

# PARTS & SERVICE NEWS

REF NO.	AT03124
DATE	Jul. 4, 2003

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**SUBJECT:** REPAIR PROCEDURE FOR BODY HEATING EXHAUST PIPE ON HM300-1

**PURPOSE:** To introduce modification procedure to repair the body heating exhaust pipe on HM300-1 articulated dump trucks

**APPLICATION:** HM300-1 Articulated Dump Trucks, Serial Nos. 1001 thru 1006, 1007

[This vehicle was shipped without the body heating structure and separately shipped body heating structure parts have been installed locally]

1020 1021

**FAILURE CODE:** 0140MQ

## DESCRIPTION:

### 1. Introduction

With the HM300-1 articulated dump trucks, there is a possibility of occurrence of interference between the bellows of the body heating exhaust pipe and the hydraulic pipe while steering operations of the vehicle are being made or by swings of the vehicle body, leading to falling off or deformation of the bellows.

Therefore, make the modification being introduced in this Service News to prevent occurrence of the aforementioned failure.

### 2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
209-62-11730 (56D-61-12591)	Clamp (Bracket)	} Replacement	2 (1)	
56D-02-11225 (56D-02-11224)	Tube (Tube)		1 (1)	
56D-02-11243 (56D-02-11242)	Bellows (Bellows)		1 (1)	
56D-02-11310	Cover	Addition	1	
56D-02-11334 (56D-02-11333)	Guide (Guide)	} Replacement	1 (1)	
56D-02-11344 (56D-02-11343)	Tube (Tube)		1 (1)	
56D-02-11360	Plate	Addition	1	
56D-02-11372 (56D-02-11371)	Bracket (Bracket)	} Replacement	1 (1)	
56D-02-11383 (56D-02-11382)	Tube (Tube)		1 (1)	
56D-02-11430	Guide	Addition	1	

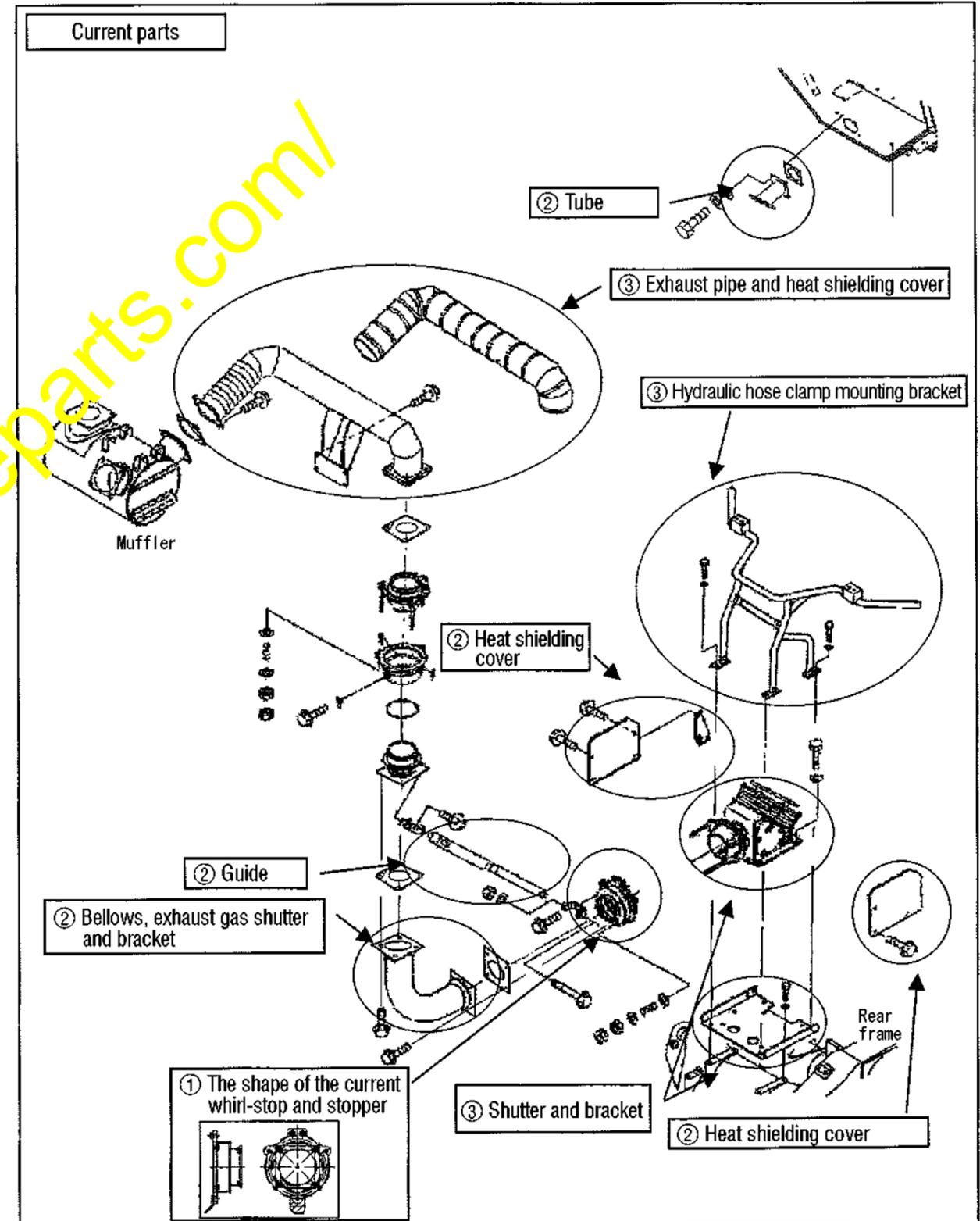
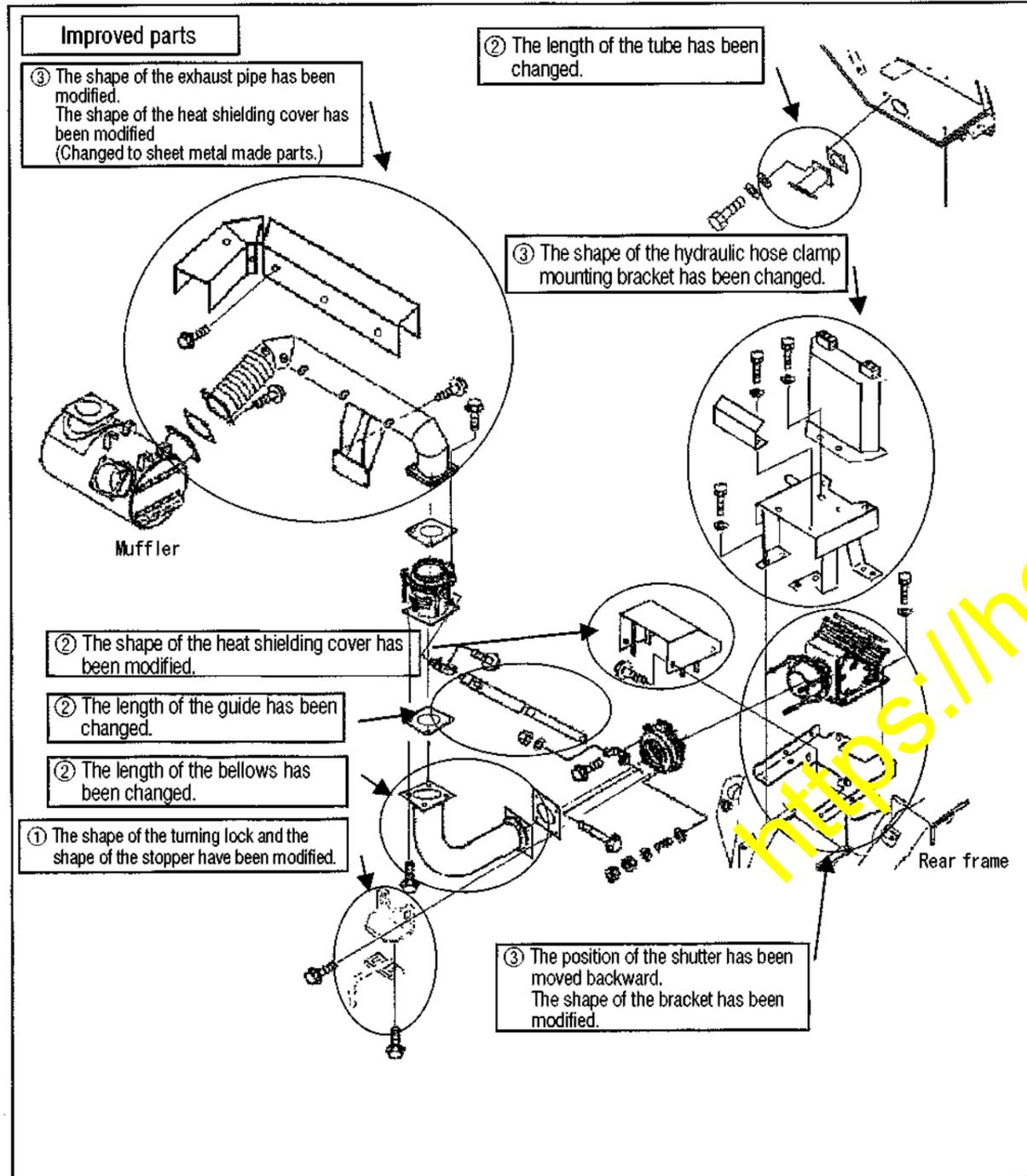
Part No.	Part Name	Purpose of part	Q'ty	Remarks
56D-02-11440	Guide	} Addition	1	} Consumable parts
56D-02-11450	Bracket		1	
56D-02-11760 (56D-02-11782)	Cover (Cover)	Replacement	1 (1)	
56D-02-11770	Cover	Addition	1	
56D-06-11433 (56D-06-11432)	Wiring harness (Wiring harness)	} Replacement	1 (1)	
56D-61-11442 (56D-61-11441)	Tube (Tube)		1 (1)	
56D-61-11452 (56D-61-11451)	Tube (Tube)		1 (1)	
56D-61-11624 (56D-61-11623)	Bracket (Bracket)	} Addition	1 (1)	
56D-61-11750	Bracket		1	
56D-61-12455 (56D-61-12454)	Bracket (Bracket)	} Replacement	1 (1)	
56D-61-12464 (56D-61-12463)	Tube (Tube)		1 (1)	
56D-61-12474 (56D-61-12473)	Tube (Tube)		1 (1)	
56D-61-12820	Bracket	Addition	1	
56D-02-12830	Bracket	} Replacement	1	
56D-61-13210 (56C-61-13641)	Band (Band)		4 (4)	
56D-61-13220 (56C-61-13651)	Band (Band)		4 (4)	
56B-02-11591 (56B-02-11591)	Gasket (Gasket)		4 (4)	
56B-74-11J72 (56B-74-11J72)	Gasket (Gasket)	} Replacement	1 (1)	
01010-81645 (01010-81645)	Bolt (Bolt)		4 (4)	
01024-81016	Bolt		Addition	9
01024-81020	Bolt	} Replacement	8	
01024-81025 (01435-01025)	Bolt (Bolt)		22 (16)	Consumable parts
01024-81035	Bolt		2	
01024-81225 (01435-01225)	Bolt (Bolt)		4 (4)	Consumable parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks	
01024-81230	Bolt	}	8	}	
01024-81235 (01435-01235)	Bolt (Bolt)		8 (7)		Consumable parts
01024-81280	Bolt		1		
01580-11210 (01580-11210)	Nut (Nut)		6 (6)		} Consumable parts
01640-21426 (01640-21426)	Washer (Washer)		6 (6)		
01643-31445 (01643-31445)	Washer (Washer)		4 (4)		
01643-31645 (01643-31645)	Washer (Washer)		4 (4)		
01643-31845 (01643-31845)	Washer (Washer)		4 (4)		
02765-B0344 (02765-B0343)	Hose (Hose)		1 (1)		
02765-B0433 (02765-B0432)	Hose (Hose)		1 (1)		
02896-21009 (02896-21009)	O-ring (O-ring)		2 (2)		} Consumable parts
02896-21012 (02896-21012)	O-ring (O-ring)		2 (2)		
02896-21018 (02896-21018)	O-ring (O-ring)		1 (1)		
07000-F3022 (07000-F3022)	O-ring (O-ring)		2 (2)		
07000-F3032 (07000-F3032)	O-ring (O-ring)		2 (2)		
07000-F3033 (07000-F3033)	O-ring (O-ring)		6 (6)		
07125-41223 (07125-41222)	Hose (Hose)		1 (1)		
07283-32738 (07283-32236)	Clip (Clip)		1 (1)		
08034-20876 (08034-20876)	Band (Band)		28 (28)		Consumable parts

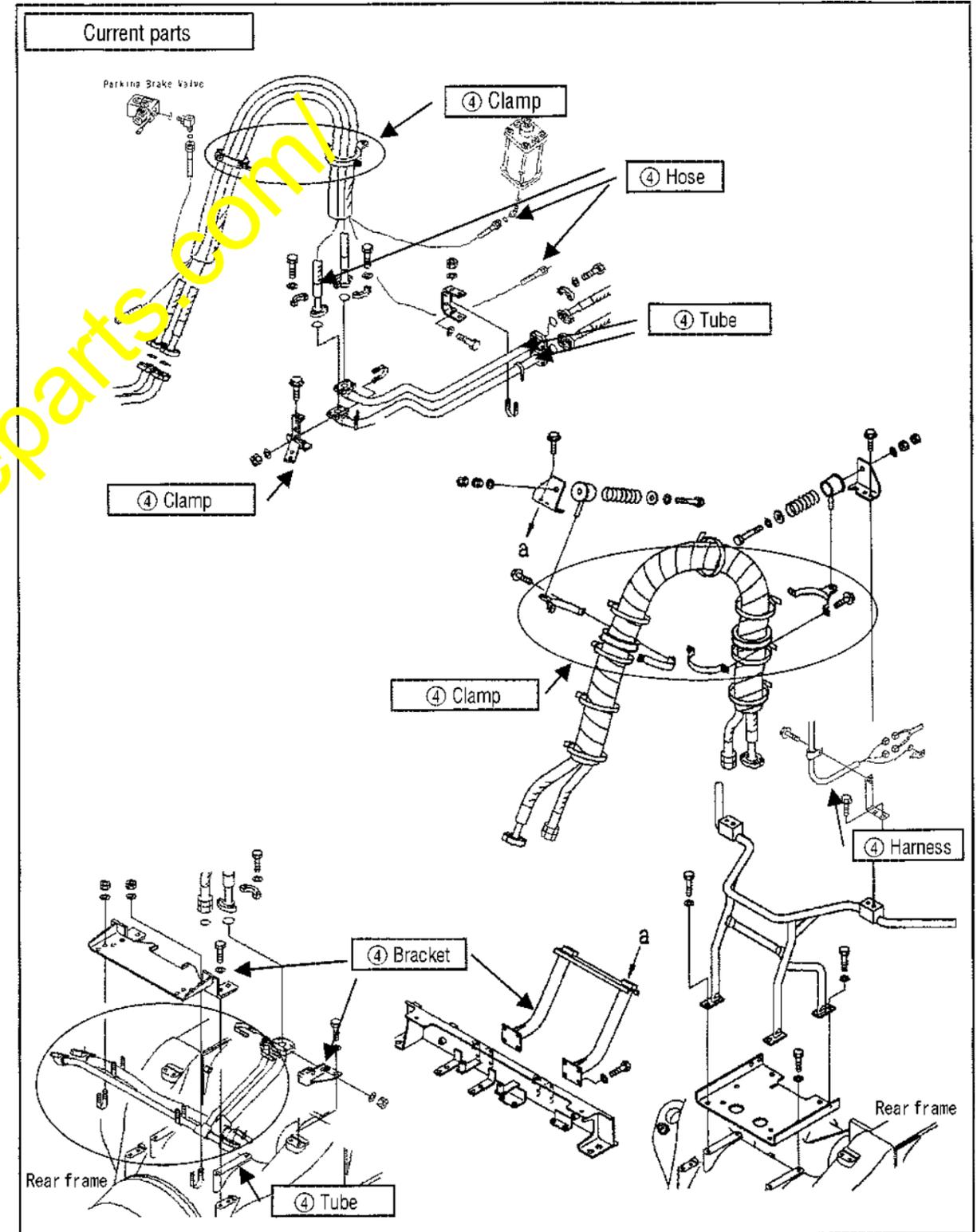
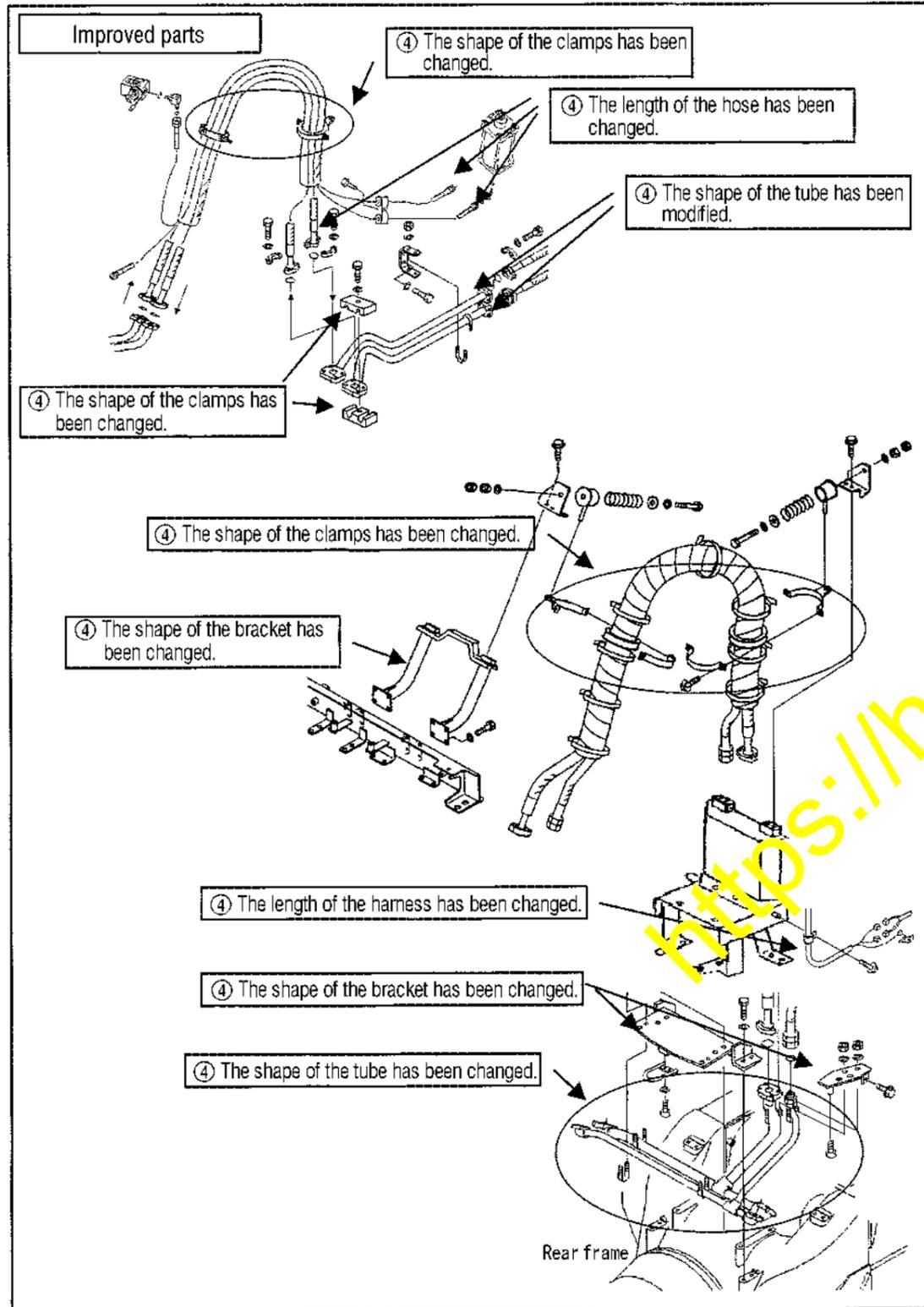
3. Details of the modification

- ① Modification to prevent occurrence of rotation of the bellows of the exhaust pipe  
The shape of the turning lock and the shape of the stopper for the rear side spherical joint have been modified to restrict occurrence of rotation of the bellows.
- ② Modification to prevent occurrence of twisting of the bellows of the exhaust pipe  
Moving the position of the exhaust gas shutter, the length of the bellows have been increased to prevent occurrence of twisting.  
(Pursuant to this modification, the length of the tube connecting between the exhaust gas shutter and the body has been changed and the shape of the heat shielding cover has been modified.)

- ③ Modification to prevent occurrence of interference of the hydraulic hose  
The shape and positions of the clamps for the hydraulic hose in the neighborhood of the bellows have been changed to prevent occurrence of interference.  
Also, the shape of the exhaust pipe and the shape of the cover have been changed to secure necessary clearance with the hydraulic hose.



- ④ Modification to prevent occurrence of interference between the hydraulic hose and the exhaust pipe  
The length of the hydraulic hose, the shape of the hydraulic pipe, the positions of the clamps and the shape of the clamps have been modified to secure clearance with the exhaust pipe.  
Pursuant to the change of the hose length, the harness length also has been changed.



4. Preparations before starting the modification work

- 1) Park the vehicle on a flat place and apply chocks to the tires.
- 2) Raise the body and insert the safety pins (both on the LH and RH sides).
- 3) Never start the disassembly work while the engine temperature and the exhaust pipe temperature are still high.

5. Modification procedure

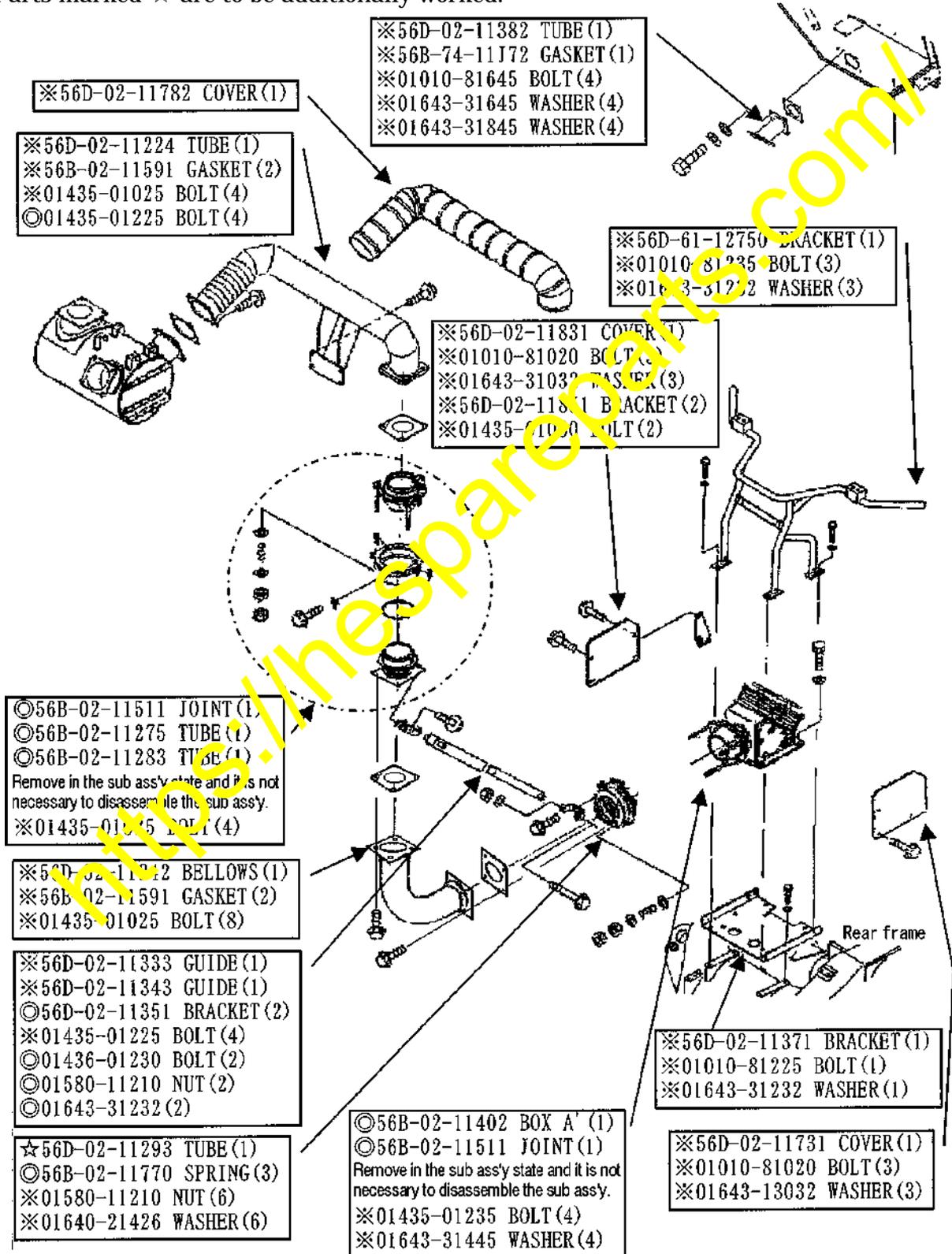
5-1. Disassembly procedure

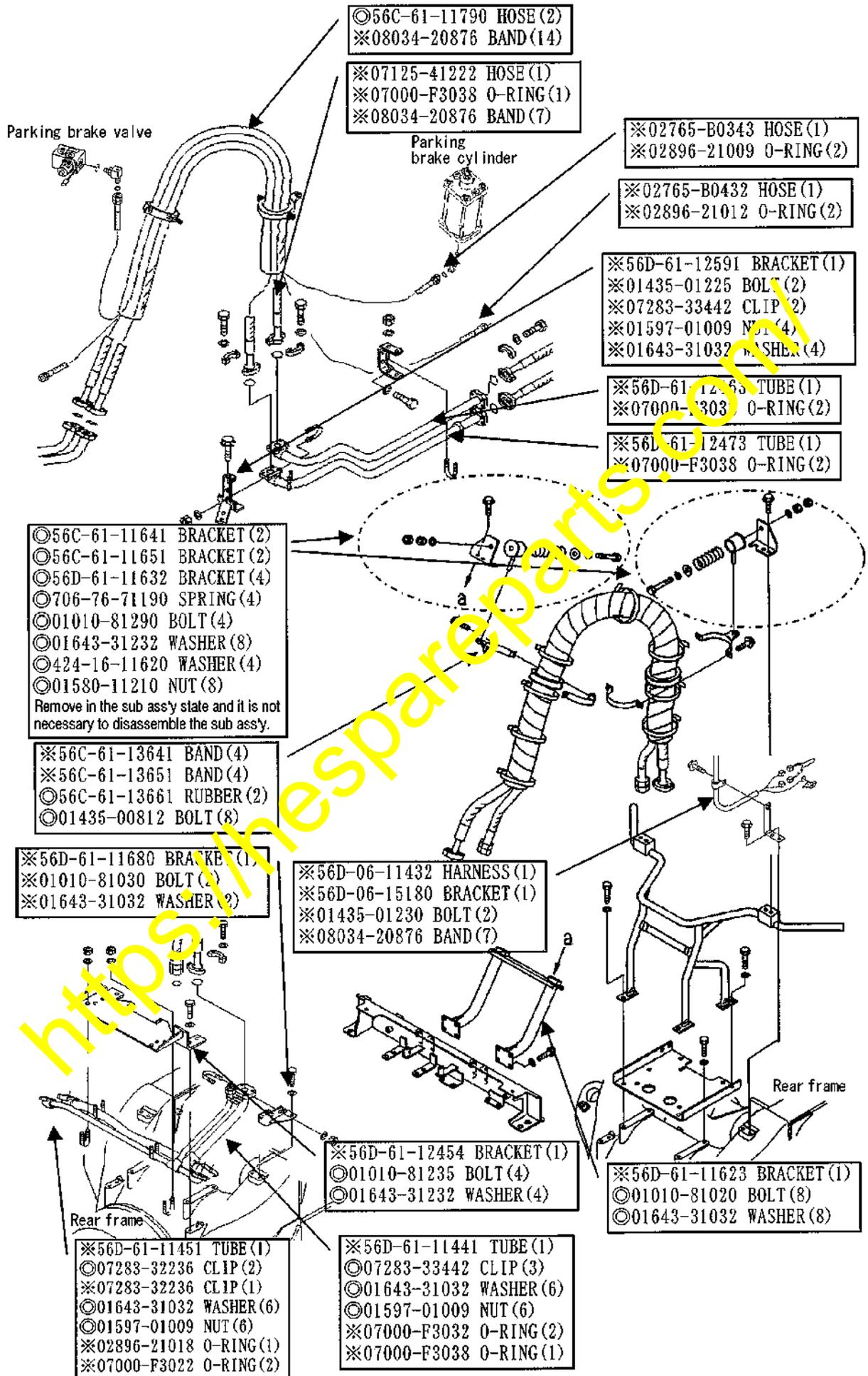
Remove the parts marked © and marked ※ in the drawing below.

Since the parts marked © are being reused when assembling the improve parts, be careful not to lose or break them.

Parts marked ※ are to be replaced.

Parts marked ☆ are to be additionally worked.



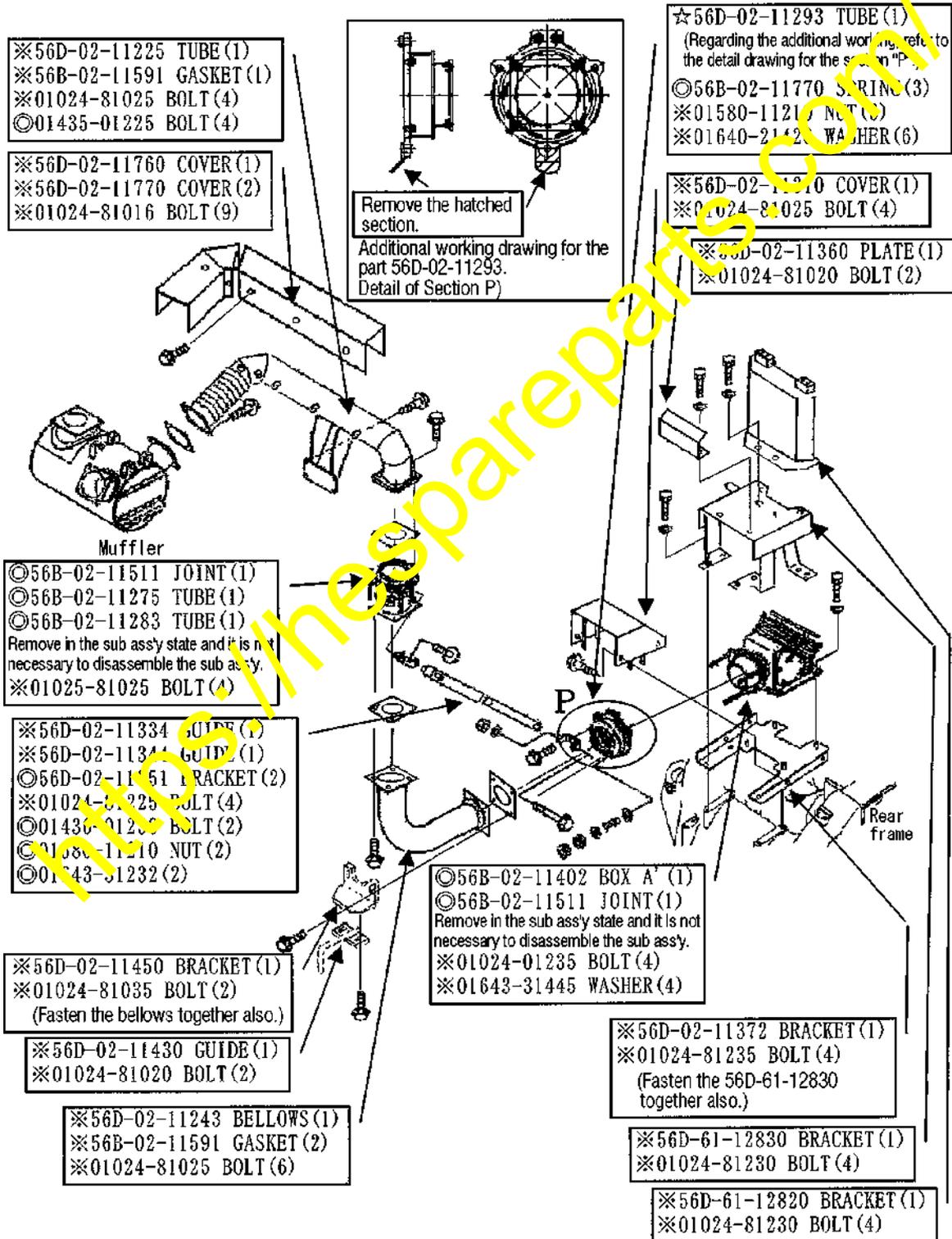


5-2. Assembly procedure

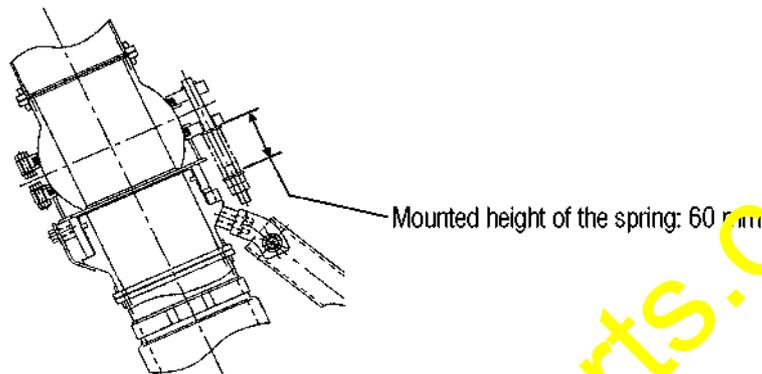
Assemble the parts following the procedure described below.

(Parts marked © are to be reused, parts marked \* are to be replaced and parts marked ☆ are to be additionally worked.)

- 1) Make additional working of the tube (56D-02-11293) as per the instructions given in the additional working drawing shown below.
- 2) Install the box A' (56B-02-11402) and the cover (56D-02-11310) to the bracket (56D-02-11372), and after that, install them to the rear frame together with the brackets (56D-61-12820 and 56D-61-12830) and tube (56D-02-11293).  
The installed length of the spring (56B-02-11770) should be 60 mm. (Refer to page 9.)
- 3) Install the tube (56D-02-11225), covers (56D-02-11760 and 56D-02-11770) to the front frame.
- 4) Install the joint sub ass'y (56B-02-11511 and others) to the tube (56D-02-11225).

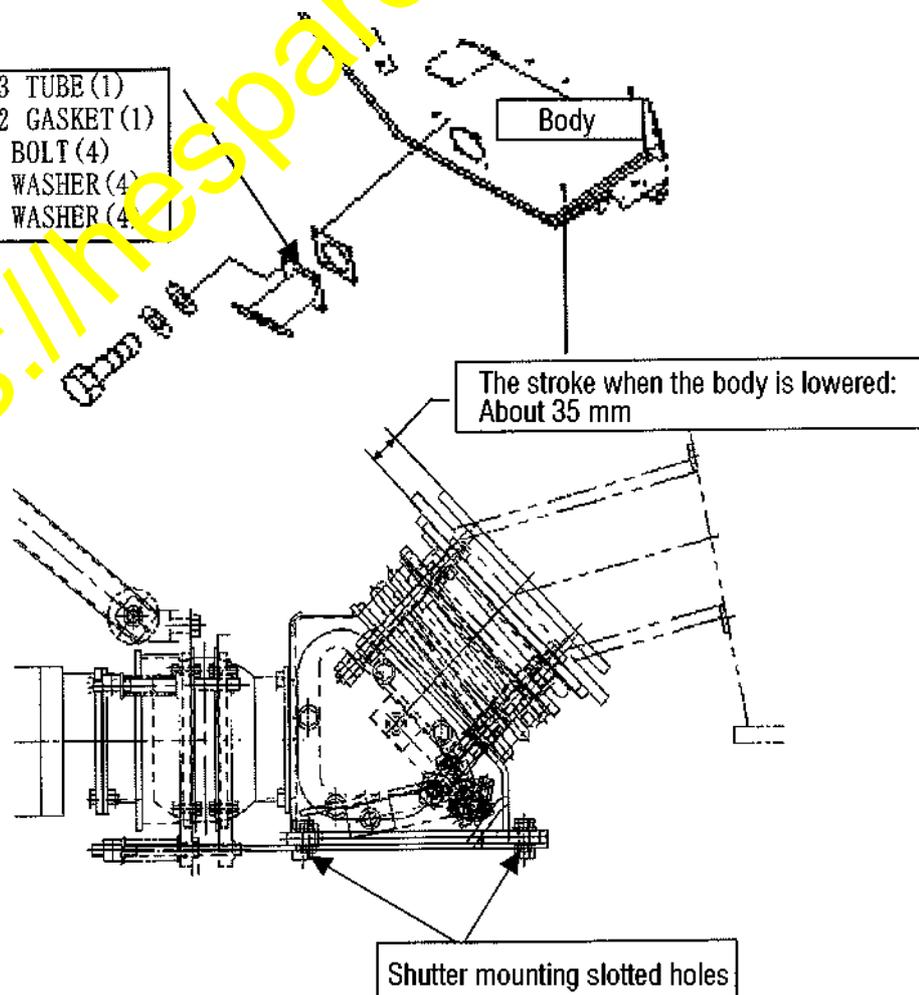


- 5) Install the bellows (56D-02-11243), bracket (56D-02-11450) and guide (56D-02-11430) to their respective positions between the joint sub ass'y (56B-02-11511) and the tube (56D-02-11293).  
In the meantime, install the bracket (56D-02-11450) to the tube (56D-02-11294) together with the bellows (56D-02-11243).
- 6) Install the guides (56D-02-11334 and 56D-02-11344) and bracket (56D-02-11351) to the joint sub ass'y (56B-02-11511) and tube (56D-02-11293).  
When installing the guides (56D-02-11334 and 56D-02-11344) and bracket (56D-02-11351), do not fasten them but install them so that they may turn and tighten them by use of double nuts (01580-11210).
- 7) The mounted state dimension of the spring (56B-02-11770) should be as per the instruction in the drawing shown below. (Common for the front and rear)

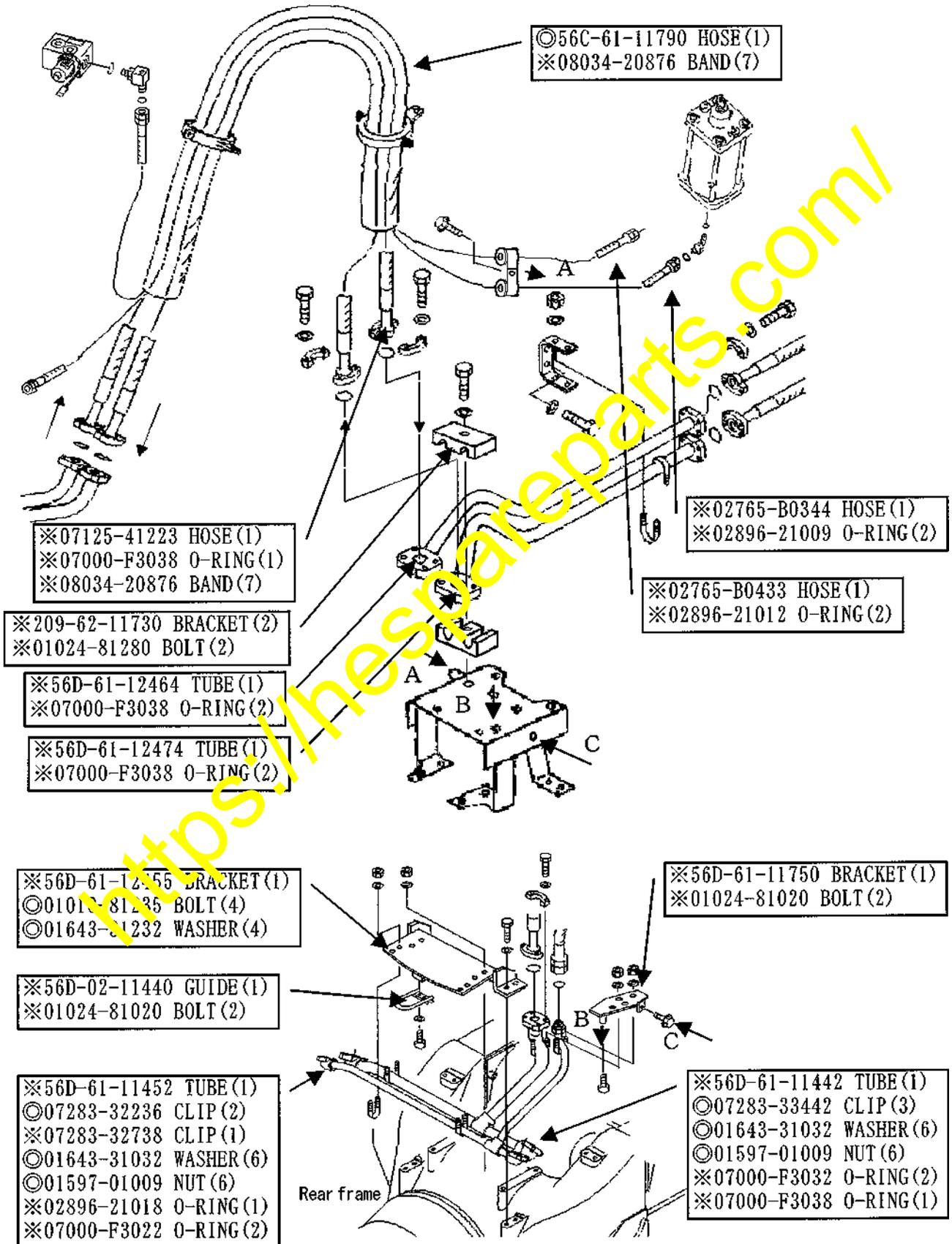


- 8) Install the tube (56D-02-11383) to the front surface of the body.  
After the installation work, adjust the mounting position of the shutter so that the contraction stroke of the shutter when the body is lowered may become 35 mm using the shutter mounting slotted holes.

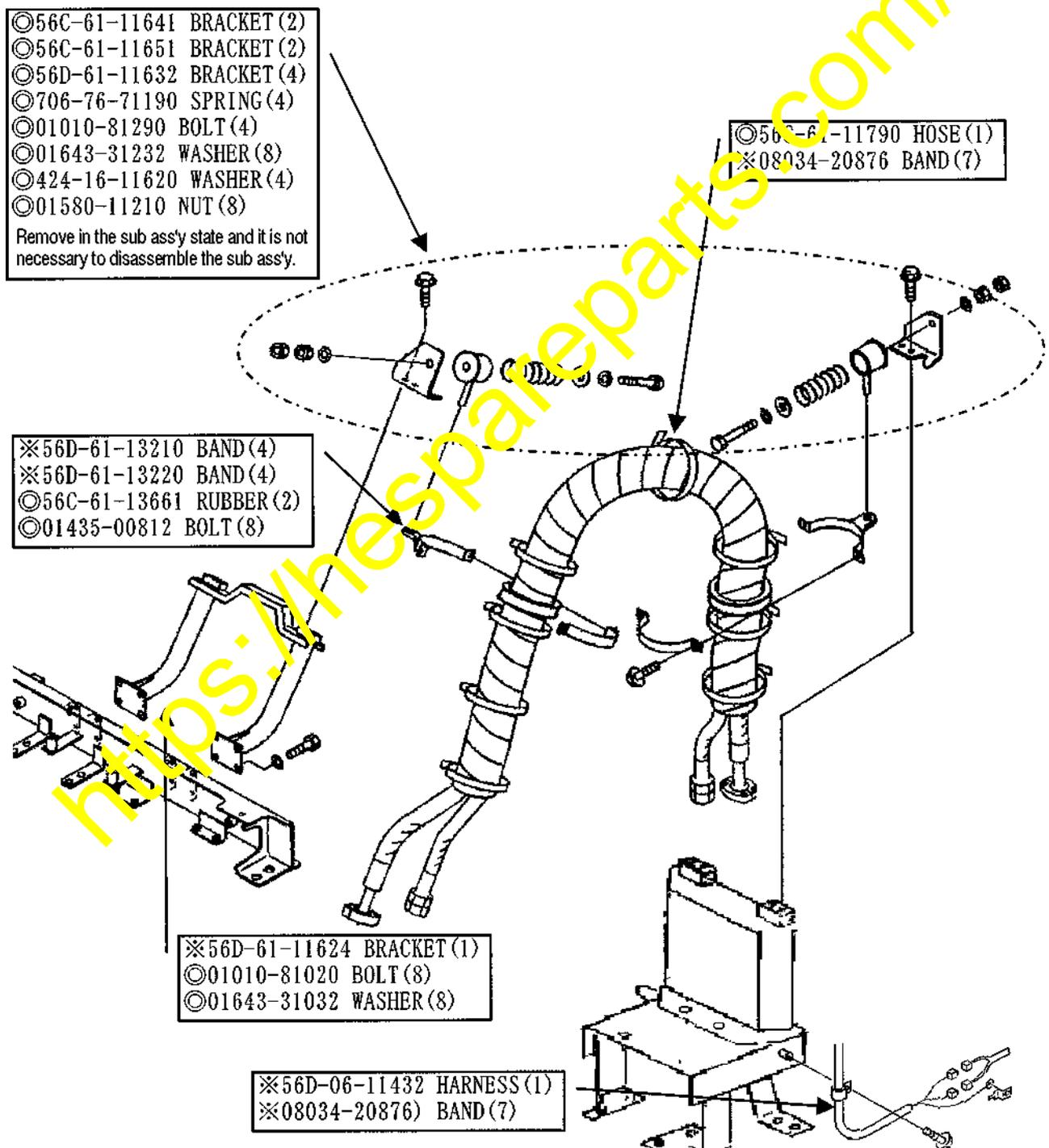
※56D-02-11383	TUBE (1)
※56B-74-11172	GASKET (1)
※01010-81645	BOLT (4)
※01643-31645	WASHER (4)
※01643-31845	WASHER (4)



- 9) Install the bracket (56D-61-12455) and guide (56D-02-11440) to the rear frame.
- 10) Install the tubes (56D-61-12442 and 56D-61-11452) and bracket (56D-61-11750).
- 11) Install the tubes (56D-61-12464 and 56D-61-12474) and bracket (209-62-11730) to the rear frame.
- 12) Install the hoses {02765-B0344(1), 02765-B0433(1) and 07125-41223(2)} and tie them by use of the band (08034-20876).
- 13) Install the hose (56C-61-11790) and bundle it by use of the band (08034-20876).



- 14) Install the wiring harness (56D-06-11432) and tie it by use of the band (08034-20876).
- 15) Install the hose (56C-61-11790) and bundle it by use of the band (08034-20876).
- 16) Install the bracket (56D-61-11624).
- 17) Install the bracket sub ass'y (56C-61-11641 and others).
- 18) Fasten the hoses by use of the bands (56D-61-13210 and 56D-61-13220).
- 19) After finishing the assembly work, check the following items.
  - Carry out air bleeding from the brake circuit and make sure air is not remaining inside the brake circuit.
  - Make sure oil leakage is not occurring from each section.
  - Make sure exhaust gas is not leaking.
  - Interference should not occur when steering operations are made and when oscillations are occurring.
  - The spherical joint section should turn smoothly without occurrence of seizure or prying.



6. Precautions when carrying out cab tilting operations

Although cab tilting operation method is being described in the Operation and Maintenance Manual, after the modification introduced in this Service News has been made, carry out the cab tilting operations in the following method.

In both cases of using a crane or using a tilt cylinder, revise "Section 1" to the following method.

