

**PARTS & SERVICE
NEWS**

REF NO.	AT96148A
DATE	Oct. 7, 1998

This PARTS & SERVICE NEWS supersedes the previous issue No. AT96148 dated Oct. 17, 1996 which should be discarded.

SUBJECT: CHANGE OF AIR INTAKE OF AIR COMPRESSOR ON HD325-5, HD325-6

PURPOSE: To introduce modification of the air intake method of the air compressor of HD325-5, HD325-6 dump trucks (non-emission type vehicles).

APPLICATION: HD325-5 Dump Trucks Serial No. 2001 thru 4293
HD325-6 (non-emission type vehicles) Dump Trucks Serial No. 5001 thru 5546

FAILURE CODE: AJ2099

DESCRIPTION:

1. Introduction

With the HD325-5, HD325-6 dump trucks, due to oil level rise occurring in the air compressor, rubber sealing in the retarder valve may swell up to cause functional failure due to residual pressure. To solve this problem, the air intake method of the air compressor has been changed from non-supercharged method to supercharged method to suppress oil level rise. Therefore, modify the air intake method following the procedures in this Service News.

- * When making the modifications according to this Service News, be sure to replace the head assembly of the air compressor. Also, for the replacement procedures for the head assembly, refer to Service News AT96176.

This Service News (AT96148A) contains important information on the replacement procedures as annexed data (Annexed Data 1, 2 and 3).

2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
6212-81-5350 (6212-81-5311)	Tube		1	Air intake pipe
(6137-81-3410)	Joint		(1)	
(6164-91-6220)	Gasket		(2)	
(6212-81-5320)	Bracket		(1)	
(6127-11-5180)	Washer		(2)	
(01010-31040)	Bolt		(2)	
(01643-31032)	Washer		(2)	
(6211-81-5270)	Bracket		(1)	
(01010-61040)	Bolt		(2)	
(6631-11-5630)	Spacer		(2)	
(07094-00315)	Clamp		(4)	
(07095-00317)	Causion		(2)	
(01010-31265)	Bolt		(2)	
(01580-01210)	Nut		(2)	
(01643-31232)	Washer		(4)	
(07040-12414)	Plug		(1)	
(6164-91-6220)	Gasket		(1)	
6137-81-3140	Joint		2	
6164-91-6220	Gasket		5	
6212-81-5390	Nipple		1	
(566-35-81130)	Nipple		(1)	
(07001-02340)	Gasket		(1)	
6212-82-5320 (566-35-81110)	Tube		1	Discharge pipe
(566-35-82140)	Bracket		(1)	
(6631-11-5630)	Spacer		(1)	
(01011-51080)	Bolt		(1)	
(07283-21529)	Clip		(1)	
(01598-00809)	Nut		(2)	
(01643-30823)	Washer		(2)	

Part No.	Part Name	Purpose of part	Q'ty	Remarks
(566-35-6A280)	Tube		(1)	
6166-91-6160	Joint		1	
6164-91-6220	Gasket		3	
566-35-81141	Bracket		2	
6631-11-5630	Spacer		2	
01011-51080	Bolt		2	
04434-51510	Clamp		2	
01010-81025	Bolt		2	
01580-11008	Nut		2	
01640-21016	Washer		6	
6127-71-5710	Joint		1	
07003-01419	Gasket		3	
6164-71-5140	Joint		1	
6212-62-8520 (6210-81-5220)	Tube		1	
07206-31014	Joint		2	
07005-01412	Gasket		4	
07260-20956 (07260-20938)	Hose		1	
07281-00197	Clamp		2	
(6144-71-5750)	Joint		(1)	
(7700-45-1710)	Bolt		(1)	
(07005-01-12)	Gasket		(3)	
600-41-1531 (600-41-1503)	Corrosion resistor		1	
(6211-61-8740)	Nipple		(2)	
(01010-51040)	Bolt		(2)	
(01580-11008)	Nut		(2)	
(6212-61-8610)	Bracket		(1)	
(01010-31025)	Bolt		(4)	
(6212-81-5360)	Tube		(1)	
(6151-81-3461)	Joint		(1)	
(6050-61-6630)	Cock		(1)	

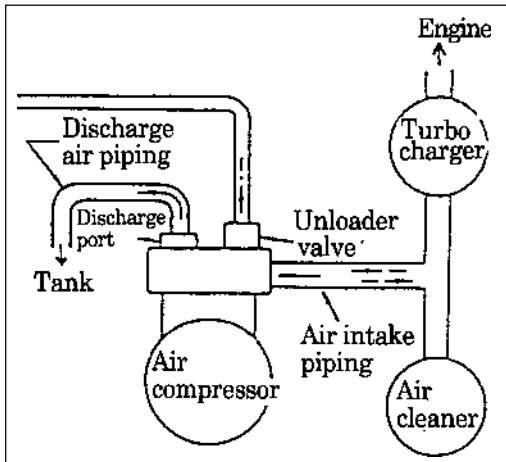
Part No.	Part Name	Purpose of part	Q'ty	Remarks
(07206-31014)	Joint		(2)	
(07005-01412)	Gasket		(6)	
(6212-81-5370)	Tube		(1)	
(07206-31014)	Joint		(3)	
(07005-01412)	Gasket		(6)	
6150-61-8411	Valve		2	
02010-20625	Bolt		4	
566-07-6A940	Bracket		1	
01010-31025	Bolt		4	
01643-31032	Washer		4	
07260-20935	Hose		1	
07281-00197	Clamp		2	
6212-81-5450	Tube		1	
07206-31014	Joint		2	
07005-01412	Washer		4	
04434-51610	Clamp		1	
287-90-12160	Bracket		1	
01010-51020	Bolt		1	
01010-51030	Bolt		1	
01643-31032	Washer		2	
01580-11008	Nut		2	
6212-62-8550	Tube		1	
07206-31014	Joint		2	
07005-01412	Gasket		4	
07260-20956	Hose		1	
07281-00197	Clamp		2	
6162-83-6911	Valve		1	
01010-51060	Bolt		2	
01640-21016	Washer		2	
6210-81-5770	Bracket		1	
01010-50840	Bolt		3	

Part No.	Part Name	Purpose of part	Q'ty	Remarks
6210-81-5710	Tube		1	
6210-81-5720	Tube		1	
6210-81-5730	Tube		1	
07206-31014	Joint		3	
07003-01419	Gasket		6	
04434-51008	Clip		1	
01010-50820	Bolt		1	
01643-30823	Washer		1	
01580-00806	Nut		1	
07260-20945	Hose		1	
07285-00155	Clamp		1	
6130-22-5290	Clip		1	
6131-12-5920	Spacer		1	
01010-51045	Bolt		1	
01643-31032	Washer		1	

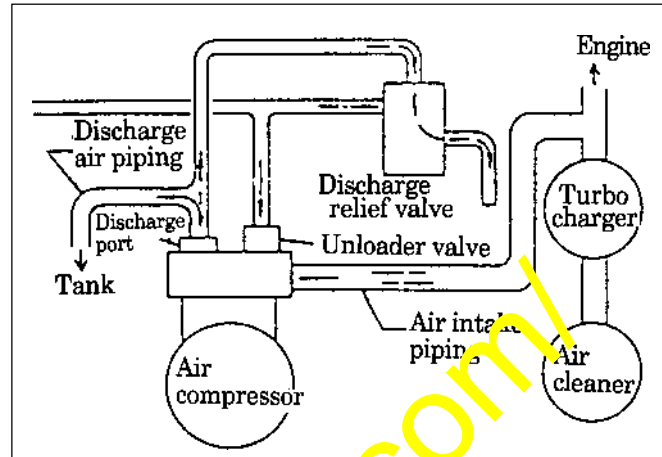
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3. Contents of the modification

(Current structure)



(Improved structure)



Air intake is being made between the air cleaner and the turbocharger.

Air intake point has been shifted to a position after supercharging by turbocharger.

In case of non-supercharged air intake, the load of the air intake processes of the air compressor increases to raise the oil level. Moreover, if braking is made frequently, the air compressor starts in the loaded state and the (level raised) oil enters into the tank to damage rubber parts. The supercharged air intake method therefore has been employed to solve this problem.

4. Modification procedures

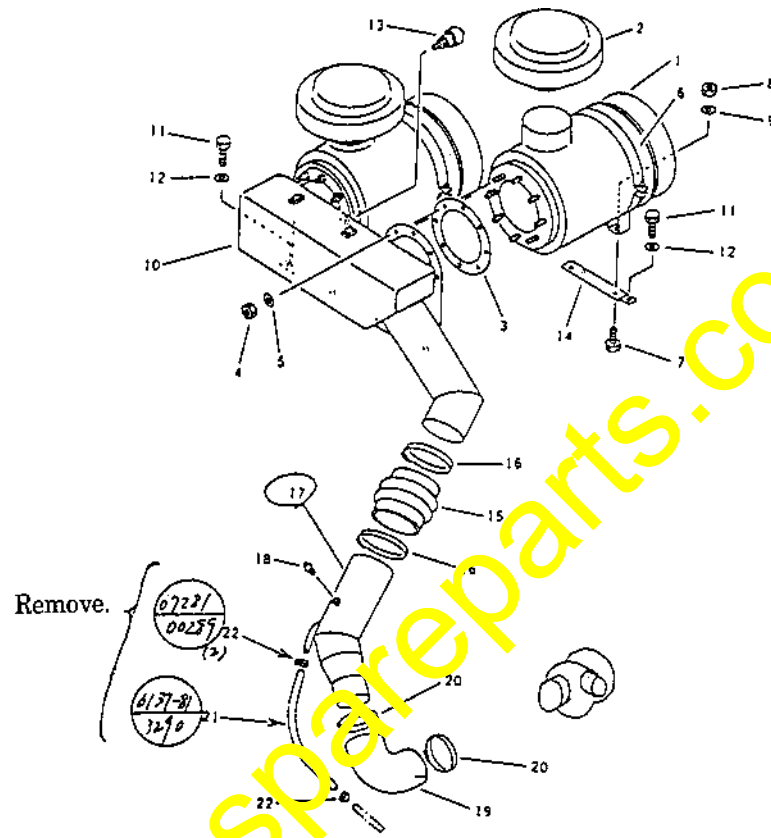
(1) Preparation

- (A) Open the drain cock of the air tank to discharge air totally.
- (B) Drain engine cooling water through the drain cock of the radiator.

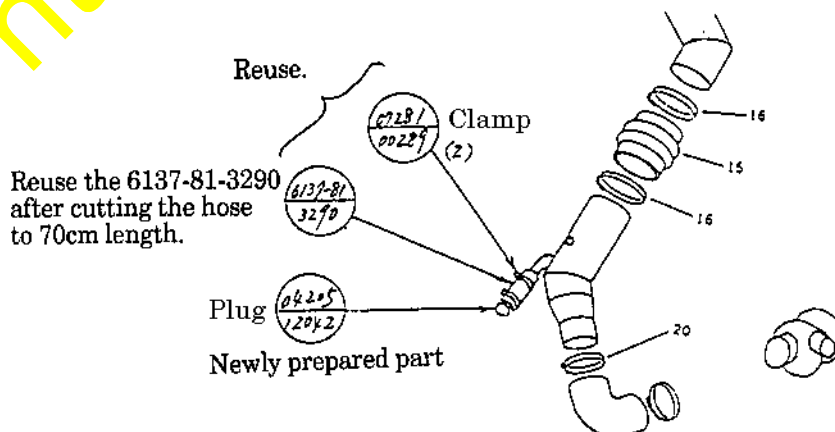
(2) Modification procedures

(A) Closing the hose circuit connecting the air cleaner and turbocharger (with the HD325-5, HD325-6)

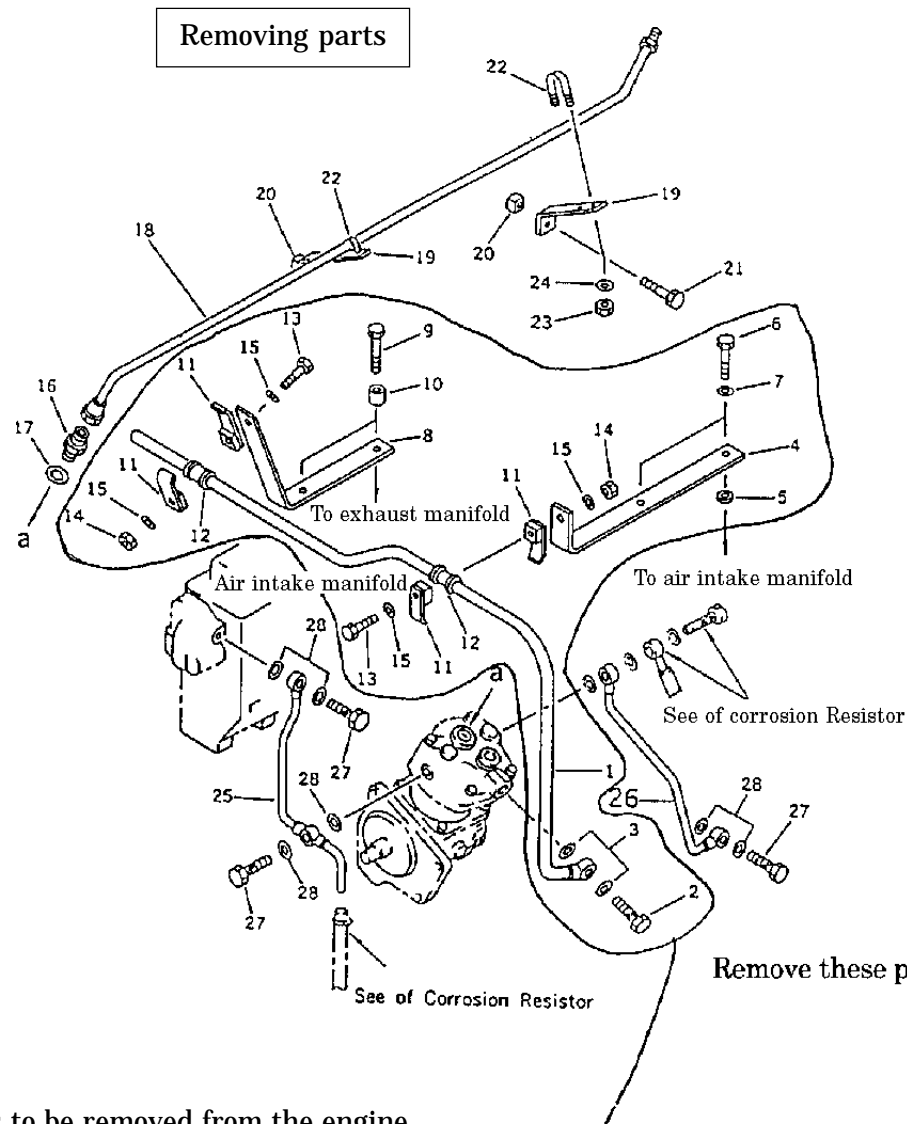
(Close the supply side for non-supercharged air intake circuit.)



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(B) Replacing the air intake pipe of the air compressor



Parts to be removed from the engine

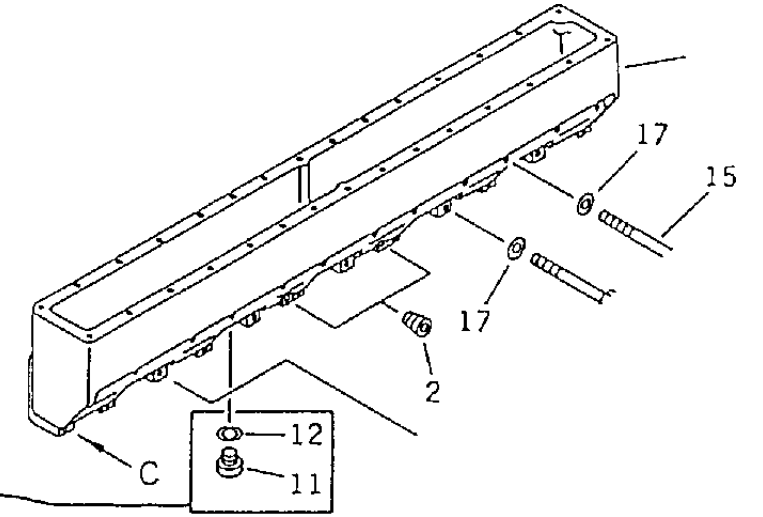
Removing the air intake pipe of the air compressor			
Part name	Part No.	Q'ty	Reused parts
Tube	1	6212-81-5311	1
Joint	2	6137-81-3140	1
Gasket	3	6164-91-6220	2
Bracket	4	6212-81-5320	1
Washer	5	6127-11-5180	2
Bolt	6	01010-31040	2
Washer	7	01643-31032	2
Bracket	8	6211-81-5270	1
Bolt	9	01010-61040	2
Spacer	10	6631-11-5630	2
Clamp	11	07094-00315	4
Cushion	12	07095-00317	2
Bolt	13	01010-31265	2
Nut	14	01580-01210	2
Washer	15	01643-31232	4

↑ Part codes being used in the schematic diagram

Removing parts

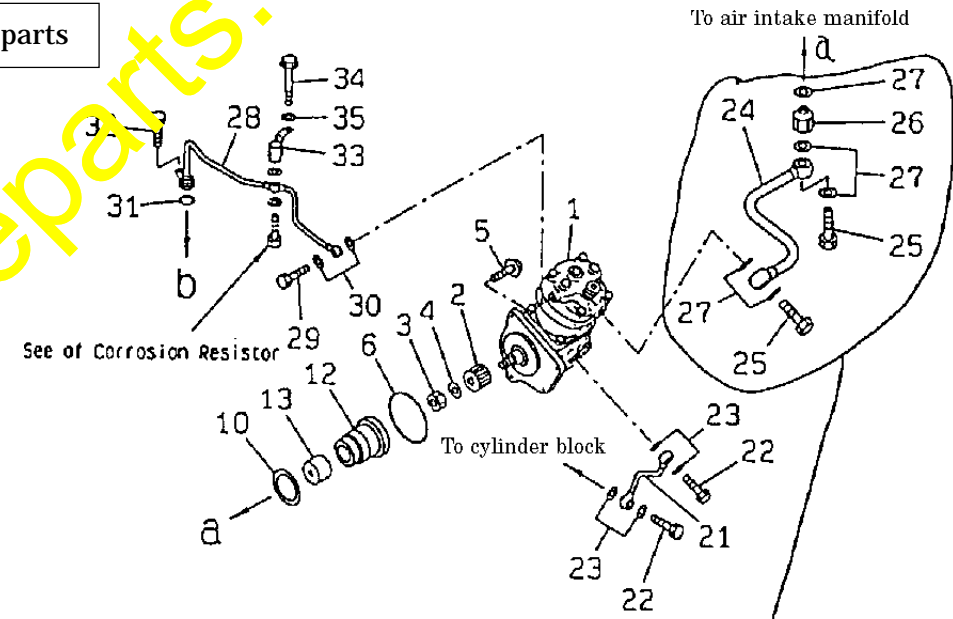
Removing the air intake manifold plug			
Part name	Part No.	Q'ty	Reused parts
Plug	11	07040-12414	1
Gasket	12	6164-91-6220	1

↑ Part codes being used in the schematic diagram



Removing parts ↑ a

Installing parts



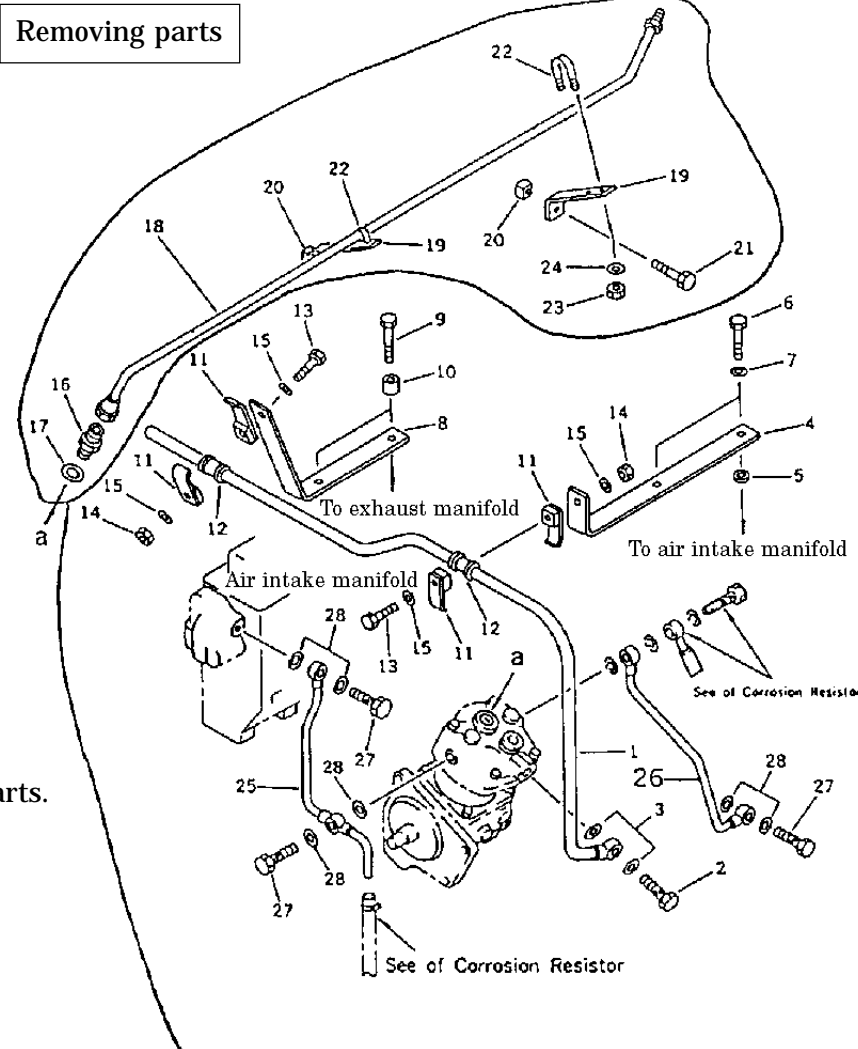
New parts

Installing the air intake pipe of the air compressor			
Part name	Part No.	Q'ty	Newly prepared q'ty
Tube	24	6212-81-5350	1
Joint	25	6137-81-3140	2
Gasket	27	6164-91-6220	5
Nipple	26	6212-81-5390	1

↑ Part codes being used in the schematic diagram

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(C) Replacing the discharge pipe of the air compressor



Remove these parts.

(a) With HD325-5 and HD325-6 of the Kainan Tekko specification vehicles

Parts to be removed from the engine

Removing the air discharge pipe of the air compressor				
Part name	Part No.	Q'ty	Reused parts	
Nipple	16	566-35-81130	1	
Gasket	17	07004-02840	1	
Tube	18	566-35-81110	1	
Bracket	19	566-35-82140	1	
Spacer	20	6631-11-5630	1	○
Bolt	21	01011-51080	1	○
Clip	22	07283-21529	1	
Nut	23	01598-00809	2	
Washer	24	01643-30823	2	

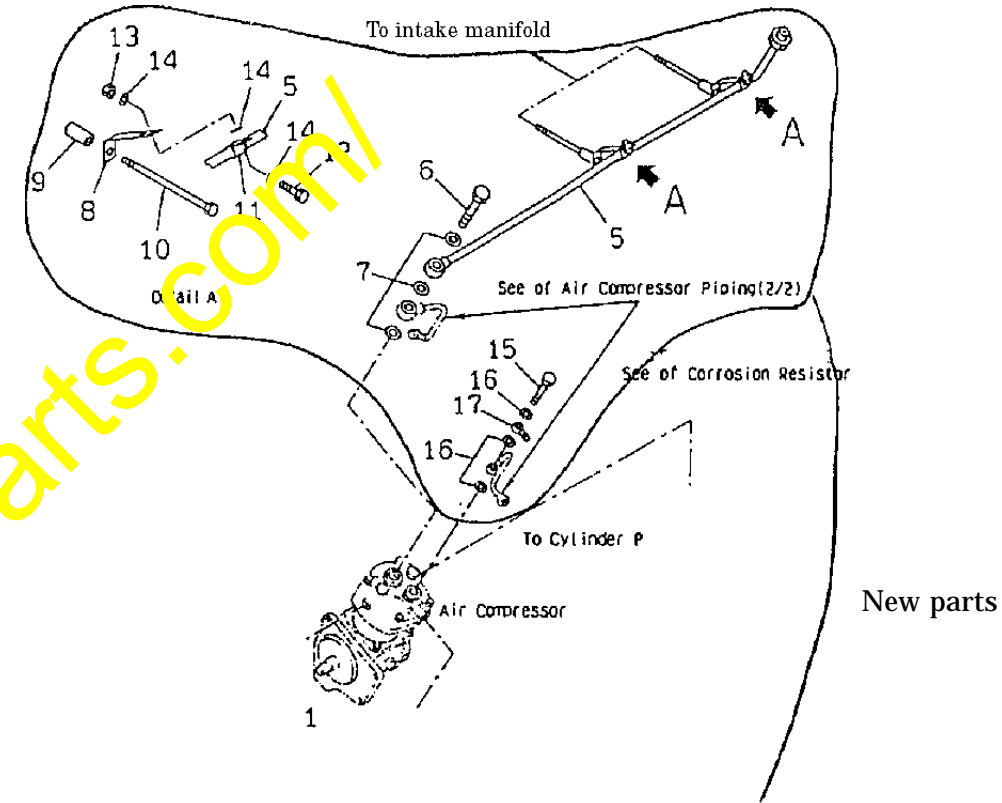
Reuse the spacer and bolt.

↑ Part codes being used in the schematic diagram



Installing parts

Implement the procedures for installation of the discharge relief valve being outlined on page 12 at the same time.



New parts

(b) With HD325-6 of the standard specification vehicles

Parts to be removed from the engine

Removing the air discharge pipe of the air compressor				
Part name	Part No.	Q'ty	Reused parts	
Nipple	16	566-35-81130	1	
Gasket	17	07004-02840	1	
Tube	18	566-35-6A280	1	
Clip	22	07283-21529	1	
Nut	23	01598-00809	2	
Washer	24	01643-30823	2	

↑ Part codes being used in the schematic diagram

(c) With HD325-5 and HD325-6 of the Kainan Tekko specification vehicles

New parts

Installing the air discharge pipe of the air compressor					
Part name	Part No.	Q'ty	Newly prepared q'ty		
Tube	5	6212-81-5320	1	1	
Joint	6	6166-91-6160	1	1	
Gasket	7	6164-91-6220	3	3	
Bracket	8	566-35-81141	2	2	
Spacer	9	6631-11-5630	2	1	
Bolt	10	01011-51080	2	1	
Clamp	11	04434-51510	2	2	
Bolt	12	01010-81025	2	2	
Nut	13	01580-11008	2	2	
Washer	14	01640-21016	6	6	
Joint	15	6127-71-5710	1	1	
Gasket	16	07003-01419	3	3	
Joint	17	6164-71-5140	1	1	

↑ Part codes being used in the schematic diagram

(d) With HD325-6 of the standard specification vehicles

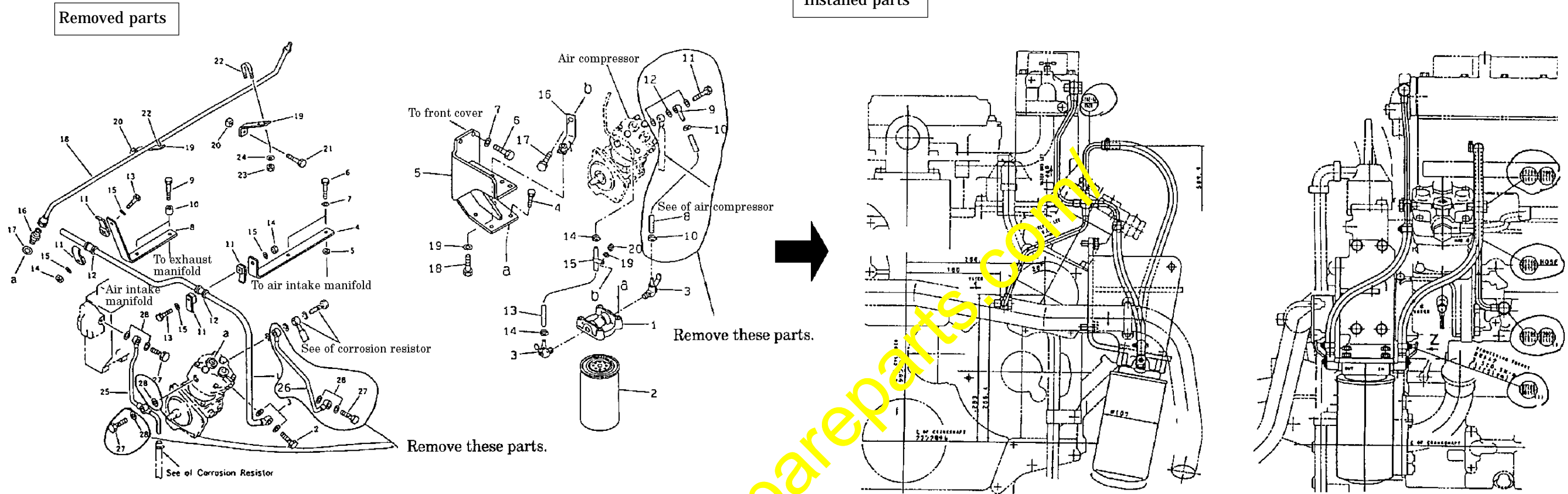
New parts

Installing the air discharge pipe of the air compressor					
Part name	Part No.	Q'ty	Newly prepared q'ty		
Tube	5	6212-82-5320	1	1	
Joint	6	6166-91-6160	1	1	
Gasket	7	6164-91-6220	3	3	
Clamp	11	04434-51510	2	2	
Bolt	12	01010-81025	2	2	
Nut	13	01580-11008	2	2	
Washer	14	01640-21016	6	6	
Joint	15	6127-71-5710	1	1	
Gasket	16	07003-01419	3	3	
Joint	17	6164-71-5140	1	1	

↑ Part codes being used in the schematic diagram

(D) Replacing the cooling water pipe of the air compressor

① With the HD325-6



Parts to be removed from the engine

Remove the cooling water pipe of the air compressor

Part name	Part No.	Q'ty	Reused parts
Tube	26	6210-81-5220	1
Joint	27	07206-31014	2 ○
Gasket	28	07005-01412	4
Hose	8	07260-20938	1
Clamp	10	07281-00197	2 ○
Joint	9	6144-71-5750	1
Bolt	11	7700-45-1710	1
Gasket	12	07005-01412	3

↑
Part codes used in the schematic diagram

Parts marked "○" are new parts.

New parts

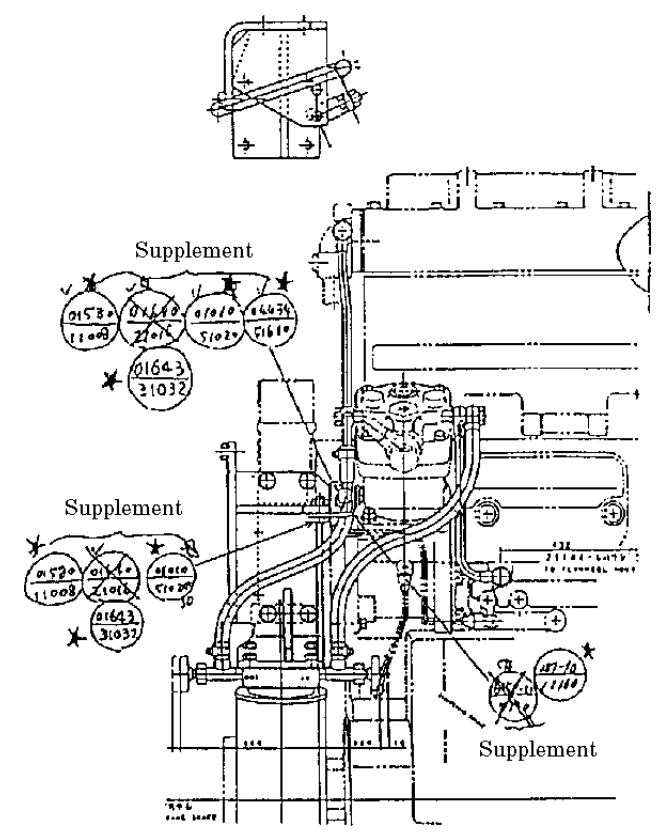
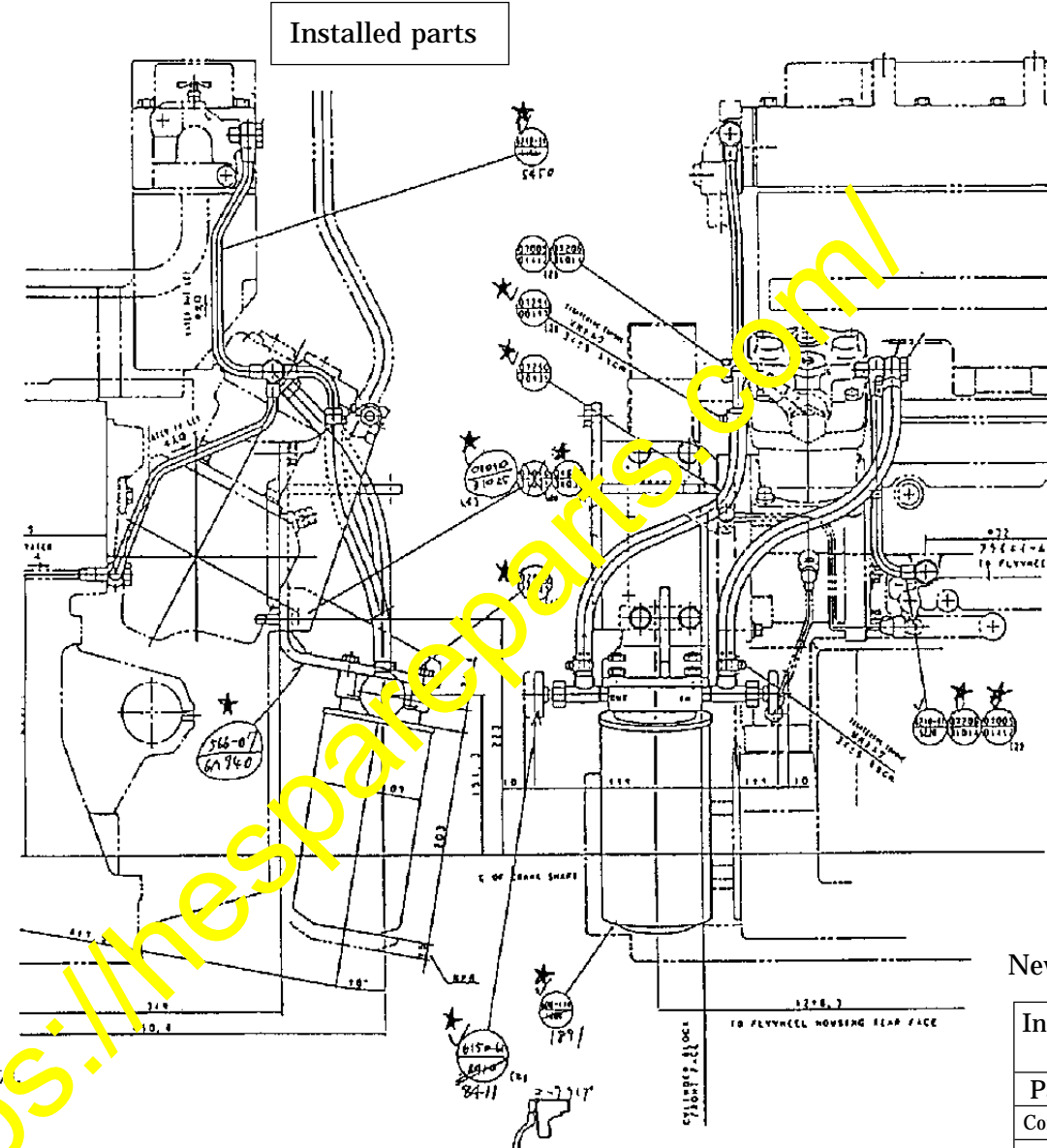
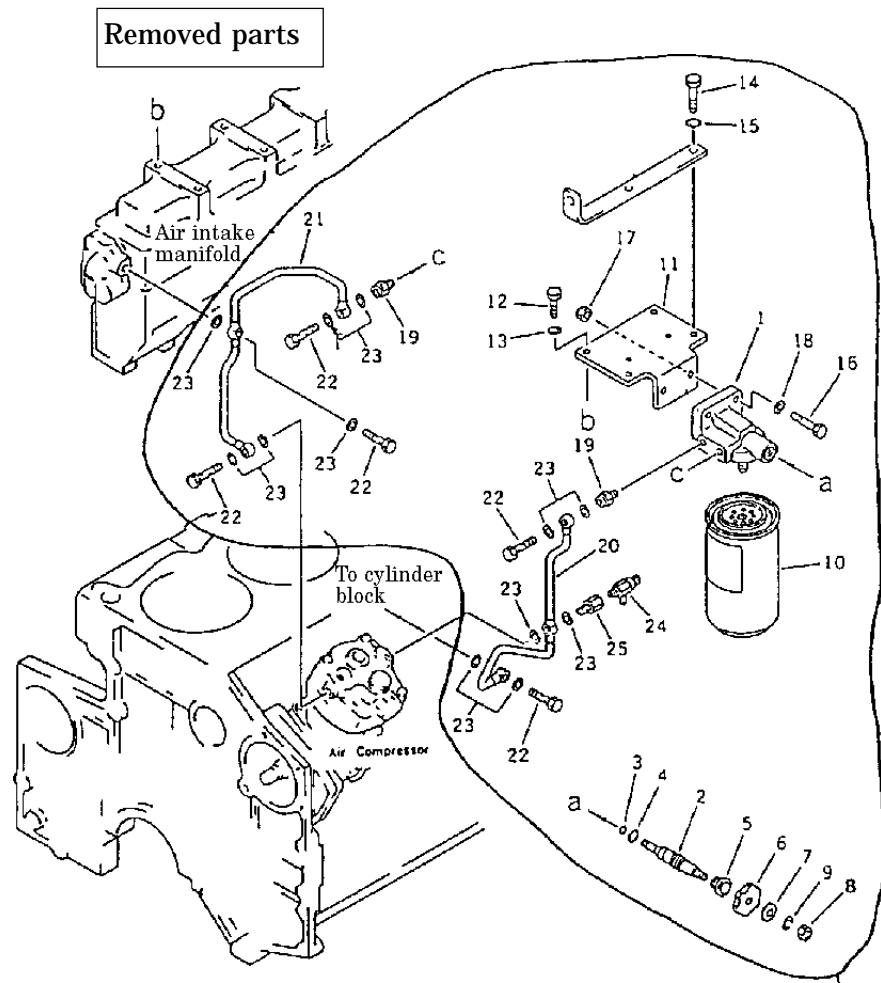
Installing the cooling water pipe of the air compressor

Part name	Part No.	Q'ty	Newly prepared q'ty
Tube	6212-62-8520	1	1
Joint	07206-31014	2	0
Gasket	07005-01412	4	4
Hose	07260-20956	1	1
Clamp	07281-00197	2	0

②With the HD325-5

When the corrosion resistor is being installed to the air intake manifold (the cover of the after cooler), move it to install beside the front cover to avoid interference with the air discharge pipe of the air compressor.

To prevent interference with the bracket of the outlet hose of the corrosion resistor, bring out the stay and install the clamp on it before fastening the outlet hose.



Parts marked "*" are newly installed parts.

Parts to be removed from the engine

Removing the corrosion resistor			
Part name	Part No.	Q'ty	Reused parts
Corrosion resistor	1~10 600-411-1503	1	
Nipple	19 6211-61-8740	2	
Bolt	16 01010-51040	2	
Nut	17 01580-11008	2	
Bracket	11 6212-61-8610	1	
Bolt	12 01010-31025	4	
Tube	20 6212-81-5360	1	
Joint	24 6151-81-3461	1	
Cock	25 6050-61-6630	1	
Joint	22 07206-31014	2	○
Gasket	23 07005-01412	6	
Tube	21 6212-81-5370	1	
Joint	22 07206-31014	1	
Joint	22 07206-31014	2	○
Gasket	23 07005-01412	6	

Remove these part

Reuse parts marked "○".

↑
Part codes being used in the schematic diagram

Installing the cooling water pipe of the air compressor

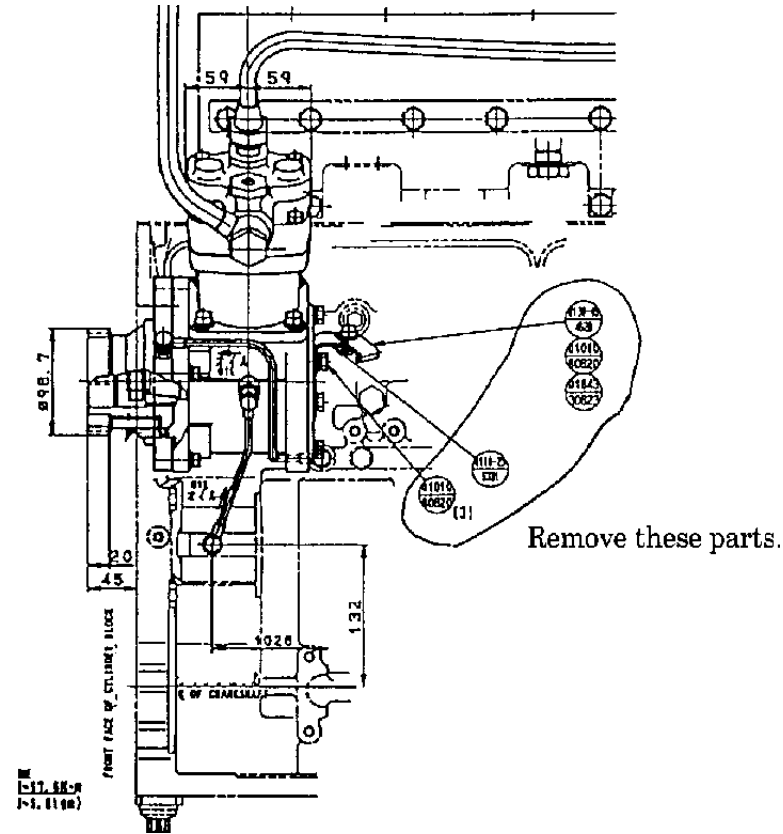
Part name	Part No.	Q'ty	Newly prepared q'ty
Tube	6212-62-8520	1	1
Joint	07206-31014	2	0
Gasket	07005-01412	4	4
Hose	07260-20956	1	1
Clamp	07281-00197	2	2

New parts

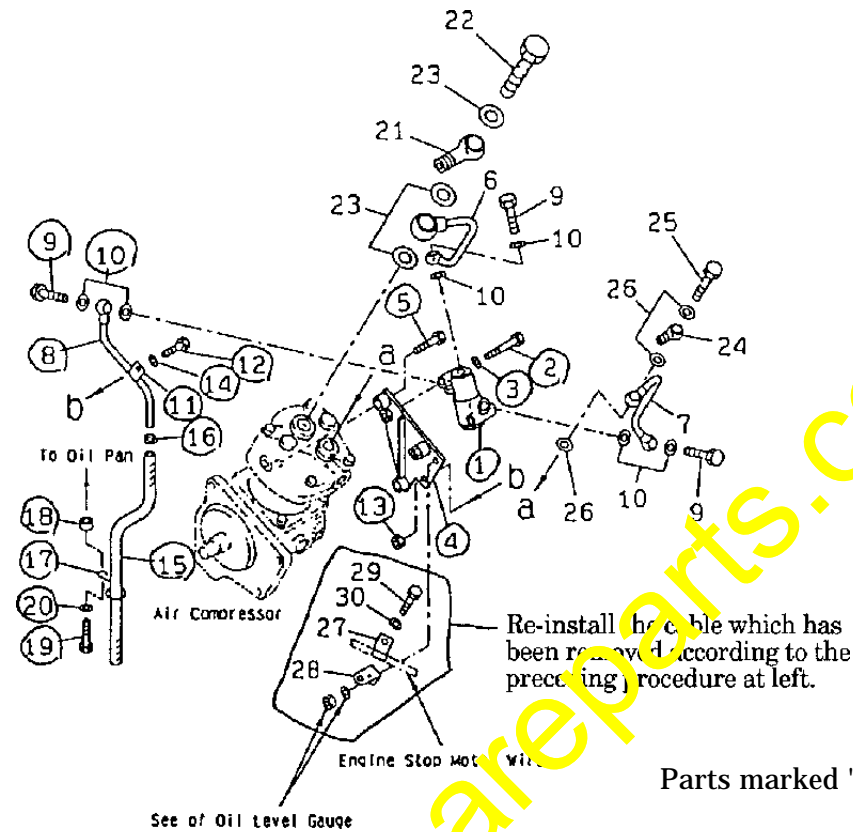
Installing the corrosion resistor			
Part name	Part No.	Q'ty	Newly prepared q'ty
Corrosion resistor	600-411-1881	1	1
Valve	6150-61-8411	2	2
Bolt	02010-20625	4	4
Bracket	566-07-6A940	1	1
Bolt	01010-31025	4	4
Washer	01643-31032	4	4
Hose	07260-20935	1	1
Clamp	07281-00197	2	2
Tube	6212-81-5450	1	1
Joint	07206-31014	2	0
Washer	07005-01412	4	4
Clamp	04434-51610	1	1
Bracket	287-90-12160	1	1
Bolt	01010-51020	1	1
Bolt	01010-51030	1	1
Washer	01643-31032	2	2
Nut	01580-11008	2	2

(E) Removing and re-installing the stop cable of the fuel injection pump and installing the discharge relief valve

Removing the stop cable



Installing the discharge relief valve



5. Inspections after completing the modification
 - (1) Refill the engine cooling water.
 - (2) Start the engine to check that the cooling water and hydraulic oil are not leaking.
 - (3) See if the pneumatic pressure reaches the specified level ($8.3 \pm 0.3\text{kg/cm}^2$).

Parts to be removed from the engine

Removing the stop cable clamp			
Part name	Part No.	Q'ty	Reused parts
Bracket	6110-23-5331	1	○
Bolt	01010-80820	3	○
Washer	01643-30823	1	○
Clip	6130-85-4520	1	○
Bolt	01010-80820	1	○
Nut	01580-10806	1	○

Installing the discharge relief valve				
Part name	Part No.	Q'ty	Newly prepared q'ty	
Valve	1	6162-83-6911	1	1
Bolt	2	01010-51060	2	2
Washer	3	01640-21016	2	2
Bracket	4	6210-81-5770	1	1
Bolt	5	01010-50840	3	3
Tube	6	6210-81-5710	1	1
Tube	7	6210-81-5720	1	1
Tube	8	6210-81-5730	1	1
Joint	9	07206-31014	3	3
Gasket	10	07003-01419	6	6
Clip	11	04434-51008	1	1
Bolt	12	01010-50820	1	1
Washer	14	01643-30823	1	1
Nut	13	01580-00806	1	1
Hose	15	07260-20945	1	1
Clamp	16	07285-00155	1	1
Clip	17	6130-22-5290	1	1
Spacer	18	6131-12-5920	1	1
Bolt	19	01010-51045	1	1
Washer	20	01643-31032	1	1

↑
Part codes being used in the schematic diagram

Annexed Data 1

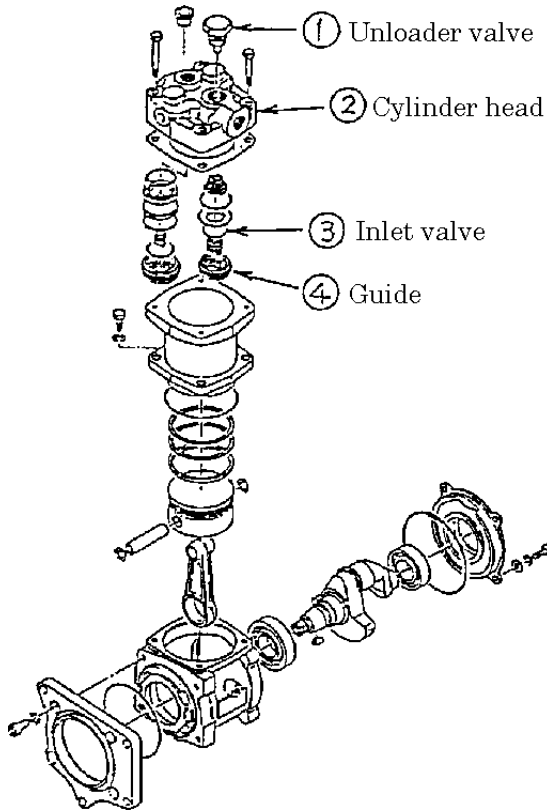
2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
6210-81-3113 (6210-81-3112)	Air Compressor (Air Compressor)	} Replacement	1 (1)	
DK487018-5222 (DK487018-5221)	Head Ass'y (Head Ass'y)		1 (1)	
DK487018-5321 (DK487018-5320)	Head (Head)		1 (1)	
DK487026-2800 (DK487026-1601)	Valve (Valve)		1 (1)	
DK487028-2700 (DK487028-1700)	Guide (Guide)		1 (1)	

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Annexed Data 2

3. Contents of the modification



The material and the wall thickness of the inlet valve being coded ③ in Fig. 1 have been changed to increase the durability of the valve.

- Material: 15N2C (Swedish steel) ⇒ SUS420J2 + Mo
- Wall thickness: 1.2 mm ⇒ 1.5 mm

Fig. 1

4. Modification procedures

Note: Check the part number of the air compressor before starting this modification work. In case the part number is 6210-81-3113, this modification has already been made with the air compressor and this modification, consequently, is not necessary.

4-1. Preparation

- (1) Open the drain cock of the air tank to discharge air totally.
- (2) Drain the engine cooling water through the drain cock of the radiator down to a level where the engine side runs out of cooling water.
- (3) Prepare consumable parts that need to be replaced when making this modification.
 - 6164-91-6220 Gasket 5 units
 - 07003-01419 Gasket 2 units
 - 07005-01412 Gasket 4 units
 - DK487020-2200 Head gasket 1 unit

Annexed Data 3

4-2. Replacement procedures

- (1) Disconnect the water piping and air piping from the air compressor.
- (2) Replace the head assembly (DK487018-5222) with the improved head assembly. Meanwhile, if the unloader valve ① according to the above Fig. 1 is found normal, replace the “head sub-assembly” (DK487018-5321) only.

Head mounting bolt tightening torque: $49.0 \pm 5.0\text{Nm}$ ($5.0 \pm 0.5\text{kgm}$)

4-3. Inspections after finishing the modification work

- (1) Start the engine and check if cooling water leakage or oil leakage is occurring anywhere.
- (2) Make sure the air tank pressure rises to the specified level.

(Note) Although replacing the inlet valve ③ and the guide ④ will work, we recommend that you replace the head assembly since the guide cannot be removed unless you use a special jig.

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