

PARTS & SERVICE NEWS CORRECTION

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Page 1 of 10

This **PARTS & SERVICE NEWS PAGES 1 AND 2 ONLY** supersedes the previous issue No. A930245B dated June 10, 1994 which should be discarded.

SUBJECT: REPAIR OF THE OIL FLOWING OUT OF HYDRAULIC TANK BREATHERS

PURPOSE: To repair machines that have oil coming out the hydraulic tank breathers when shifting gears from "REVERSE" to "FORWARD" without completely stopping (Gear Shift Shock)

APPLICATION: WA600-1 Wheel Loaders, S/N 11140 thru 11305 (except 11300 and 11301)
WA600-1 Wheel Loaders, S/N A10391 and up
WA600-1LC Wheel Loaders, S/N A50001 and up

DESCRIPTION:

1. On a machine that experiences gear shift shock as described above, the oil in the hydraulic tank may flow into the hydraulic sub-air tank. Subsequently, the oil is lowered in the hydraulic tank and will periodically require additional oil. When the tank is repeatedly serviced for this type of operation (Gear Shift Shock), this causes reduced space for air volume and a corresponding increase in air pressure. This higher air pressure causes hydraulic oil to flow out of the hydraulic tank breathers.

To remove the hydraulic oil in the hydraulic sub-air tank open the hand hole cover of the sub-air tank. This will let the oil return to the hydraulic tank.

NOTE: If you have added additional oil to the hydraulic tank before doing this action, the hydraulic tank will be overfull.

On machines not subject to this problem, open the hand hole cover every 2000 hours to drain residual oil back to the hydraulic tank before you change the oil.

2. Repair parts list

(1) Sub air tank

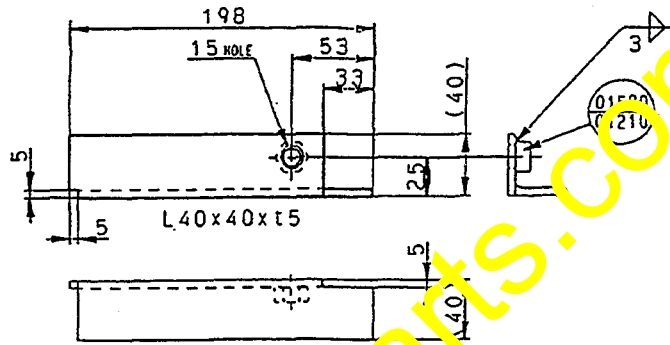
Part No.	Part Name	Q'ty	Purpose of part	Remark	
426-60-15242 (426-60-15241)	TUBE (TUBE)	1 (1)	} Replacement	} Refer to the sub air tank repair procedure (Type A) (See Page 7)	
01010-51030 (01435-01030)	BOLT (BOLT)	6 (6)			
01643-31032 (426-60-15260)	WASHER (TUBE)	6 (1)	Addition		
(426-60-15830)	(PLATE)	(1)	} Disused		
(07000-02125)	(O-RING)	(1)			
07000-02135 (07000-02135)	O-RING (O-RING)	1 (1)	Replacement		
07042-70617	PLUG	3	Addition		
426-60-15242 (426-60-15240)	TUBE (TUBE)	1 (1)	} Replacement		} Refer to the sub air tank repair procedure (Type B) (See Page 8)
07000-02135 (07000-02135)	O-RING (O-RING)	1 (1)			
07042-70617	PLUG	3	Addition		

(2) Platform

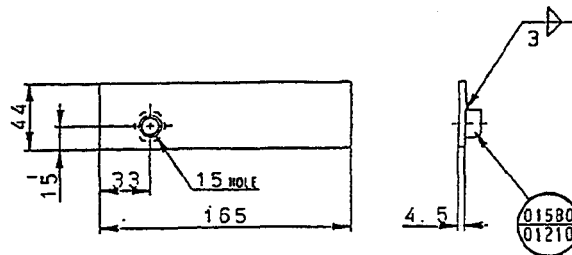
Part No.	Part Name	Q'ty	Purpose of part	Remark
426-54-14610	COVER	1	} Addition	} Platform cover (cover for replacing breather elements) (See Page 10)
01010-51225	BOLT	2		
01643-31232	WASHER	2		
GI62-208-01	ANGLE	1	} For reworking platform (The field fabrication drawing is attached there to.)(See Page 3)	
GI62-208-01	PLATE	1		

Parts to be fabricated in the field

Part No.: GI62-208-02
Part Name: ANGLE
Material: SS400A
Q'ty/Machine: 1

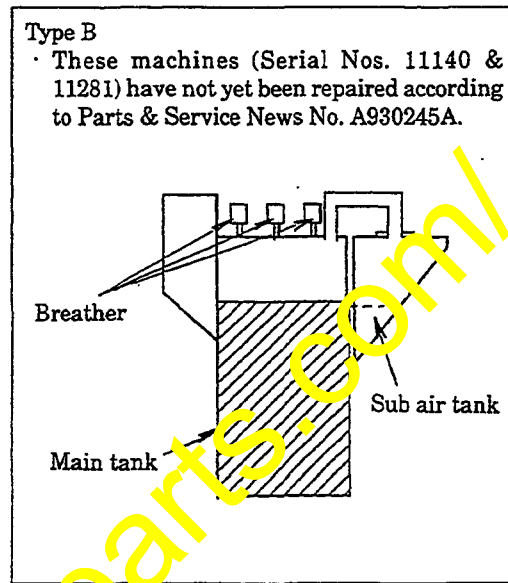
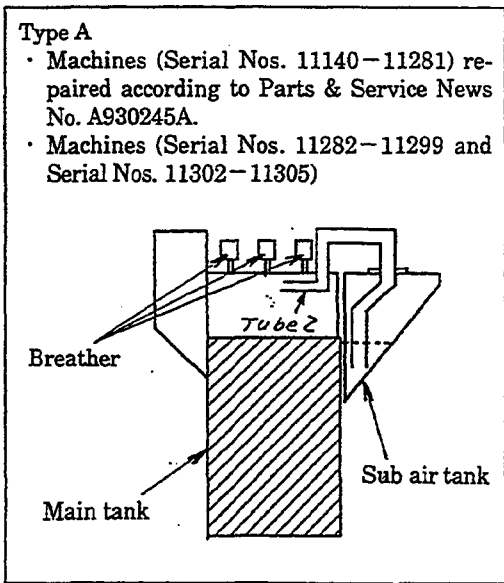


Part No.: GI62-208-01
Part Name: PLATE
Material: SS400F
Q'ty/Machine: 1



3. Improvement details

There are 2 types (A and B) of piping between the main hydraulic oil tank and the sub air tank depending on machines.

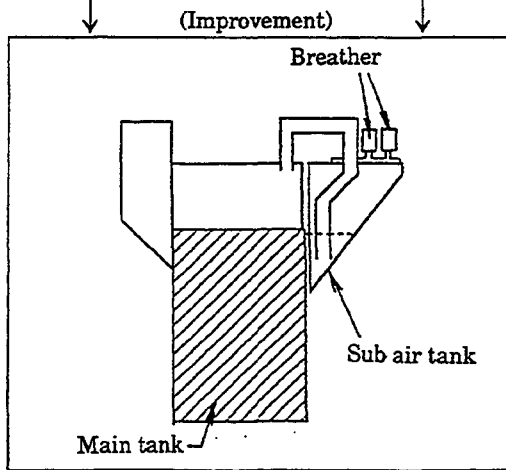


(Improvement details)

- ① Abolition of orifice tube (tube 2)
- ② Relocation of breathers from main oil tank onto tube (sub air tank) side

(Improvement details)

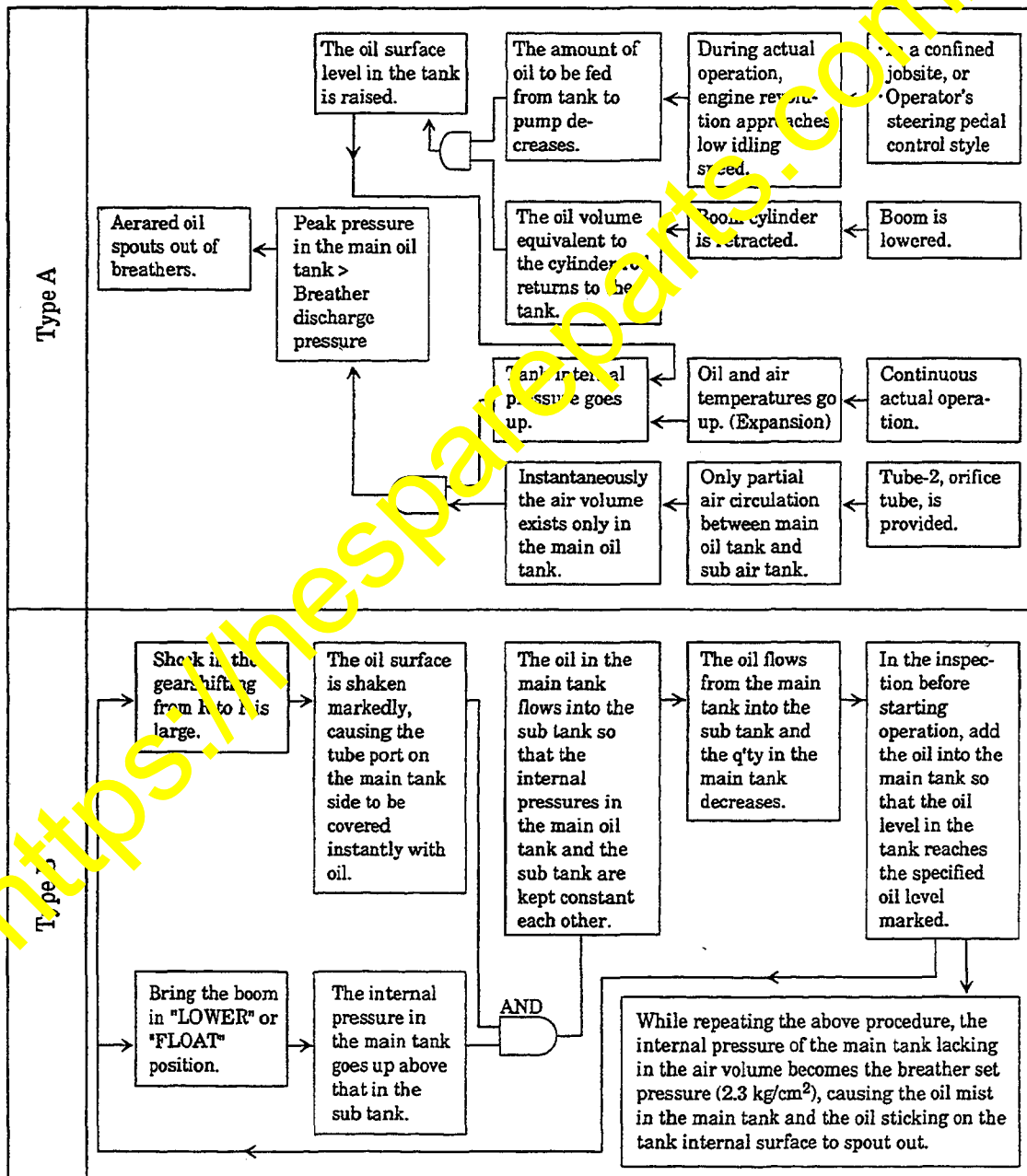
- ③ Lower tube tip on sub air tank side to tank bottom.
- ② Relocation of breathers from main oil tank onto tube (sub air tank) side



Improvement details

- ① Abolition of orifice tube: for full air circulation between main oil tank and sub air tank.
- ② Relocation of breathers: Breathers are relocated onto the sub air tank side where the tank internal pressure does not exceed the breather discharge pressure, even when peak pressure is built up in tank.
- ③ Lowering the tube tip to the bottom of the sub air tank: Even when oil remains in the sub air tank, if the boom is raised, the oil will be drawn out to the main oil tank side due to the difference in internal pressures (internal pressure in main oil tank will be lower than that in sub air tank).

<Mechanism of failure occurrence>



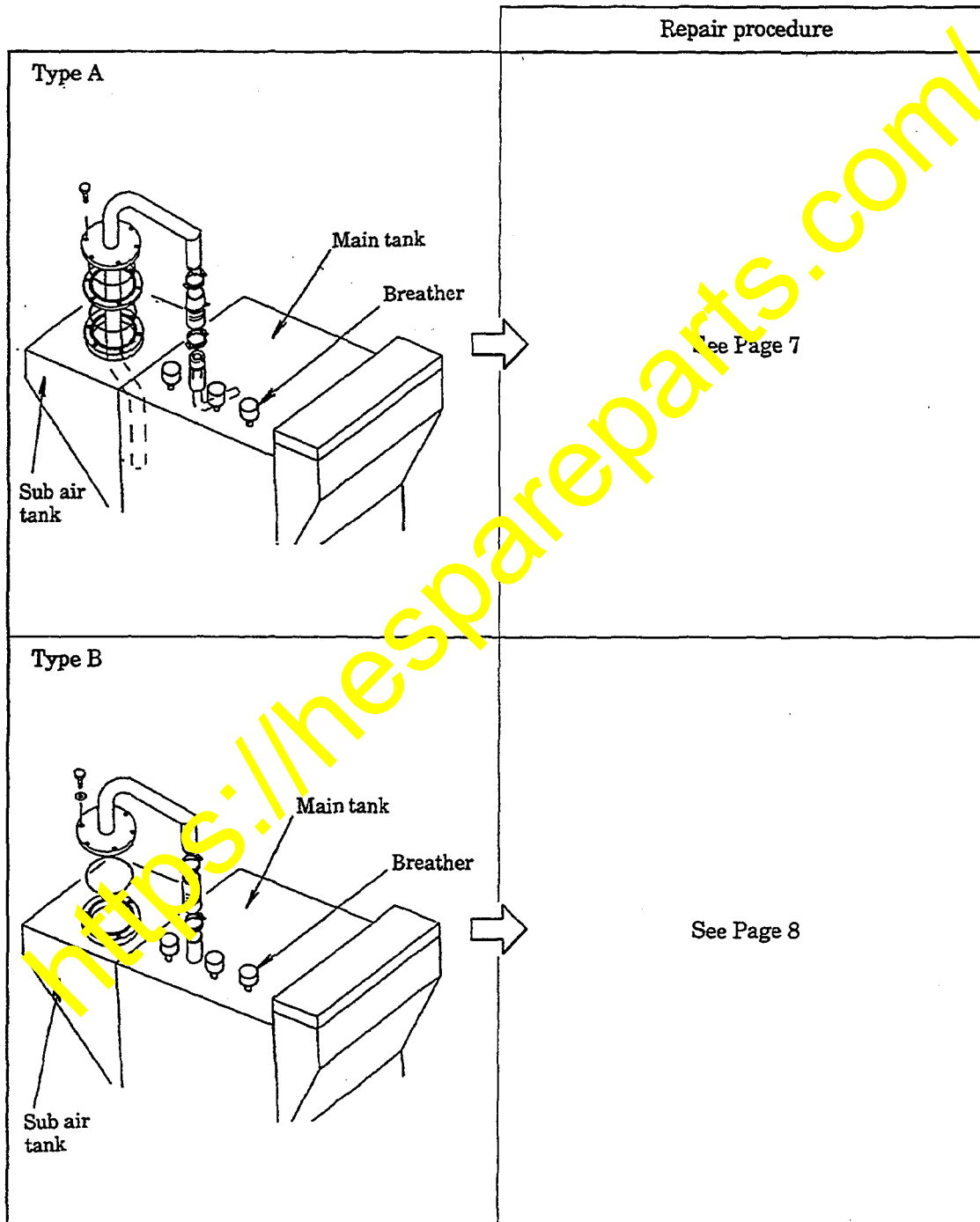
4. Repair procedure

Replace the tube between the hydraulic oil main tank and the sub air tank in the following manner.

- (1) Remove the R.H platform.

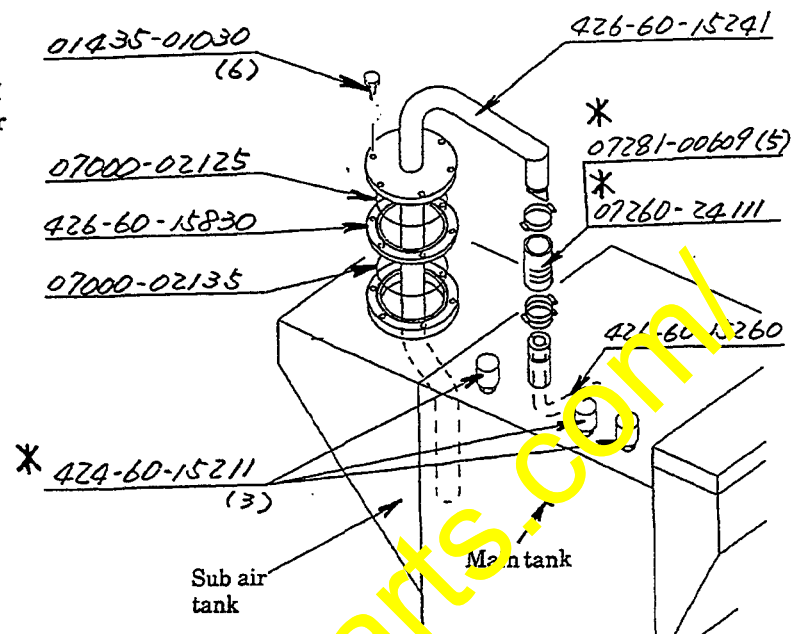
For reworking of the R.H platform, refer to Paragraph 5 "Reworking procedure".

- (2) Remove the tube between the above main oil tank and the sub air tank. (When removing the tube, be careful not to allow dust to enter either tank.)

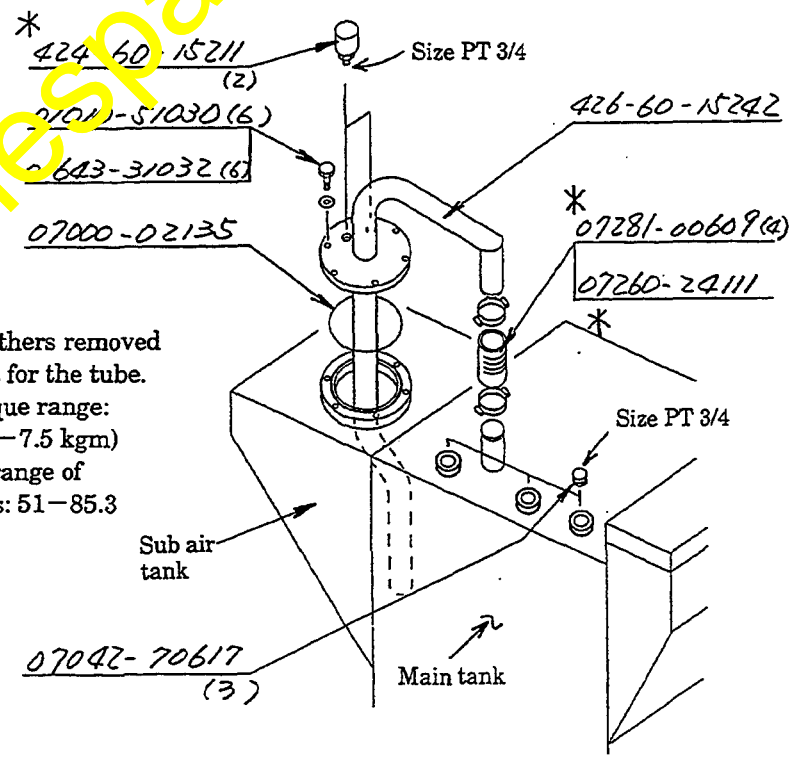


Type A repair procedure

- a. Remove the parts shown at the right. The parts marked * should be reused for repair.



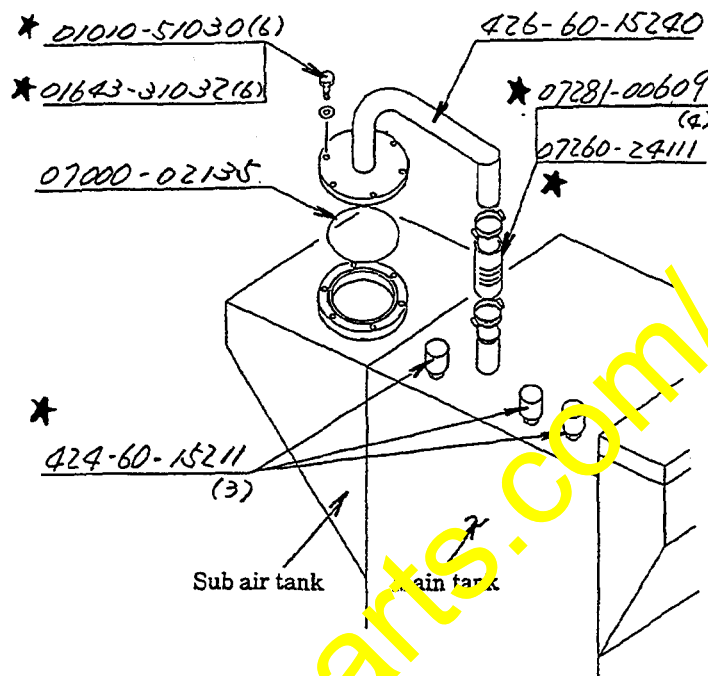
- b. Install newly-prepared tube (426-60-15242). The breather mount positions should be changed from the main oil tank to the tube (sub air tank) side. Then, insert blind plugs (07042-70617, 3 pcs.) into the former breather positions.



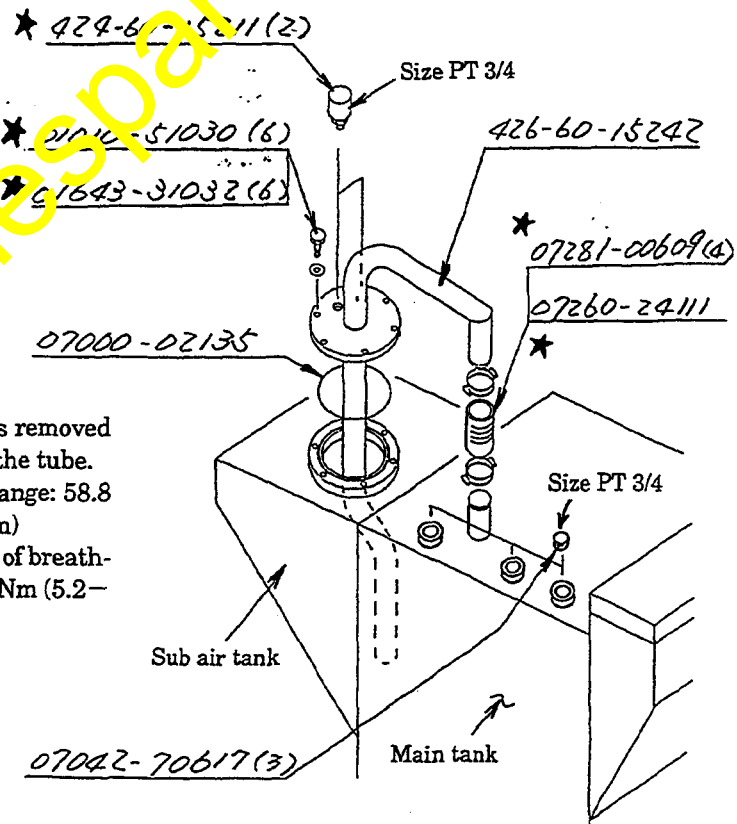
- Note 1) Use two of the breathers removed in (a), and 4 clamps for the tube.
- Note 2) Tightening torque range: 68.0 - 73.5 Nm (6.0 - 7.5 kgm)
- Note 3) Tightening torque range of breathers and plugs: 51 - 85.3 Nm (5.2 - 8.7 kgm)

Type B repair procedure

- a. Remove the parts shown at the right. The parts marked ★ should be reused for repair.



- b. Install newly-prepared tube (426-60-15242). The breather mount positions should be changed from the main oil tank to the tube (sub air tank) side. Then, insert blind plugs (07042-70617, 3 pcs.) into the former breather positions.

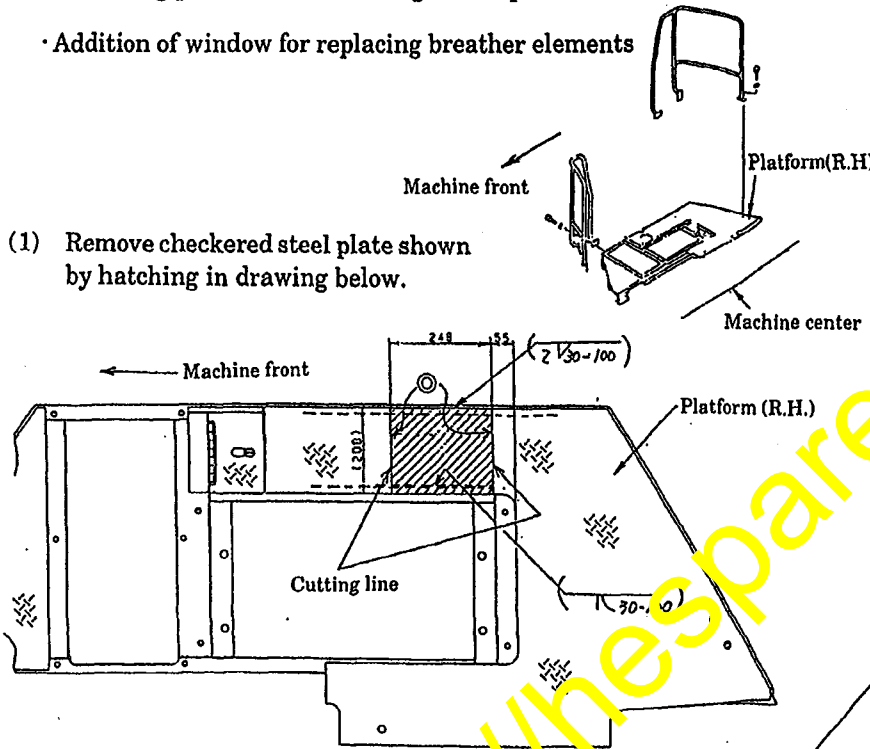


- Note 1) Use two of the breathers removed in (a) and 4 clamps for the tube.
- Note 2) Bolt tightening torque range: 58.8 – 73.5 Nm (6.0 – 7.5 kgm)
- Note 3) Tightening torque range of breathers and plugs: 51 – 85.3 Nm (5.2 – 8.7 kgm)

5. Reworking procedure (Reworking of R.H platform)

- Addition of window for replacing breather elements

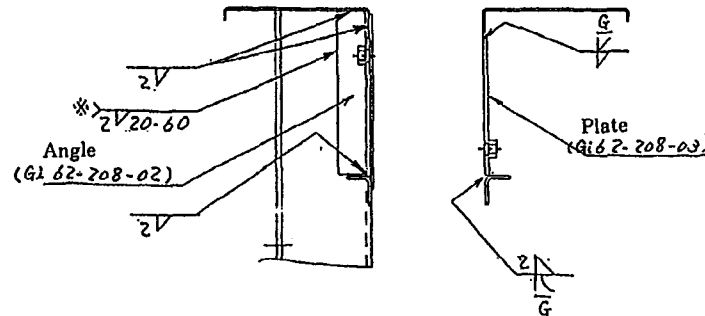
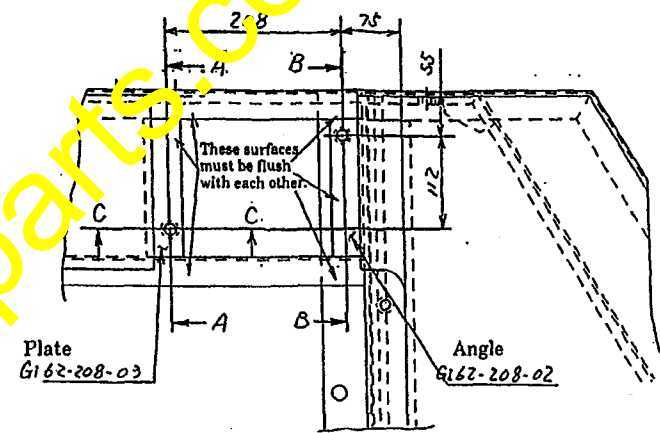
(1) Remove checkered steel plate shown by hatching in drawing below.



- Cut along the dimensions indicated above with a grinder. Further, cut the weld beads with a grinder to remove the hatched portion (checkered steel plate).

Note 1) Remove burrs from the faces marked © on above drawing with grinder.

(2) Weld plate (GI62-208-03) and angle (GI62-208-02) according to the dimensions indicated below.



Section C-C

Section B-B

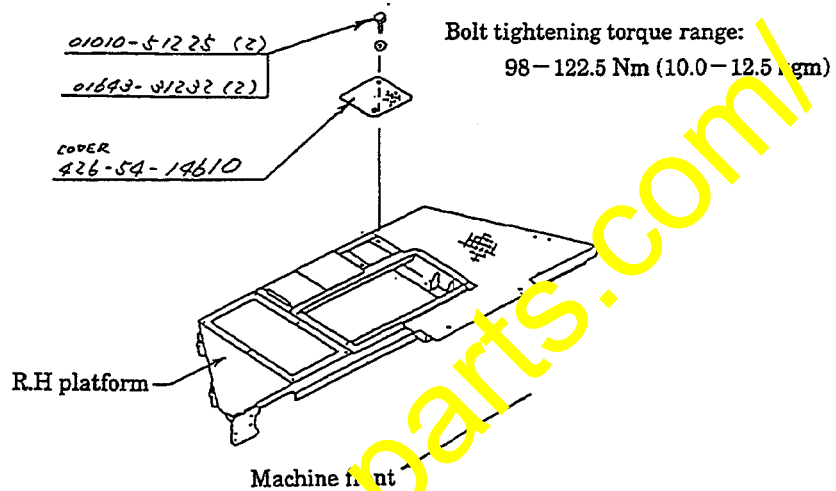
Section A-A

Note 2) In the welding zone marked ※ in the drawing, the ends must be welded without fail.

Note 3) After reworking, perform touchup painting. (PT-3 Blue E2)

6. Installation of platform

- (1) After reworking, install the platform on the chassis. (The mounting parts should be reused.)
Bolt tightening torque range: 98 – 122.5 Nm (10.0 – 12.5 kgm)
- (2) Installation of platform cover
(Installation of cover for replacing breather elements)



7. Oil level check in sub air tank

In a case where the oil remains in the sub air tank; let the oil flow out through the hand hole and then, add the oil into the main tank to the specified level mark.

8. Hydraulic oil level checking

At the hydraulic oil level check, keep machine at a standstill for more than 6 hours after the engine is stopped. Then, confirm that the oil surface in the hydraulic tank is in the range shown below of the sight gauge in the condition where the tank surface has cooled to the atmospheric air temperature.

- Keep in mind that, if the oil level is checked immediately after machine operation, the oil level cannot be confirmed accurately due to the thermal expansion of the hydraulic oil.
- The oil level check should be made with the bucket rested horizontally on the ground.

