

# PARTS & SERVICE NEWS

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**SUBJECT:** MODIFICATION OF AIR COMPRESSOR

**PURPOSE:** To introduce modification procedure to repair the air compressor for the S6D140E-2 engines on GD825A-2 motor graders

**APPLICATION:** GD825A-2 Motor Graders, Serial Nos. 12001 thru 12120  
(Engine Nos. 23352 thru 31142)

**FAILURE CODE:** AJ0GMP

**DESCRIPTION:**

1. Introduction

Since there is a possibility that the bearing breaks or the gear mounting nuts loosen on the air compressor for the S6D140E-2 engines installed on the GD825A-2 motor graders, in such a case implement the modification introduced in this Service News.

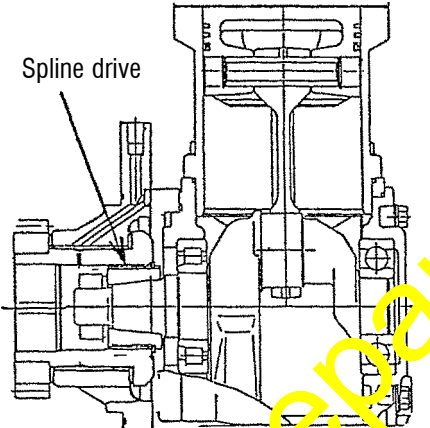
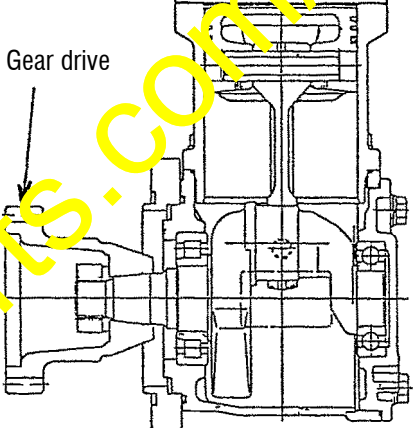
## 2. List of parts

For GD825A-2

Part No.	Part Name	Purpose of part	Q'ty	Remarks
6210-81-3113 (6210-81-3113)	Air compressor (Air compressor)	} Replacement	1 (1)	The part number of the air compressor unit does not change.
6212-81-3500 (6210-81-5120)	Housing ass'y (Spacer)		1 (1)	
6162-83-6630 (6210-81-5110)	Coupling (Gear)		1 (1)	
01583-02012 (01583-02012)	Nut (Nut)	} Addition	1 (1)	} Consumable parts
6212-81-3680	Tube		1	
07206-30710	Joint bolt		2	
07005-01012	Gasket	5		
6164-91-6220 (07005-02416)	Gasket (Gasket)	5 (5)		
07005-01412 (07005-01412)	Gasket (Gasket)	12 (12)		
6210-81-3150 (6210-81-3150)	O-ring (O-ring)	1 (1)		
6210-81-5240 (6210-81-5240)	O-ring (O-ring)	1 (1)		
6127-11-1620 (01643-32060)	Washer (Washer)	1 (1)		

## 3. Details of the modification

To improve the durability of the air compressor bearing, the driving method for the air compressor is changed from the direct gear drive to indirect spline drive, thus bending and thrust load will not be applied to the front bearing.

	New structure ←	Current structure
Type	Spline drive	Gear drive
Bending load (Front bearing)	1/3	1
Shape		

## 4. Modification procedures

## 1) Preparation to make for the engine

- (1) Open the drain cock of the air tank to discharge the air totally.
- (2) Drain the cooling water through the drain cock of the radiator to a degree until the engine side cooling water goes out.
- (3) Since it becomes necessary to remove the air compressor, remove the machine side pipings and harnesses around the air compressor.

2) Removal procedure (Refer to Fig. 1.)

- (1) Loosen the mounting nuts and the joint bolt ④ of the air pipings ①, ② and ③, and remove the tube.
- (2) Remove the air piping nipples ⑤ and ⑥ from the air compressor.
- (3) Loosen the joint bolt ⑨ to remove the water pipings ⑦ and ⑧.
- (4) Loosen the joint bolt ⑪ to remove the oil piping ⑩.
- (5) Loosen the mounting bolts ⑬ to remove the air compressor ⑫.

Note) Check that the roller of the bearing of the removed air compressor has not fallen into the engine room.

- (6) Loosen the mounting bolts ⑮ and ⑯ to remove the spacer ⑭.
- (7) Loosen the mounting bolts ⑰ and ⑱ to remove the fuel injection pump coupling cover ⑲.



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- (8) Remove the blinding plug ⑳ on the main gallery of the cylinder block.

Note) Do not reuse the parts marked \* in the figure, the seal washer and the O-ring.

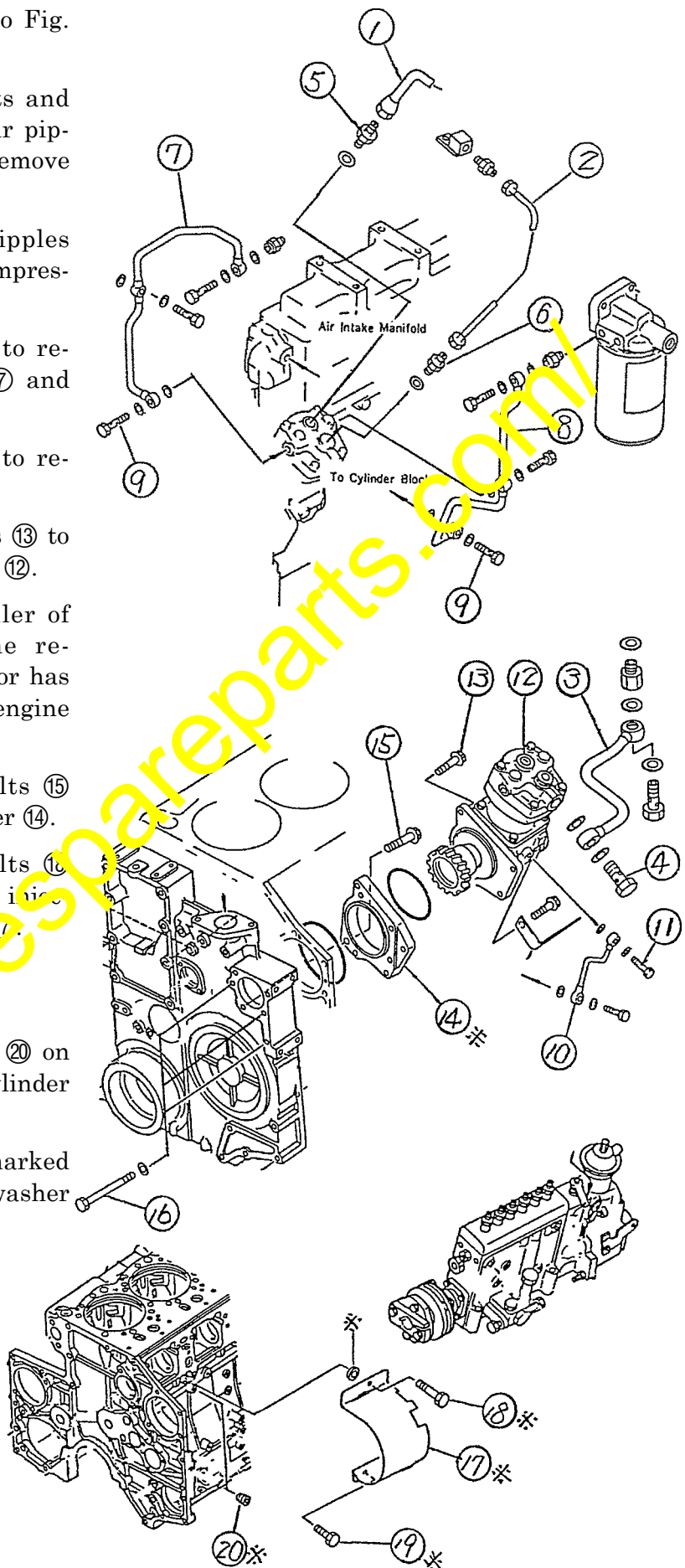


Fig. 1

3) Installation procedure of the improved parts (Refer to Fig. 2.)

- (1) Setting the coupling ②① and washer ②② to the newly prepared air compressor, tighten them by use of the nuts ②③. (Although the coupling is equipped with the key way, the key will not be used.)

Tightening torque: 15 – 20 kgm

- (2) Install the housing ass'y ②④ to the cylinder block using the mounting bolts ②⑤ and ②⑥. When carrying out this installation work, replace the O-ring ②⑤ with a new part.

Tightening torque: ②⑤ 10 – 12.5 kgm

②⑥ 6 – 7.5 kgm

- (3) Install the air compressor ass'y to the housing ass'y using the mounting bolts ②③. When carrying out this installation work, replace the O-ring ②⑥ with a new part.

Tightening torque: 6 – 7.5 kgm

- (4) Tighten the elbow ②⑦ to the cylinder block main gallery.

Tightening torque: 0.3 – 0.6 kgm

- (5) Attach the housing lubrication tube ②⑧ using the nut joint bolt ②⑨ and seal washer ②⑩.

- (6) Reinstall the removed oil piping ②⑩, water piping ②⑦ and ②⑧, and air pipings ②①, ②② and ②③ using new seal washers. Regarding the air intake tube ②③, install it using the copper gasket ②③① and the joint bolt. (At 5 places)

- (7) Tighten the fuel injection pump coupling cover ②③② using the spacer ②③③, mounting bolts ②③④ and ②③⑤ and washer ②③⑥.

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- (8) Reinstall the removed vehicle body side parts.

- (9) Add the cooling water to the radiator since it has been drained before starting the modification work.

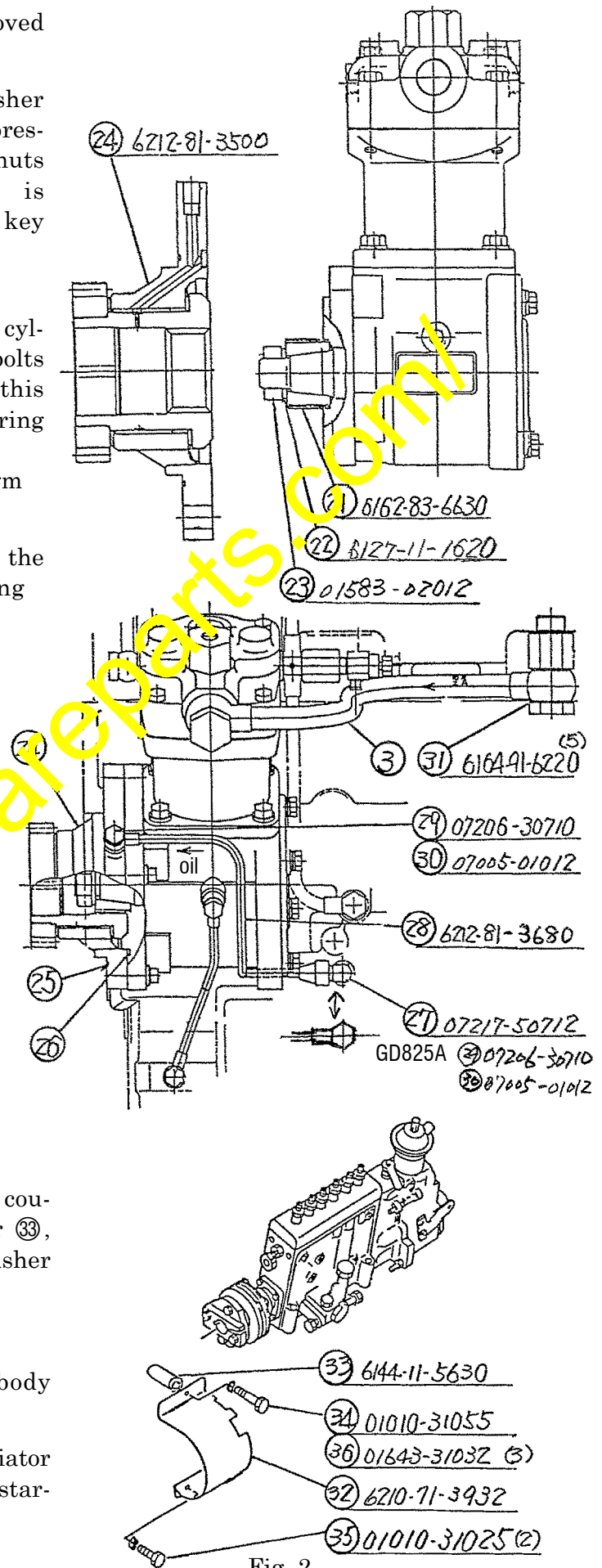


Fig. 2