

**PARTS & SERVICE  
NEWS**

REF NO.	AT03166
DATE	Sep. 12, 2003

**(C)**

Page 1 of 5

**SUBJECT:** REPAIR PROCEDURE OF FRONT AXLE SPEED SENSOR ON HM350-1, HM400-1

**PURPOSE:** To introduce modification procedure to repair the front differential input shaft revolution sensor on HM350-1 and HM400-1 articulated dump trucks

**APPLICATION:** HM350-1 Articulated dump truckes, Serial Nos. 1001 thru 1044  
HM400-1 Articulated dump truckes, Serial Nos. 1001 thru 1034

**FAILURE CODE:** DL10MV

**DESCRIPTION:**

## 1. Introduction

On the HM350-1 and HM400-1 articulated dump trucks, since the front differential input shaft revolution sensor may interfere with the pulse counter gear and the tip end of the sensor may be ground off, replace the sensor following the modification procedure being outlined in this Service News.

## 2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
7861-93-2330 (7861-93-2210)	Sensor (Sensor)	} Replacement	1 (1)	Reuse the flange only of the current sensor.
07000-13045 (07000-13045)	O-ring (O-ring)		1 (1)	Consumable parts

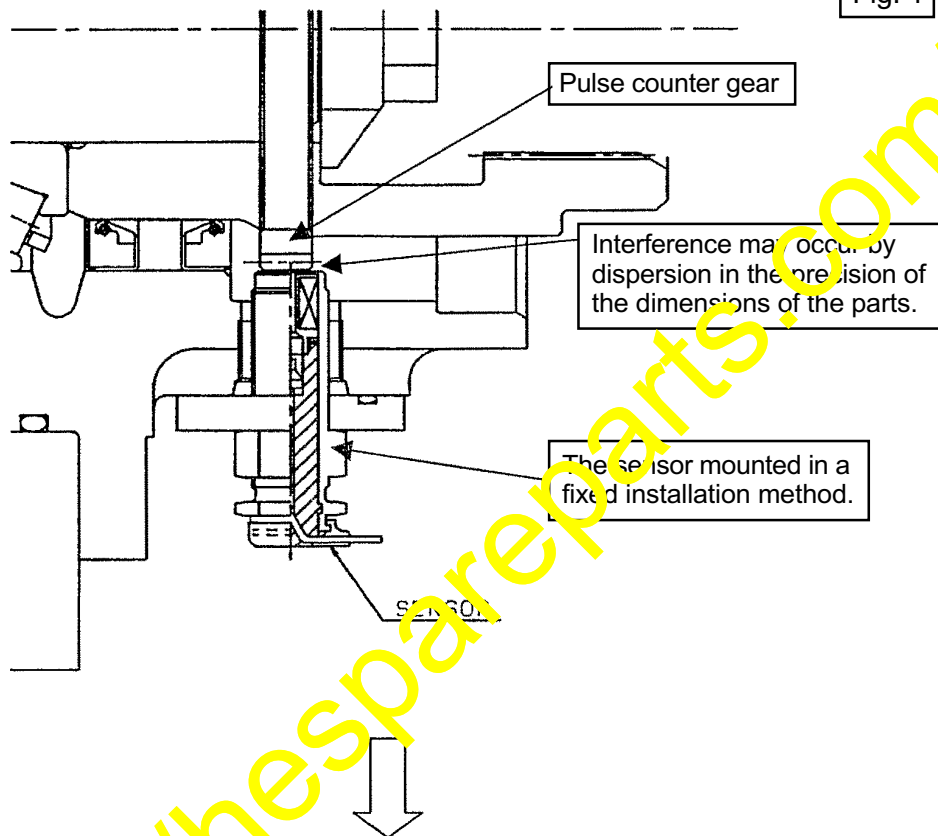
3. Details of the modification

Since the current sensor mounting method was a fixed installation method, interference may occur between the tip end of the sensor and the pulse counter gear by dispersion in the precision of the dimensions of the parts and the tip end of the sensor may be ground off when the aforementioned interference occurs.

For improvement, the sensor mounting method has been changed to an adjustable installation structure so that the clearance may be adjusted to a certain distance.

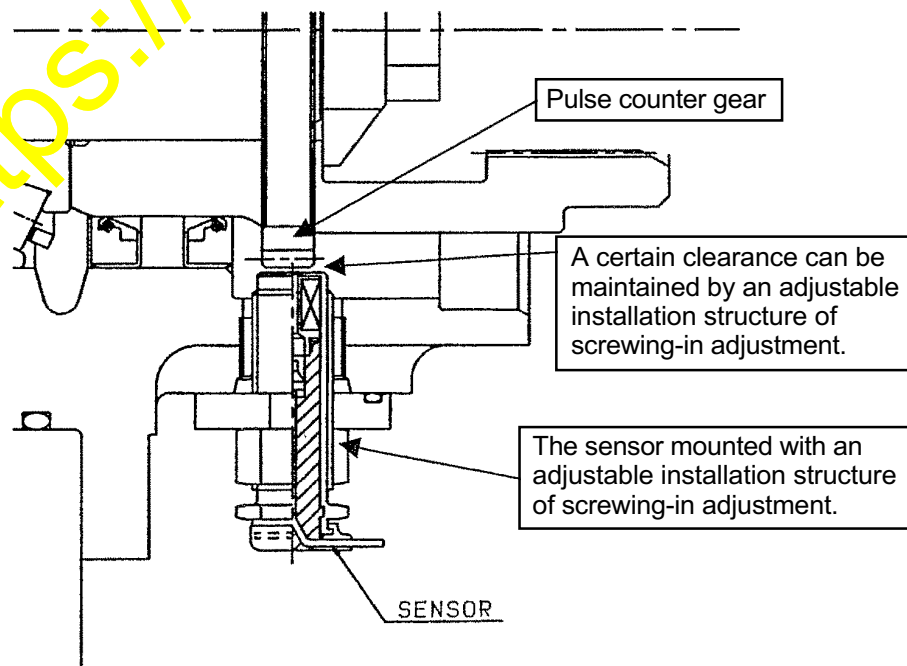
<Current structure>

Fig. 1

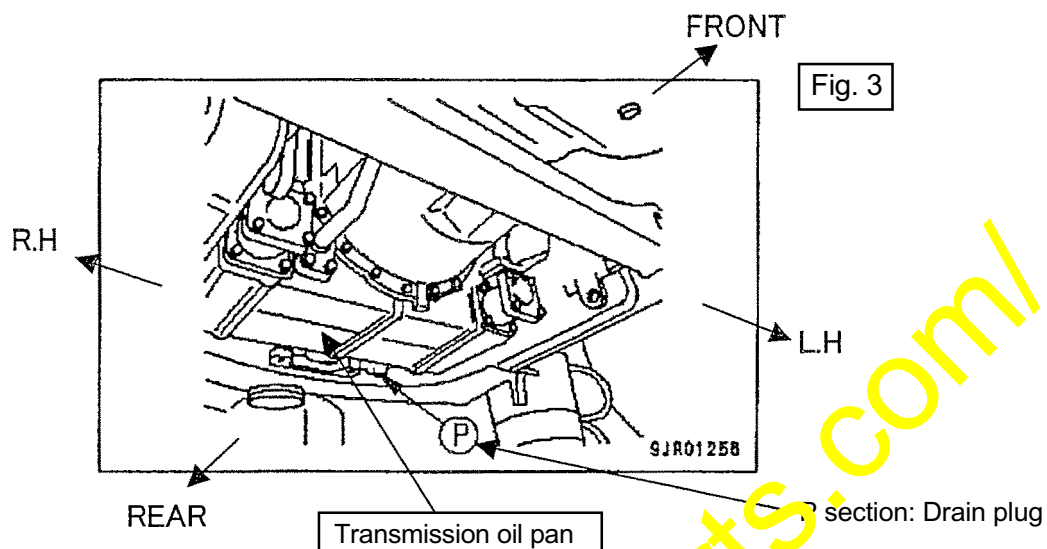


<Improved structure>

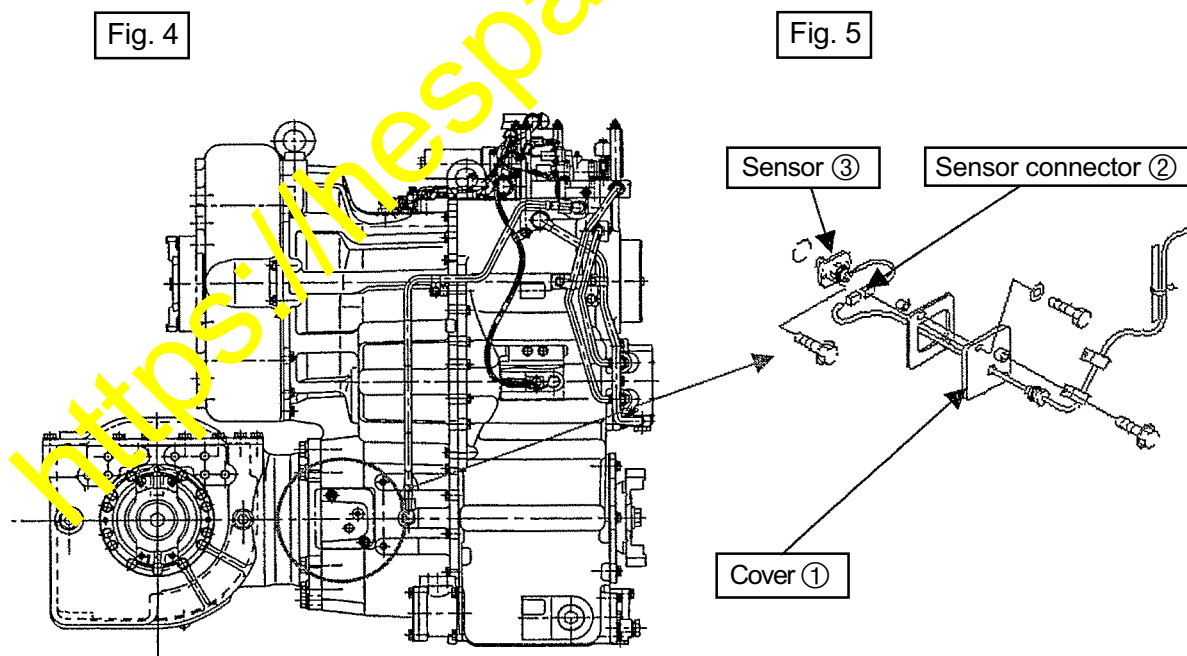
Fig. 2



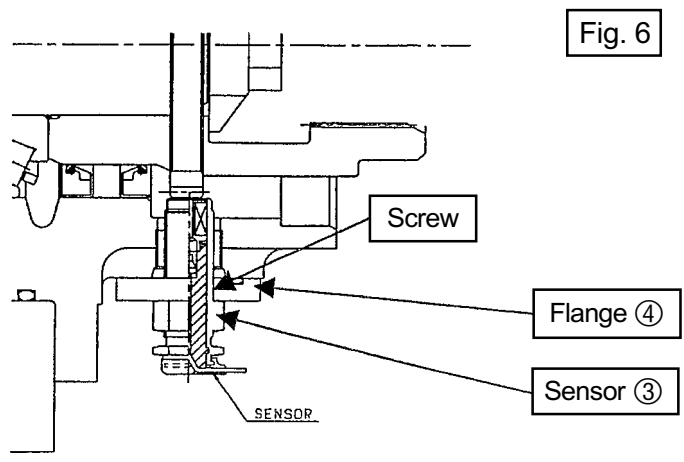
4. Preparations before starting the modification work
  - 1) Park the vehicle on a flat place and apply chocks to the tires.
  - 2) Wash around the lower section of the transmission ass'y.
  - 3) Drain the transmission oil. (About 80ℓ) (Refer to Fig. 3.)



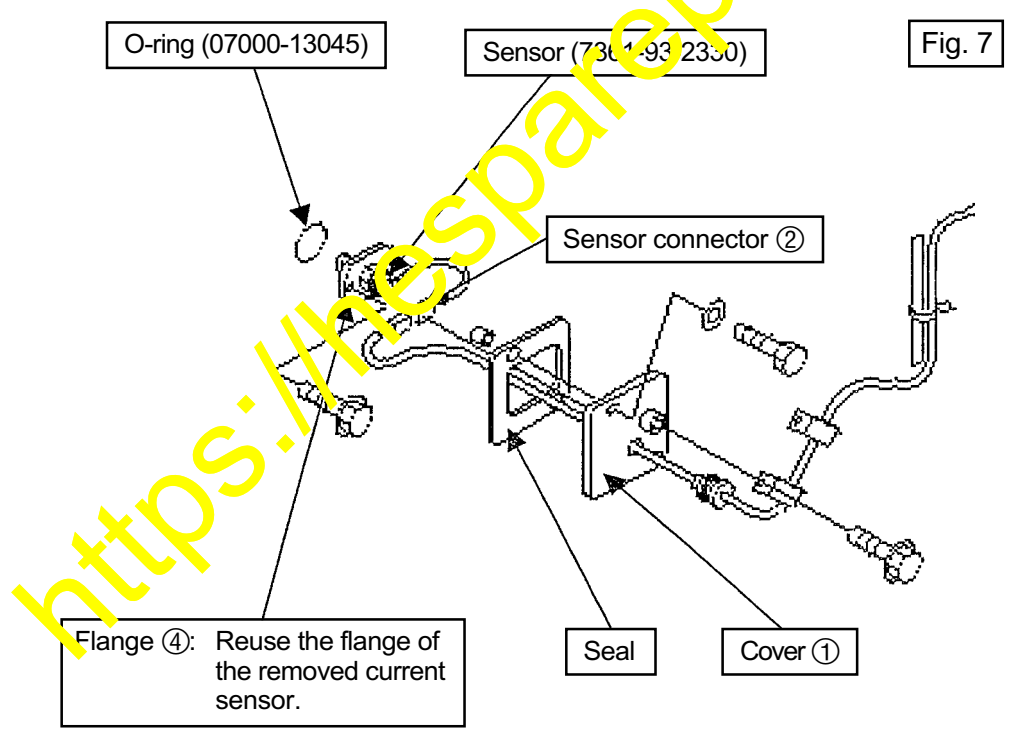
5. Modification procedure
  - 1) Remove the cover ① of the sensor. (Refer to Fig. 4 and 5.)
  - 2) Disconnect the sensor connector ②. (Refer to Fig. 5.)
  - 3) Remove the sensor ③. (Refer to Fig. 5.)



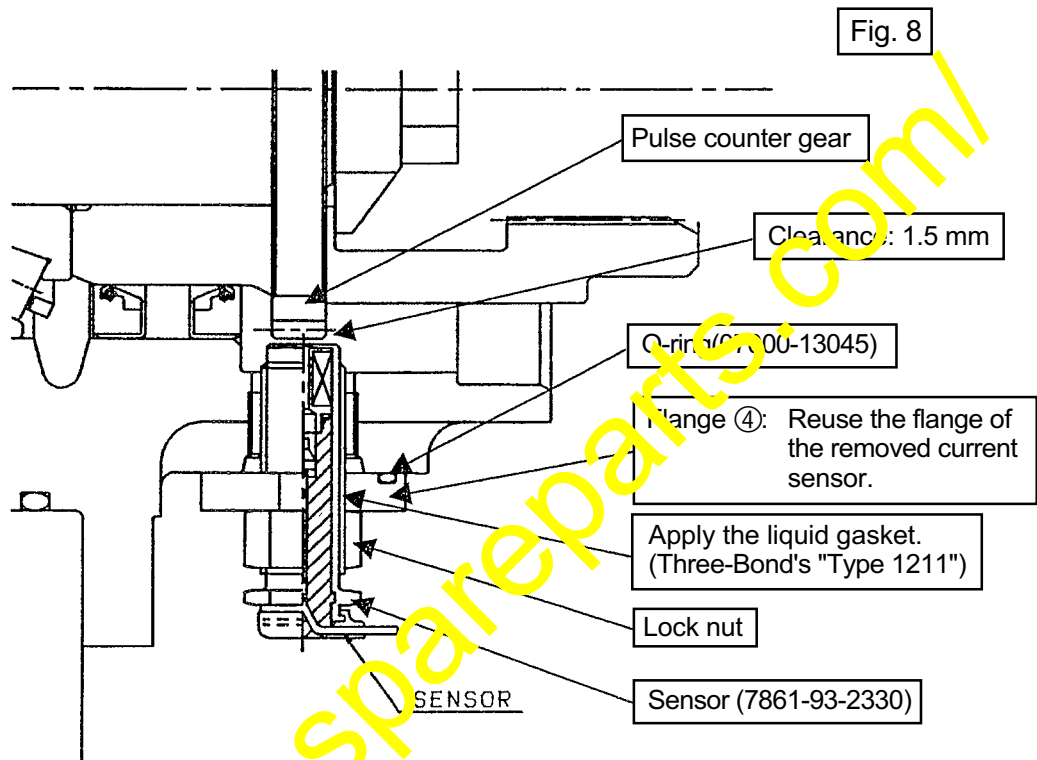
- 4) Since the flange ④ of the removed sensor ③ is being reused, remove the flange from the sensor. (Refer to Fig. 6.)



- 5) Install the O-ring (07000-13045) to the removed flange ④. (Refer to Fig. 7.)
- 6) Install the removed flange ④ to the transmission case. (Refer to Fig. 7.)



- 7) After applying liquid gasket over the thread section of the sensor (7861-93-2330), screw it in into the flange ④ until it comes in contact with the pulse counter gear. (Refer to Fig. 8.) (Liquid gasket: Three-Bond's "Type 1211")
- 8) After the sensor has come in contact with the pulse counter gear, screw it back by 1/2 turn to 1 turn and, after that, fix it to the position by use of the lock nut for the sensor body. At this status, the clearance between the pulse counter gear and the tip end of the sensor will be adjusted to 0.7 to 1.5 mm. (Refer to Fig. 8.)



- 9) Reconnect the sensor connector ②. (Refer to Fig. 7.)
- 10) Install the cover ①. (Refer to Fig. 7.)
- 11) Charge the transmission oil.  
Adjust the oil quantity as per the instructions given in the Operation and Maintenance Manual.