

INSTALLATION MANUAL

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SUBJECT: REWORK KIT FOR INSTALLATION OF GPS TYPE 3DMC ON GD655-3C (for North-America)

PURPOSE: To introduce the reworking kit which makes it possible to install TOPCON's GPS type 3DMC onto GD655-3C motor graders (For the North American markets)

APPLICATION: GD655-3C Motor Graders, Serial Nos. 51001 and up

FAILURE CODE: ZZ10Z9

DESCRIPTION:

1. Introduction

This Service News will introduce the machine side reworking kit when installing TOPCON's GPS type 3DMC onto the GD655-3C motor graders.

This kit includes the machine side welding parts and the hydraulic pressure take out ports only.

When installing the 3DMC, TOPCON's installation manual to follow will be required besides this Installation Manual.

2. List of parts

No.	Part No.	Part Name	Q'ty	Remarks
1	23B-70-33150	Bracket	1	Ref. 6-1
2	23B-70-33120	Bracket	1	Ref. 6-2
3	23B-70-33140	Bracket	2	Ref. 6-3
4	419-46-12E30	Seat	1	
5	01571-01016	Seat	2	} Ref. 6-4
6	01580-11008	Nut	1	
7	20Y-54-11611	Stopper	1	
8	23B-43-36620	Bracket	1	
9	01643-31032	Washer	2	
10	01010-81020	Bolt	2	
11	23B-46-31910	Plate	1	Ref. 6-5
12	23B-54-36820	Bracket	1	Ref. 6-6
13	23B-60-42920	Tee	5	Ref. 6-7, 6-8
14	02896-11009	O-ring	13	} Ref. 6-7, 6-8, 6-9, 6-10
15	02789-10315	Plug	7	
16	23B-60-42910	Tee	1	Ref. 6-9
17	418-43-37361	Tee	1	Ref. 6-10
18	07002-12434	O-ring	1	Ref. 6-9
19	07000-12011	O-ring	1	Ref. 6-10
20	02896-11018	O-ring	1	Ref. 6-9
21	02010-31252	Bolt	8	Ref. 6-3, 6-6

3. Outline of Modification

The outline of the modification and the areas to be modified are as per Fig. 1.

- 1) Reworking by welding (6 places: ① thru ⑥)
- 2) Addition of the hydraulic pressure take out ports (7 places: ⑦ thru ⑩)

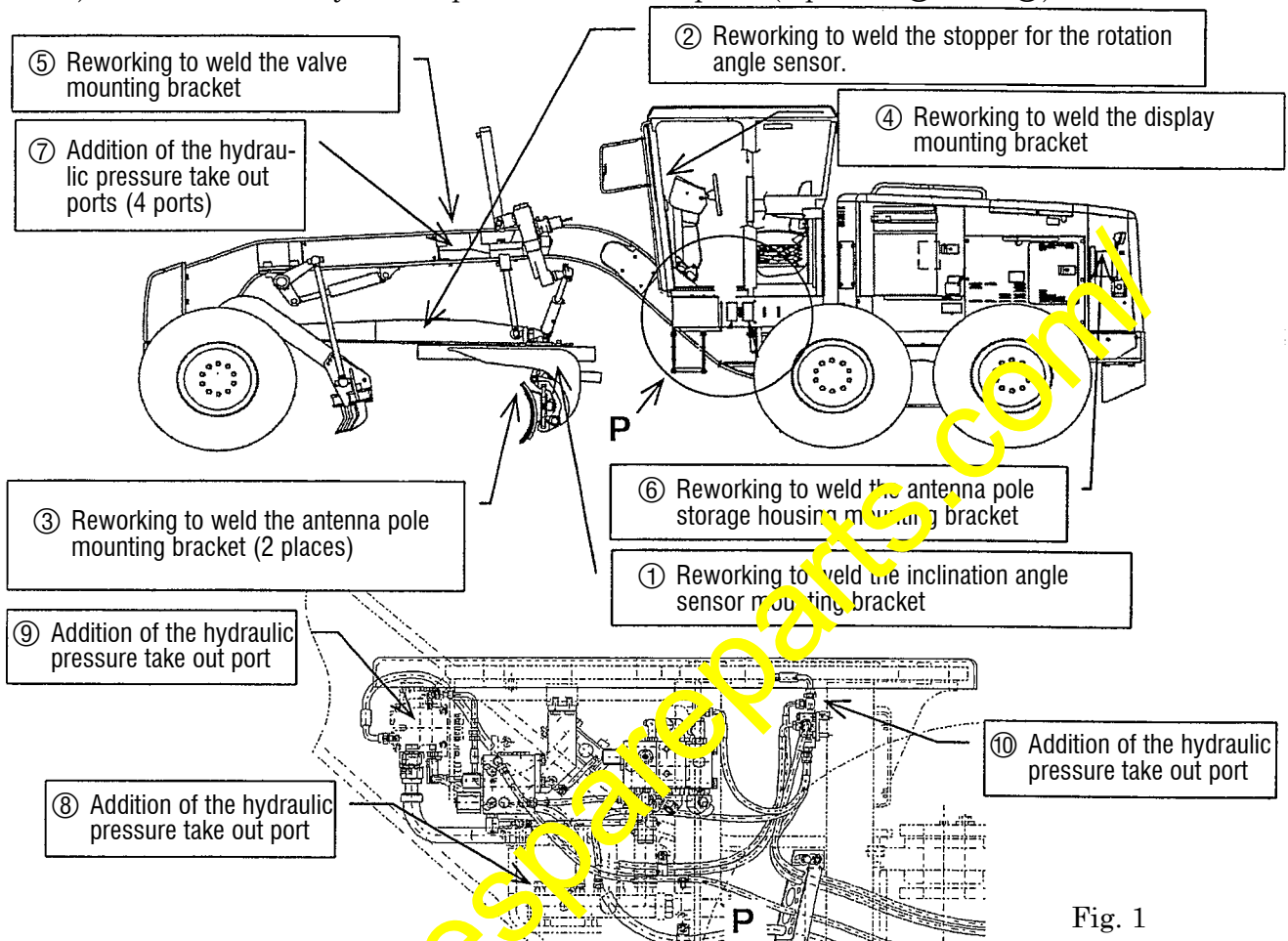


Fig. 1

4. Precautions before starting the modification work

- 1) Carry out this modification work on a flat and hard ground.
- 2) Turn OFF the accumulator switch.
- 3) For safety, be sure to lower the work equipment to touch the ground.
- 4) Turning the speed shift lever to the position "P", stop the engine to set the machine to a complete stoppage.
- 5) To free the remaining pressure in the hydraulic circuit, stop the engine, and after that, operate the control levers for 2 to 3 times.
- 6) Since there is the possibility that the hydraulic oil remaining inside the blade lift hydraulic hose may come out, prepare an oil pan.

5. Precautions when adding the hydraulic pressure take out port.

- 1) Tightening torque for the hoses, elbows and tees without special instructions should be as per the table shown below.

Figures and units in { } are for reference.

Nominal No. of hose	Width across flats [mm]	Tightening torque		
		Target value	Permissible range	
		Nm {kgf m}	Nm {kgf m}	
03	22	74 {7.5}	54 - 93	{5.5 - 9.5}
05	32	157 {16.0}	127 - 186	{13.0 - 19.0}
06	36	216 {22.0}	177 - 245	{18.0 - 25.0}

6. Modification procedure

6-1. Welding of the blade inclination angle sensor mounting bracket

Weld the bracket (23B-70-33150) to the circle support as per Fig. 2.

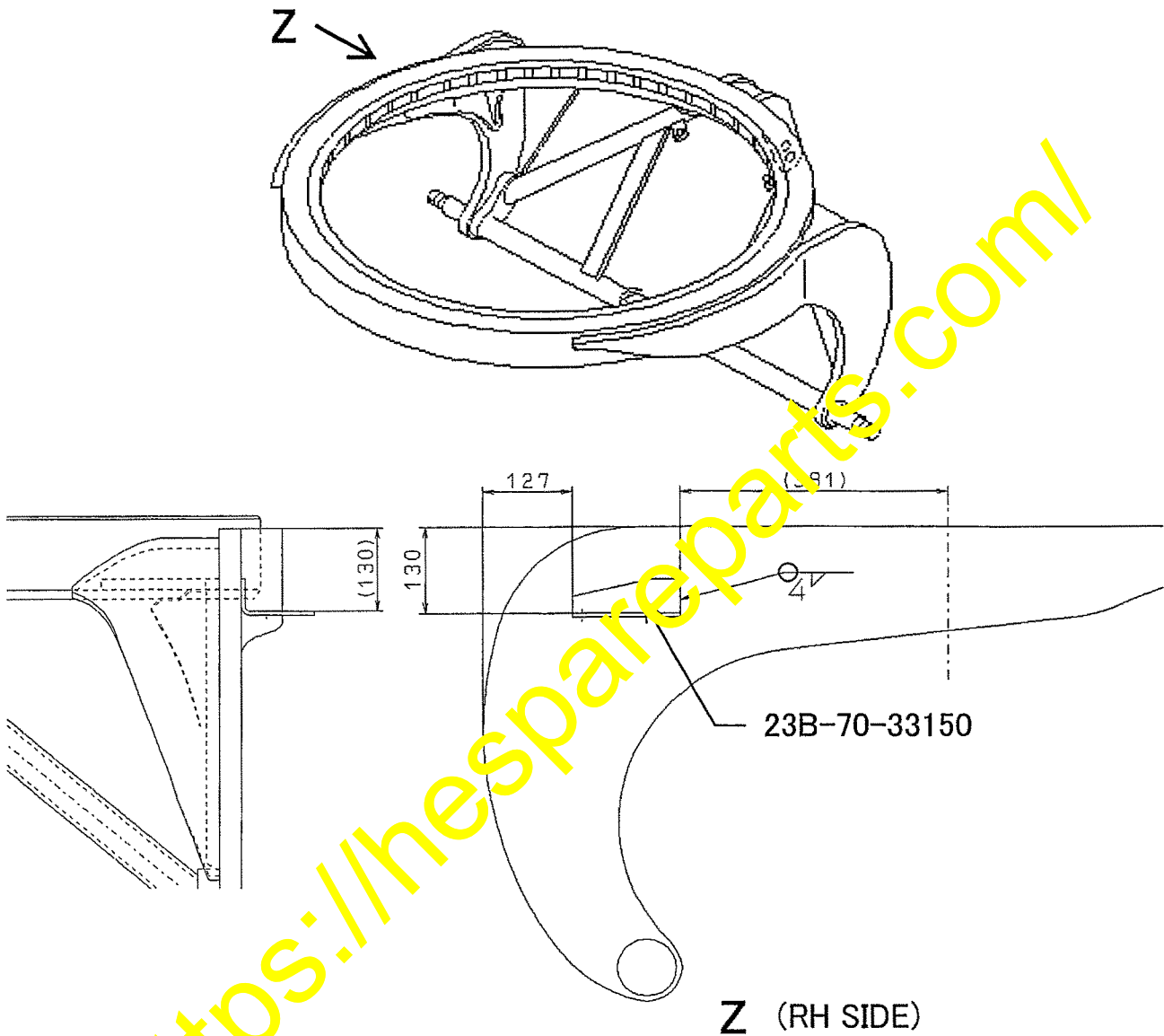


Fig. 2

- 6-2. Welding of the circle rotation angle sensor mounting bracket
Weld the bracket (23B-70-33120) to the drawbar as per Fig. 3.

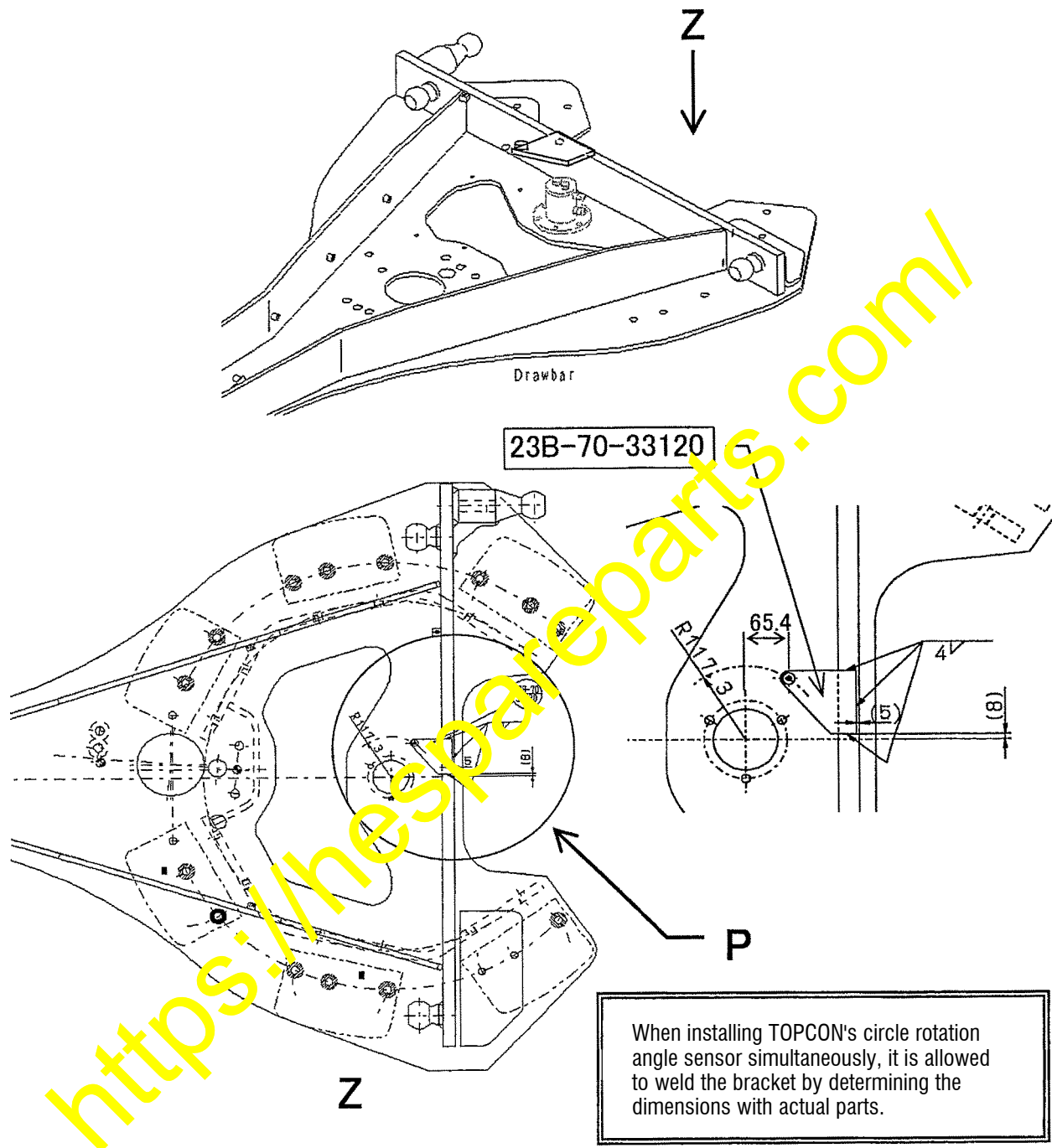


Fig. 3

6-3. Welding of the antenna mounting bracket

Weld the bracket (23B-70-33140) (2 pcs.) to the blade as per Fig. 4.

Tighten the bolts (02010-81232) (6 pcs.).

When the blade is viewed from behind

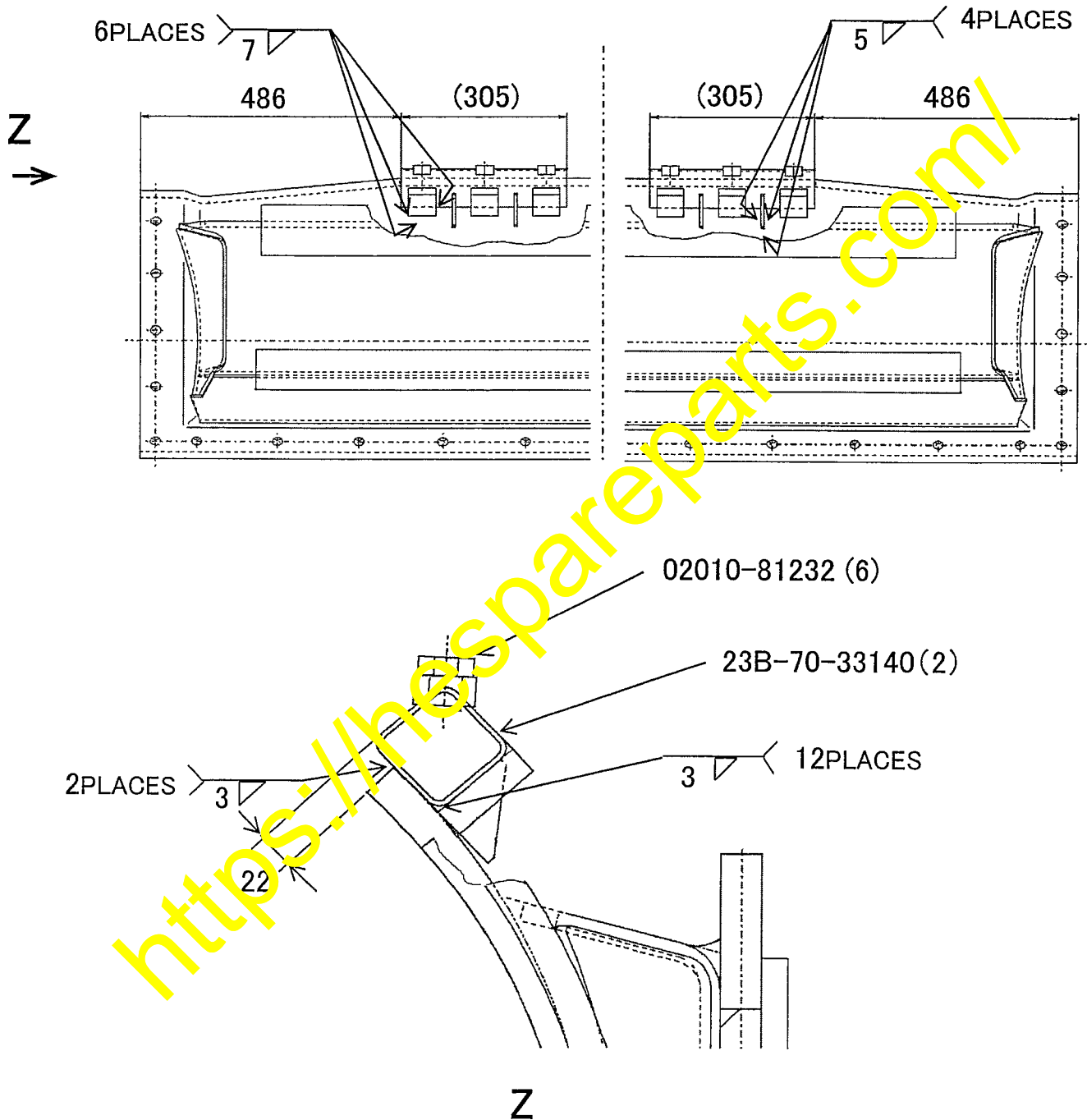


Fig. 4

6-4. Welding of the display mounting bracket

Remove the defroster duct.

Weld the seat (419-46-12E30) to the defroster duct.

Weld the seat (01571-01016) (2 pcs.) to the defroster duct.

Install the defroster duct, and after that, install the bracket (23B-43-36620) and stopper (20Y-54-11611).

After the installation of the stopper (20Y-54-11611), raise the steering post to make sure that the stopper will not interfere with the bracket (23B-43-36620).

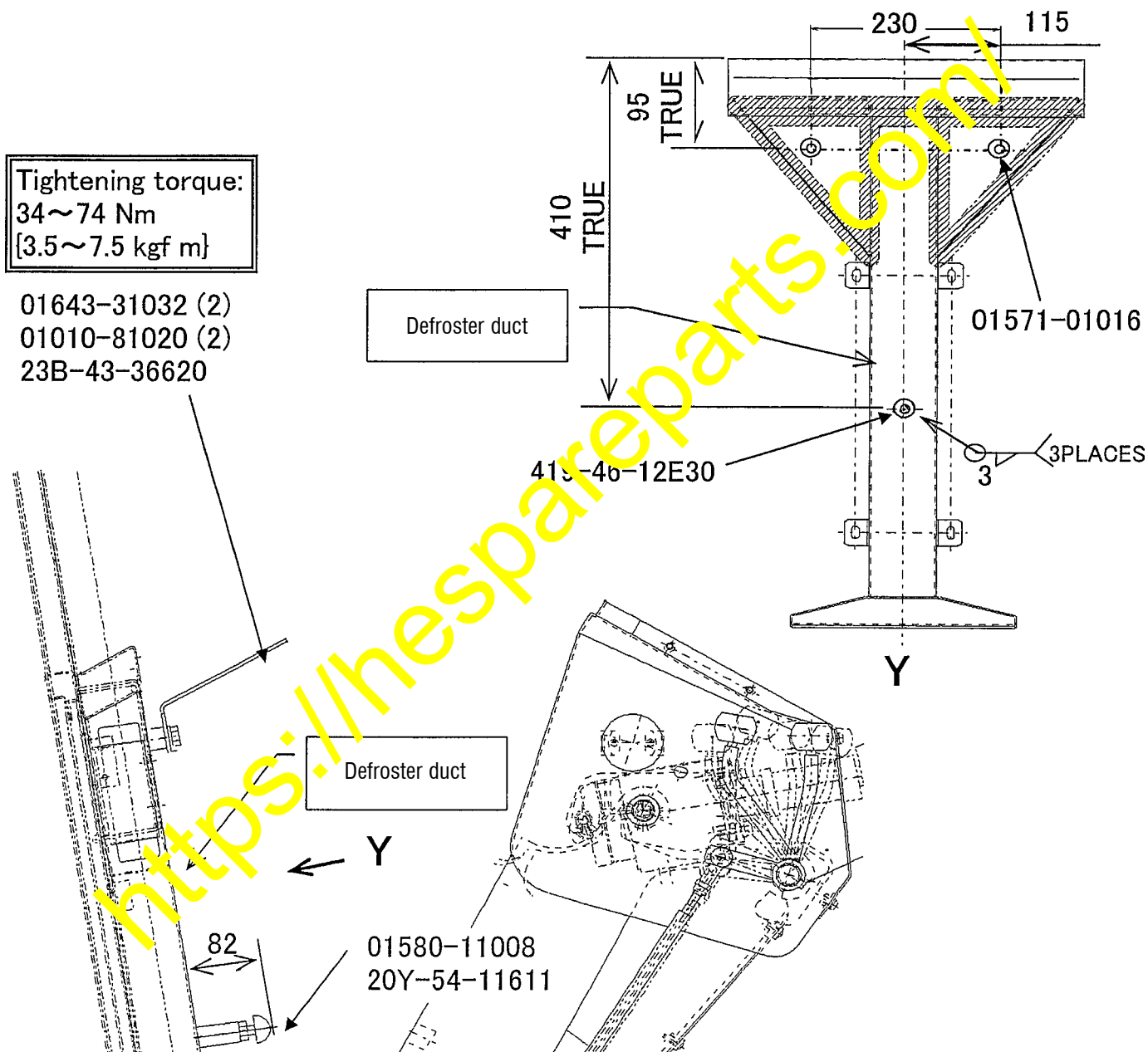


Fig. 5

6-5. Welding of the main fall sensor valve mounting bracket

Weld the plate (23B-46-31910) to the front frame as per Fig. 6.

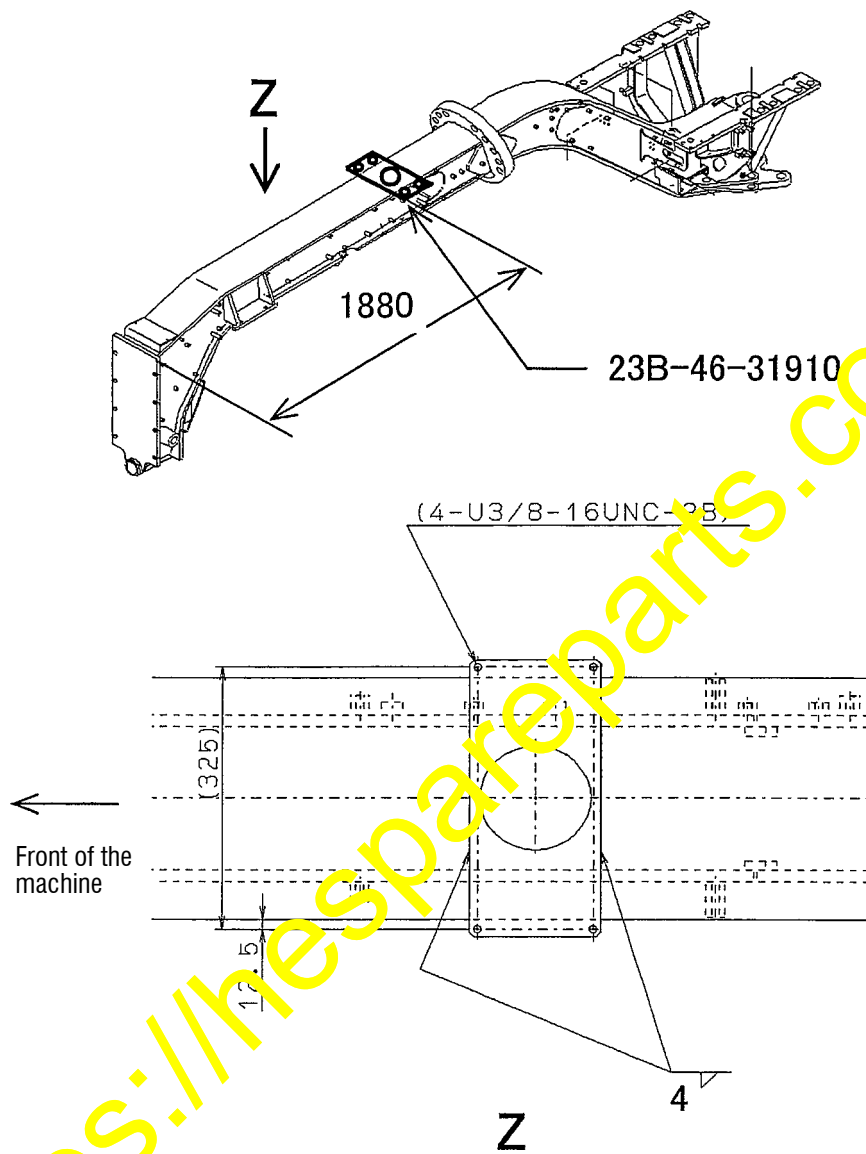


Fig. 6

- 6-6. Welding of the antenna pole storage housing mounting bracket
Weld the bracket (23B-54-36820) to the rear cover as per Fig. 7.

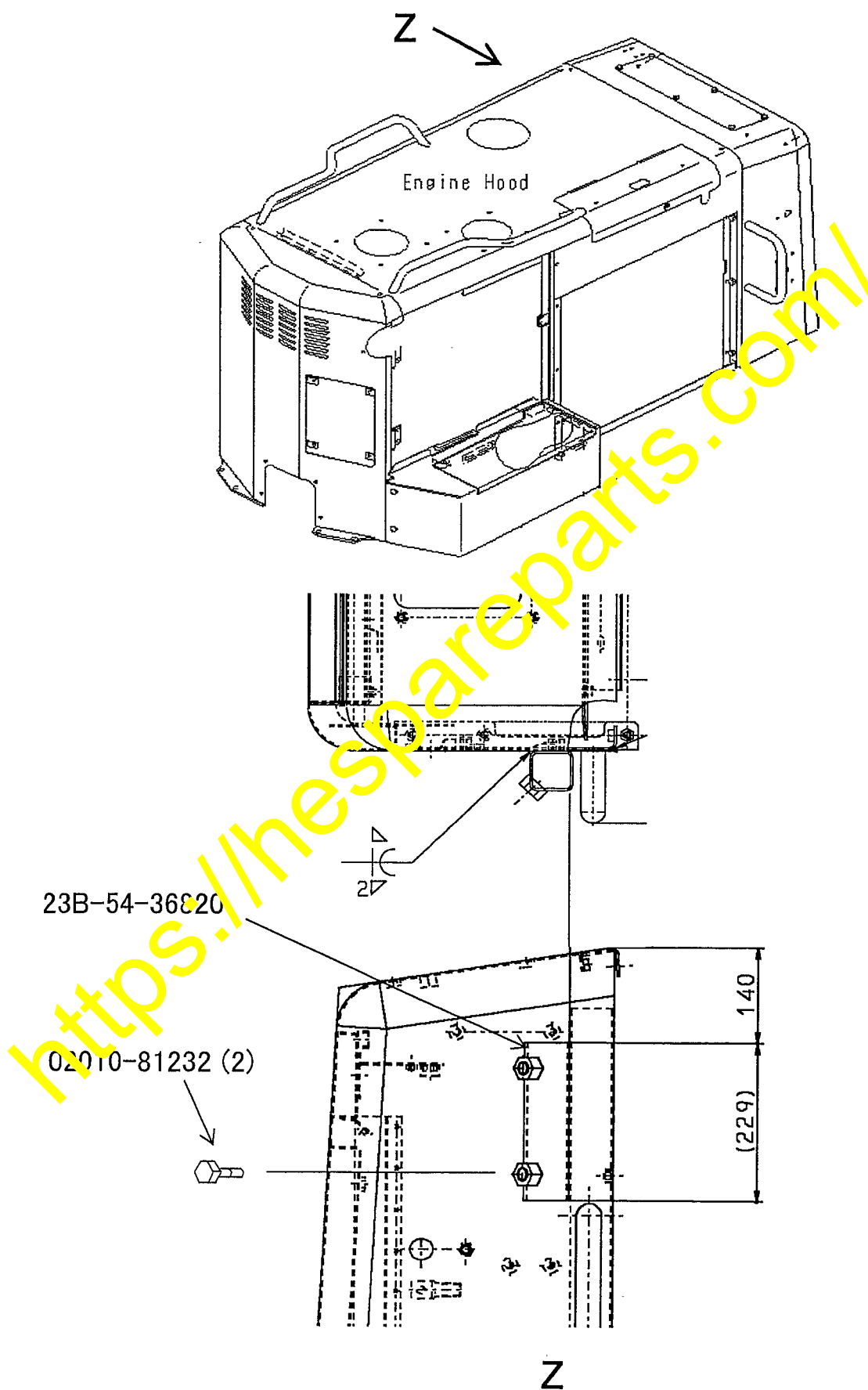


Fig. 7

- 6-7. Changing the piping arrangement for the blade cylinders (LH and RH cylinders)
Remove the covers (LH and RH covers).
Disconnect the blade lift cylinder hoses (4 hoses) at the places marked "*".
Install the joints as per Fig. 8.

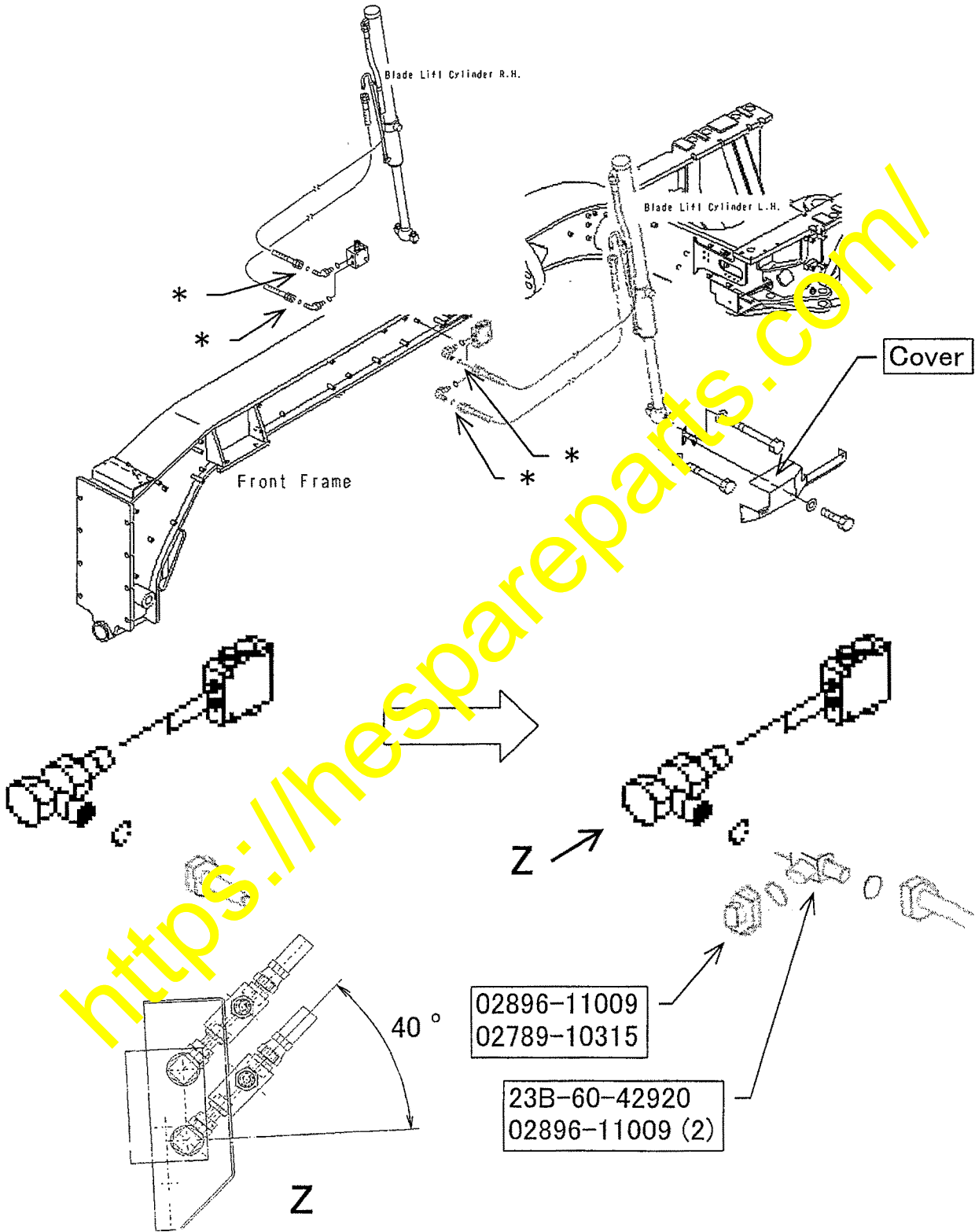


Fig. 8

- 6-8. Changing the piping arrangement for the return circuit to the tank
Disconnect the blade accumulator hose (the forefront hose) from the hydraulic return manifold.
Install the joints as per Fig. 9.

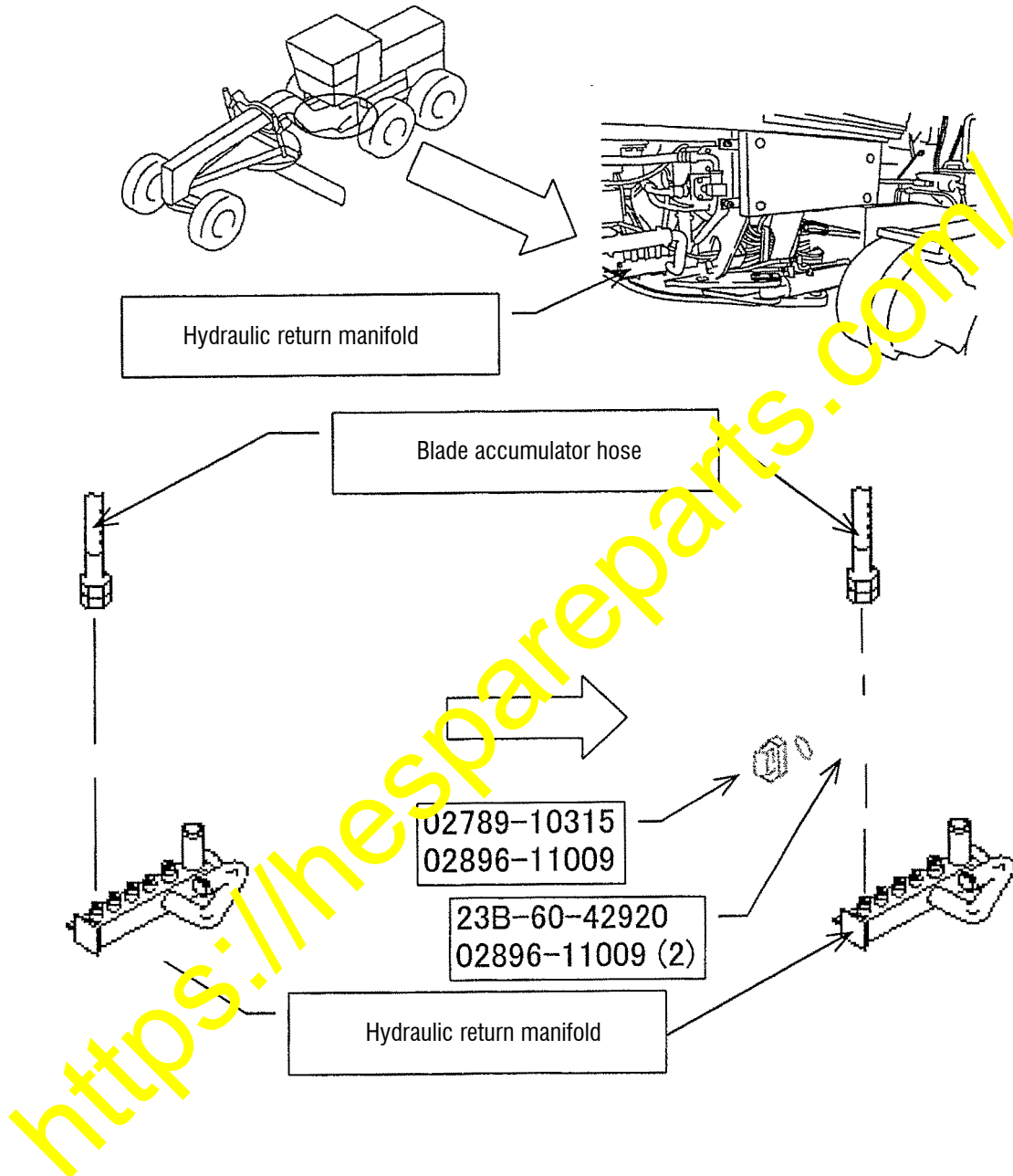


Fig. 9

6-9. Changing the pump supply piping arrangement

Remove the RH step.

Remove the union (*) from the control valve shown in Fig. 10.

Install the joints as per the instructions given in Fig. 10.

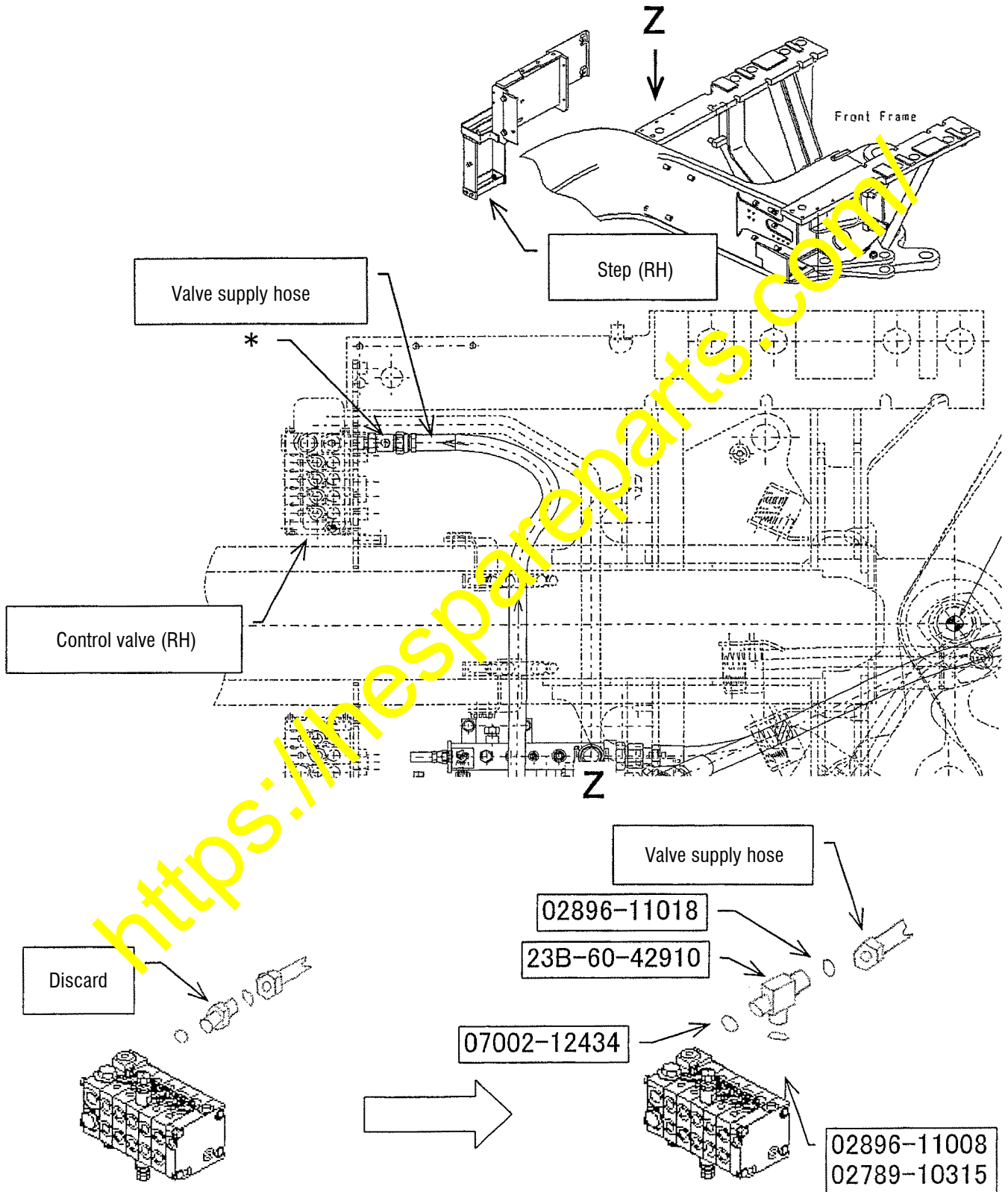


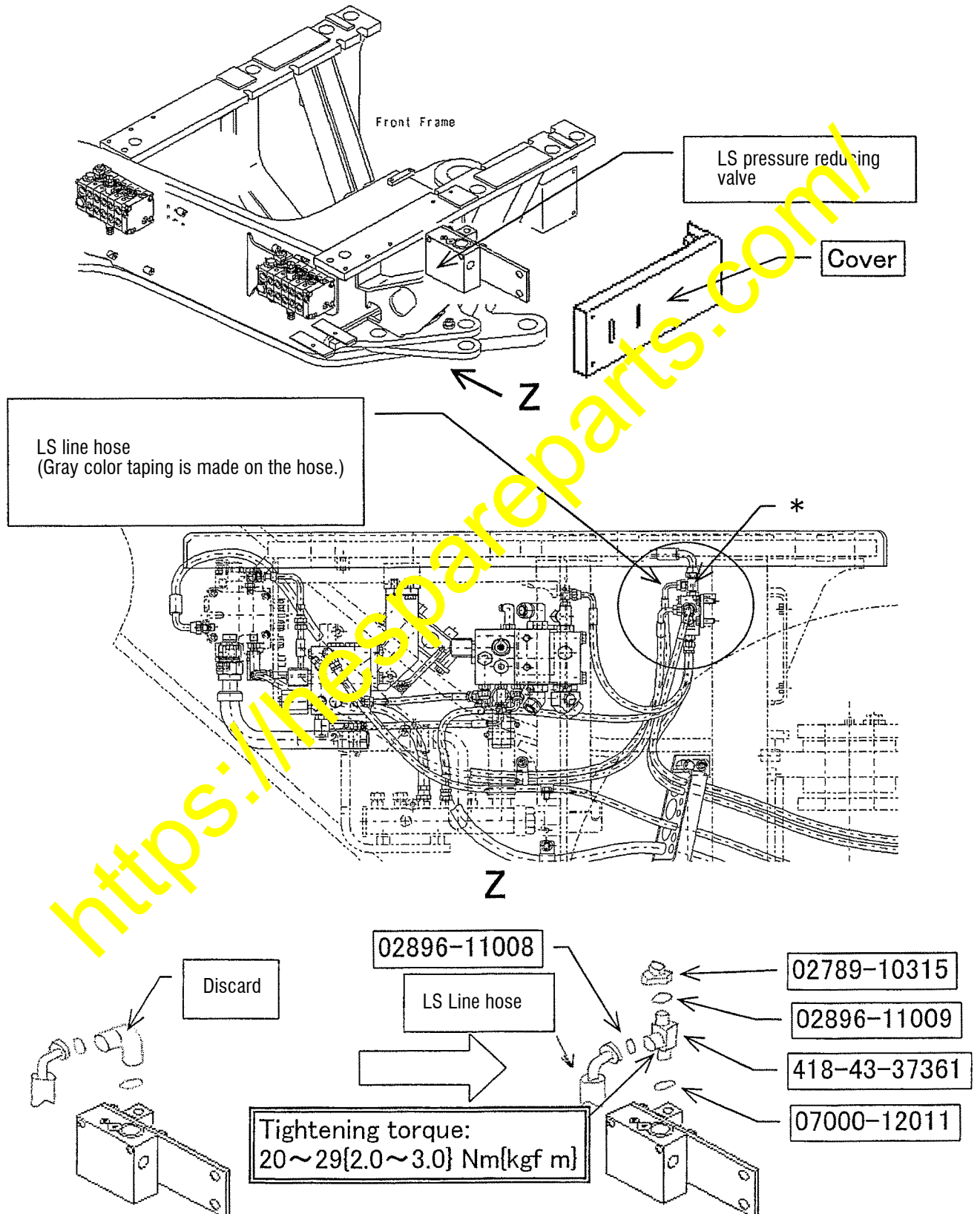
Fig. 10

6-10. Changing the LS line piping arrangement

Remove the LH cover.

Remove the elbow (*) located on the upper side of the LS pressure reducing valve.

Install the joints as per Fig. 11.



7. Painting

After the welding work, apply touchup painting to the welded parts.

①, ②, ③, ⑤ and ⑥ : Komatsu Yellow

④ : Komatsu Gray

8. Inspections

1) Start the engine and operate all the work equipment control levers to the stroke ends for 2 to 3 times, and after that, check that oil does not leak from each piping.

2) Setting the machine to the oil level checking position, inspect the oil level in the tank, and if in short, add oil to cover the shortage.

Oil level checking position: Set the steering, leaning and articulate levers to the straight forward traveling state. Set the blade side shift to the center of the machine and lower the blade to touch the ground lightly.

<https://hespareparts.com/>

Reference

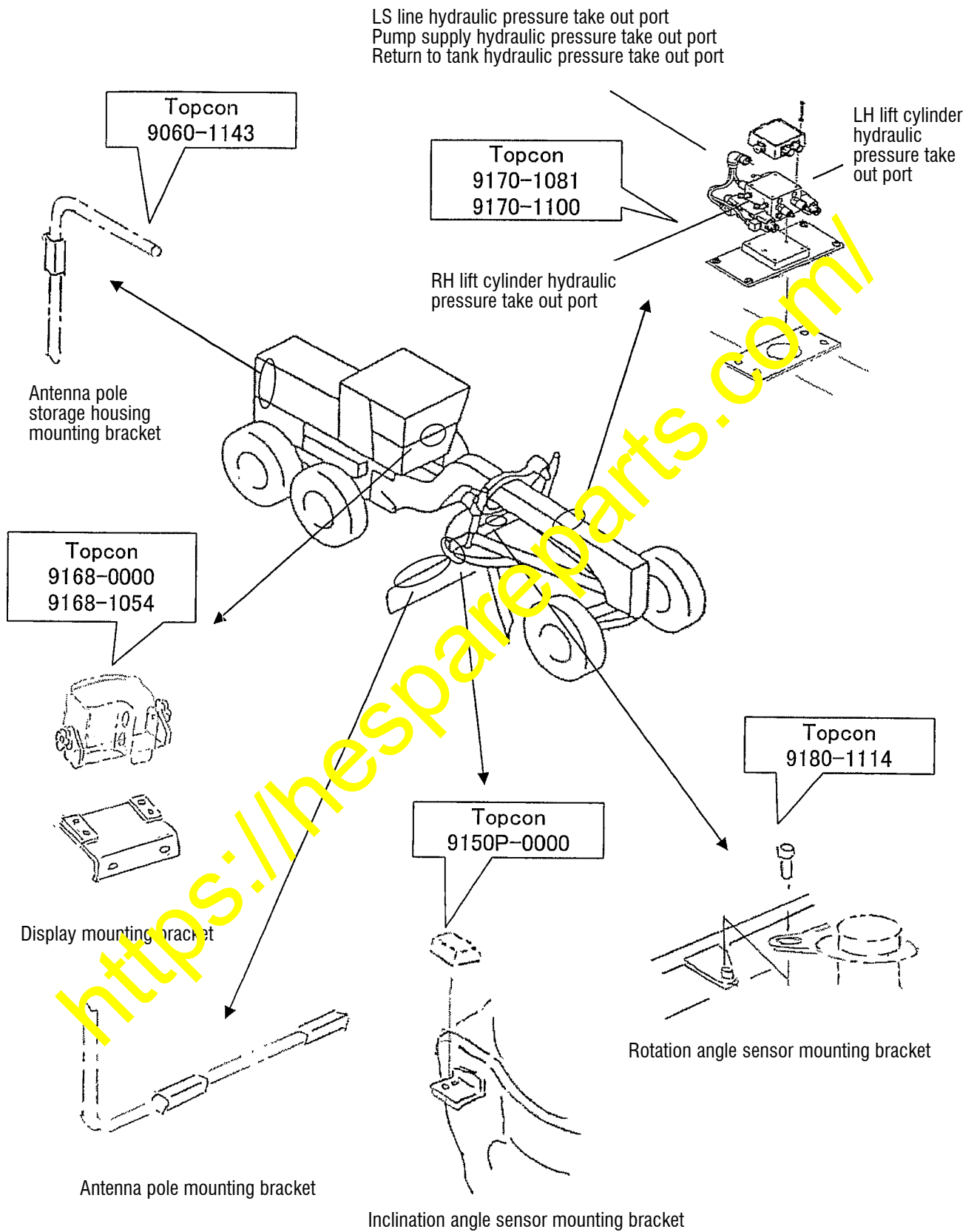


Fig. 12