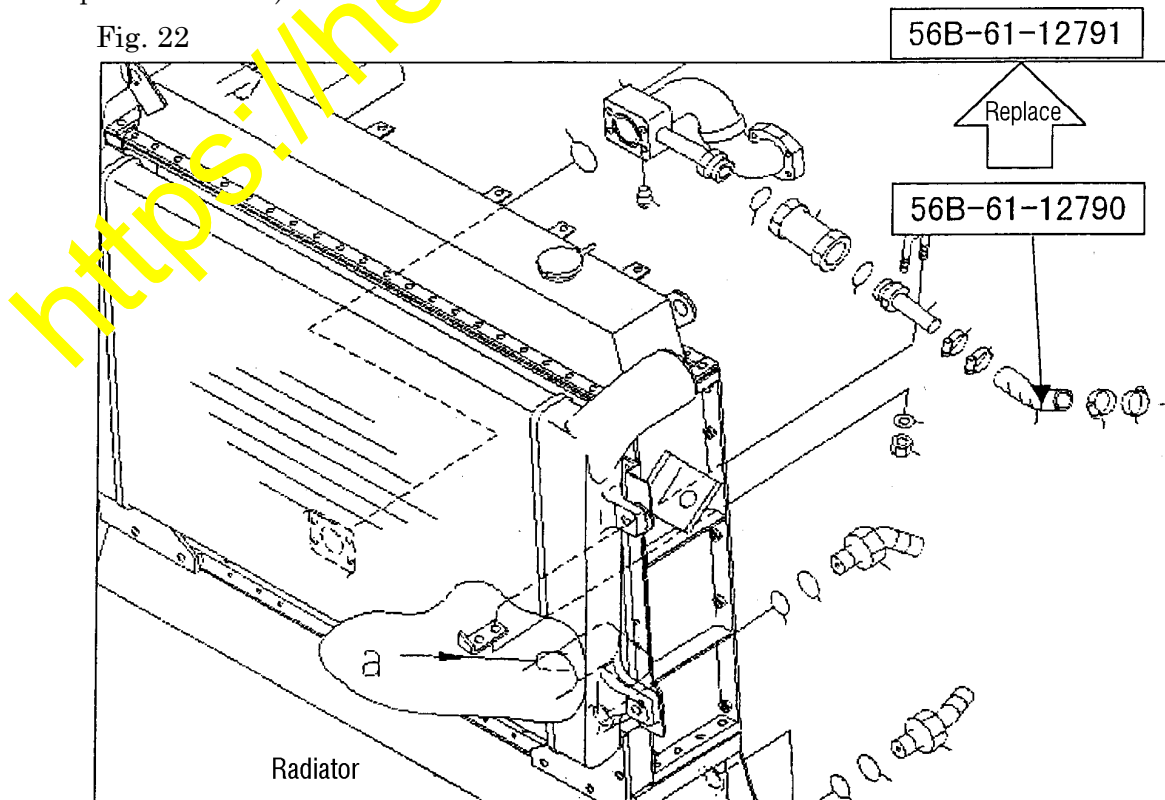
Fig. 21



- 2) Replace the hose (56B-61-12790) with the hose (56B-61-12791) developed for the modification.

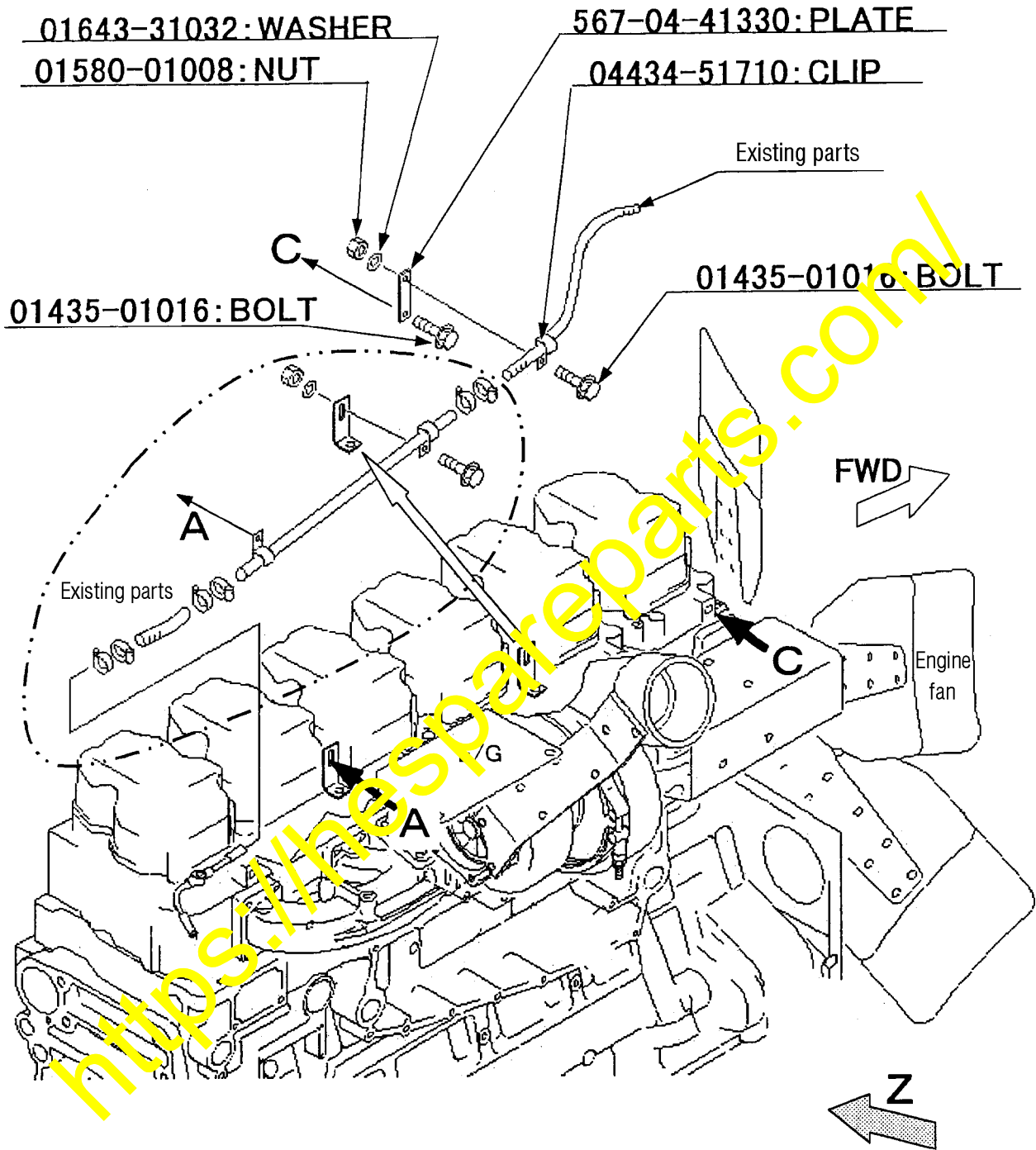
(Since the current hose is a defectively produced hose, replace it with the correctly produced hose.)

Fig. 22



4-10. Modification procedures to add the clamp for the radiator aeration hose

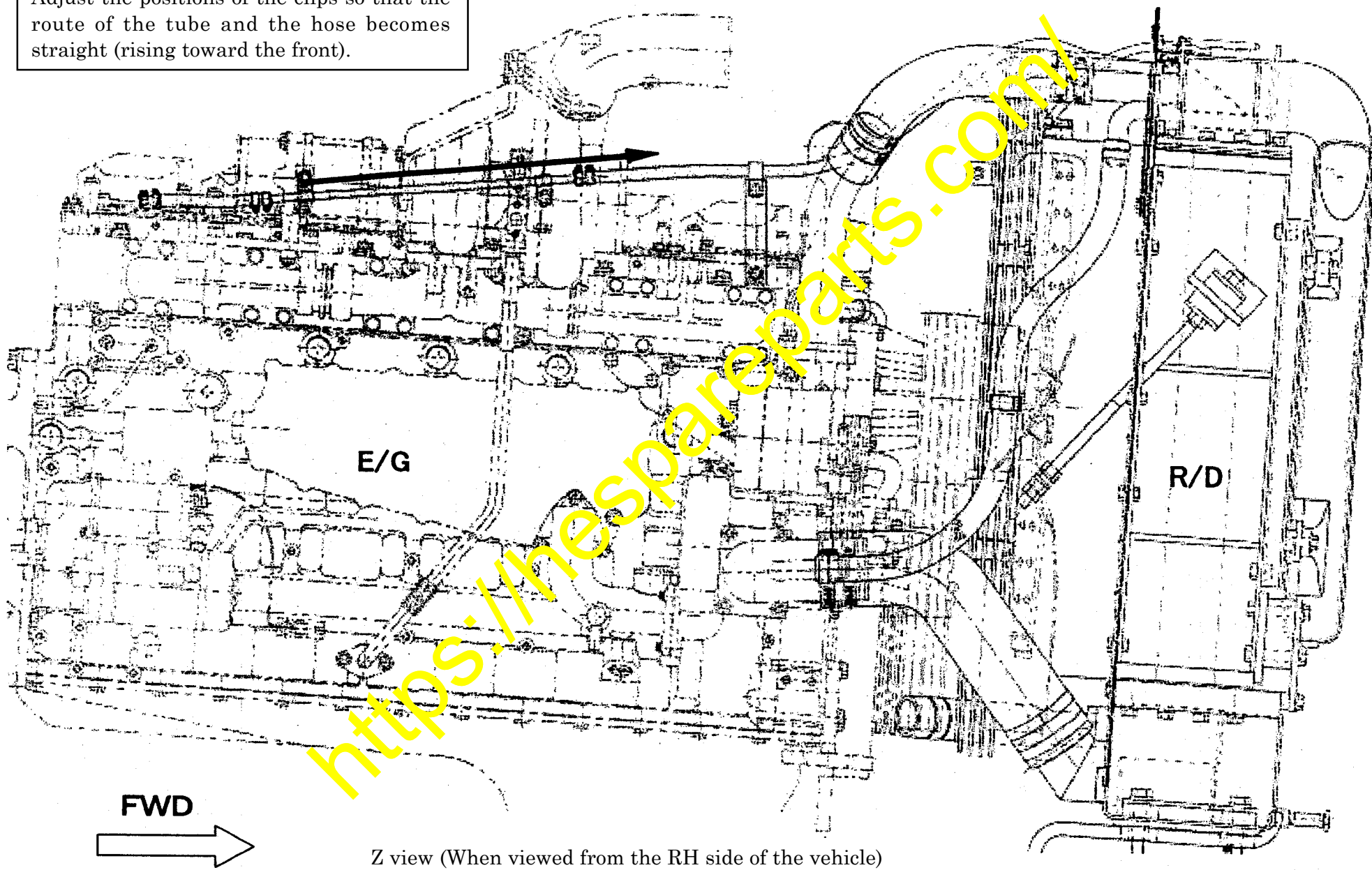
Add the clamp using the parts shown in the schematic diagram shown below.




4-11. Inspections and adjustments after the modification work

- 1) After the modification work, inspect the oil and water quantities at respective sections.
- 2) Start the engine and make trial operations. After that, inspect if leakage and looseness are not occurring at respective sections.

Adjust the positions of the clips so that the route of the tube and the hose becomes straight (rising toward the front).



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4-12. Modification of the rear brake tube

- 1) Remove the brake tubes (56B-43-17866 and 56B-43-17876) of the rear axle to change them to the improved tubes (56B-43-17867 and 56B-43-17877).
- 2) Refer to Fig. 24 regarding the fastening method for the tube.

