

PARTS & SERVICE NEWS

REF NO.	AT03217
DATE	Nov. 14, 2003
(C) Page 1 of 16	

SUBJECT: OVER SIZE PLATE OF TRANSMISSION

PURPOSE: To introduce the over size plate to use when overhauling the transmission ass'y

APPLICATION:

HD325-6	Dump Trucks, Serial Nos.	} ALL MACHINE MODELS
HD465-5	Dump Trucks, Serial Nos.	
HD465-7	Dump Trucks, Serial Nos.	
HD605-5	Dump Trucks, Serial Nos.	
HD605-7	Dump Trucks, Serial Nos.	
HD785-3	Dump Trucks, Serial Nos.	
HD785-5	Dump Trucks, Serial Nos.	
HD985-5	Dump Trucks, Serial Nos.	
530M	Dump Trucks, Serial Nos.	
HD1500-5	Dump Trucks, Serial Nos.	

FAILURE CODE: 1500CA

DESCRIPTION:

1. Introduction

When overhauling the transmission ass'y on the HD325-6, HD405-6, HD465-5/-7, HD605-5/-7, HD785-3/-5, HD985-5, 530M and HD1500-5 dump trucks, stepped-typed wear may be occurring on the wave spring sliding surfaces of the piston and drum for the rotation clutch of the transmission and in case the wear depth is 0.5 mm or more, it was necessary to replace the piston and the drum.

This time, by use of the over size plate, it has become possible to reuse the aforementioned piston and drum with the wear depth of 0.5 mm or more after carrying out the necessary reworking and this Service News will introduce the necessary parts, machining procedure and reassembly procedure.

However, the piston and drum with the wear depth an exceeding 1 mm cannot be reused as above and it is necessary to replace these piston and drum.

2. List of parts

Part No.	Part Name	Q'ty	Remarks	
<HD325-6 · HD405-6 · HD465-5 · HD605-5>				
569-15-52990 (569-15-32741)	Plate (Plate)	2 (2)	1 plate each for the LOW clutch and 4th clutch Identification mark "OV" is indicated on the new parts.	
<HD465-7, HD605-7>				
569-15-52990 (569-15-32741)	Plate (Plate)	2 (2)		
569-15-52860	(Plate)	(2)		
<HD785-3/-5>				
561-15-52990 (561-15-52960)	Plate (Plate)	2 (2)		
<HD985-3/-5>				
561-15-52990 (561-15-52961)	Plate (Plate)	2 (2)		
<HD1500-5>				
562-15-22950 (562-15-22810)	Plate (Plate)	1 (1)	For the 3rd clutch Identification mark "OV" is indicated on the new parts.	
562-15-22990 (562-15-22850)	Plate (Plate)	1 (1)	For the HIGH clutch Identification mark "OV" is indicated on the new parts.	

3. Details of the modification

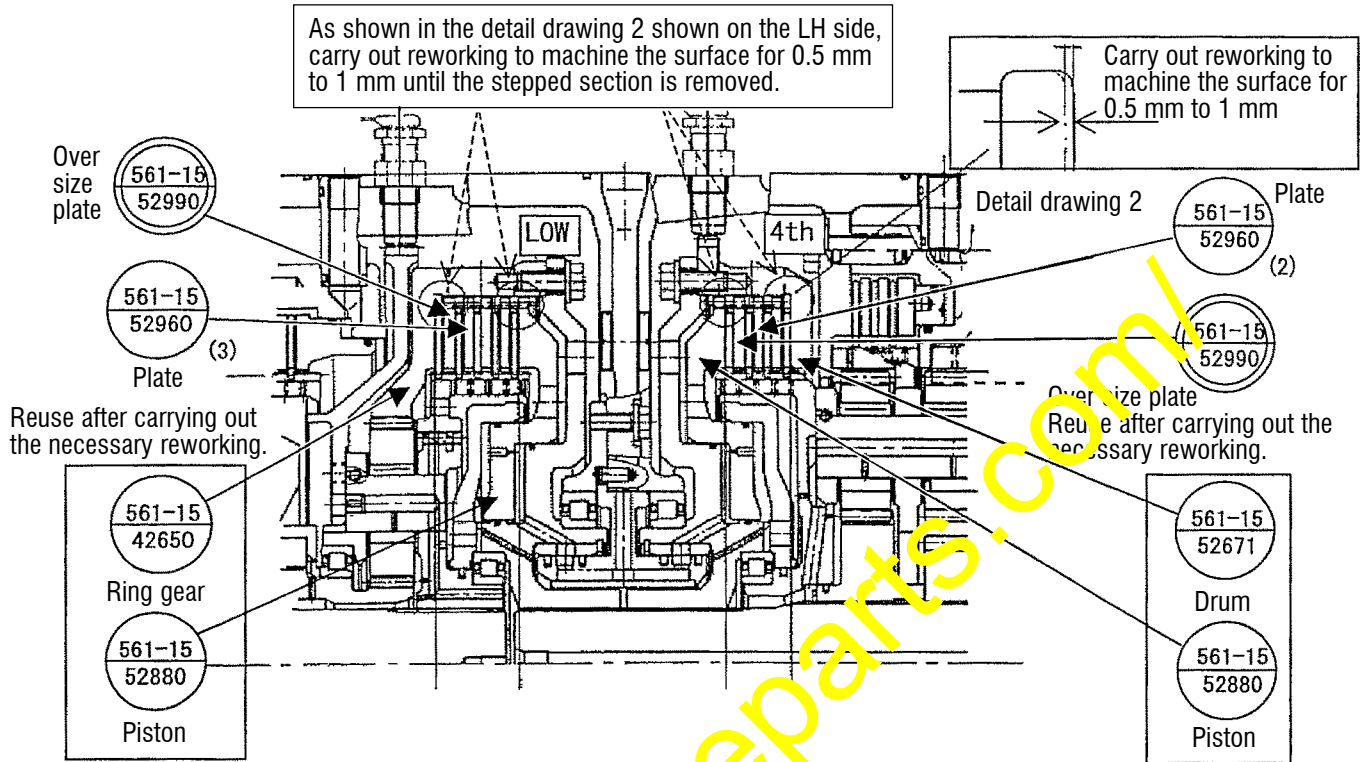
Upto now, when the wave spring sliding surfaces of the ring gear, piston and drum for the rotation clutches of the transmission are worn by 0.5 mm or more, it was necessary to replace these parts.

Even when the sliding surfaces of the piston, ring gear and drum for the clutches are worn by more than 0.5 mm, as seen in Fig. 1 shown below (In case of the HD785-3/-5, LOW clutch), it has become possible to reuse these parts by installing only 1 pc. of the spare plate with a thickness of 1 mm thicker than the standard thickness (over size plate) which have been developed this time.

Note) However, the ring gear, piston and drum with an abrasion extent exceeding 1 mm cannot be reused as above and it is necessary to replace those parts.

An example in case of the HD785

When the wear depth is 0.5 – 1 mm
(Use the over size plate.)



With each clutch, even when stepped type wear by 0.5 mm – 1 mm is occurring on either one or both of the piston and ring gear/drum, it is possible to reuse these parts by installing only 1 pc. of the spare plate (over size plate) with a thickness of 1 mm thicker than the thickness of the standard plate to each clutch, after carrying out necessary reworking for these parts.

(Reference)

<Current state>

When the wear depth is less than 0.5 mm

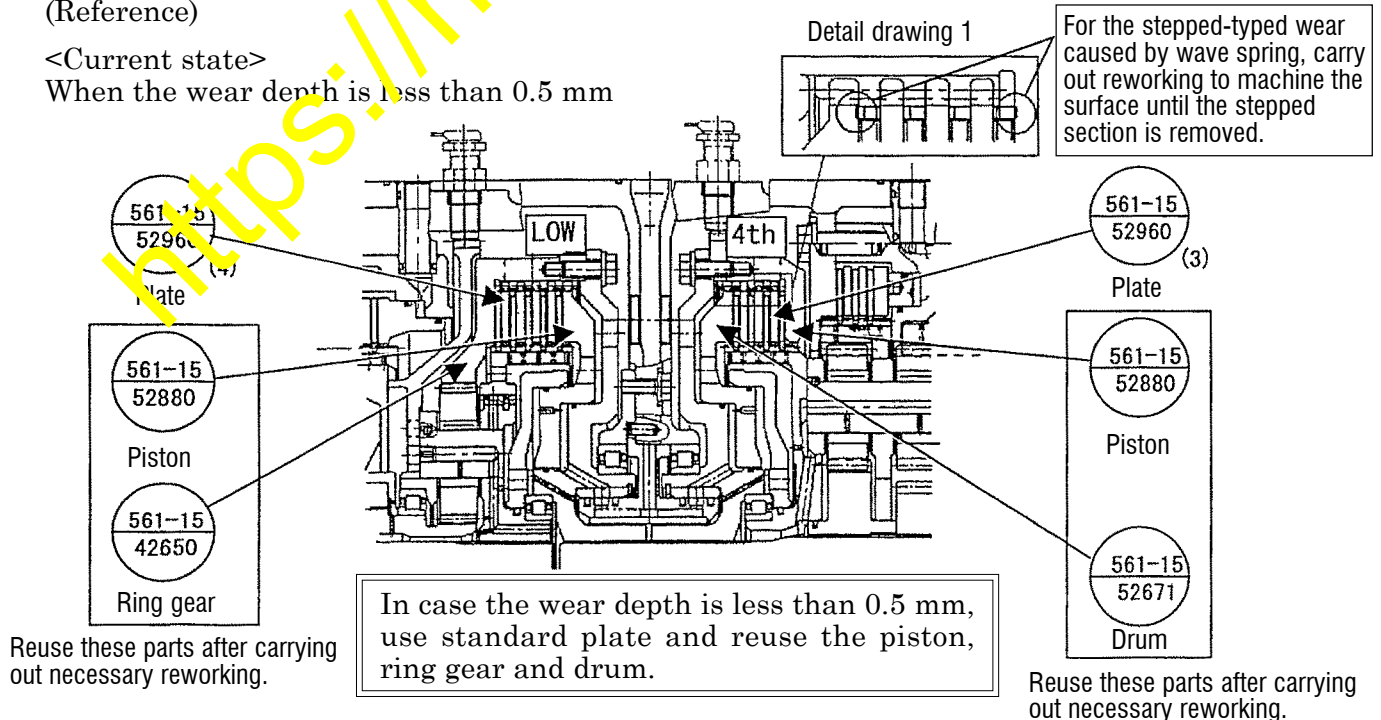


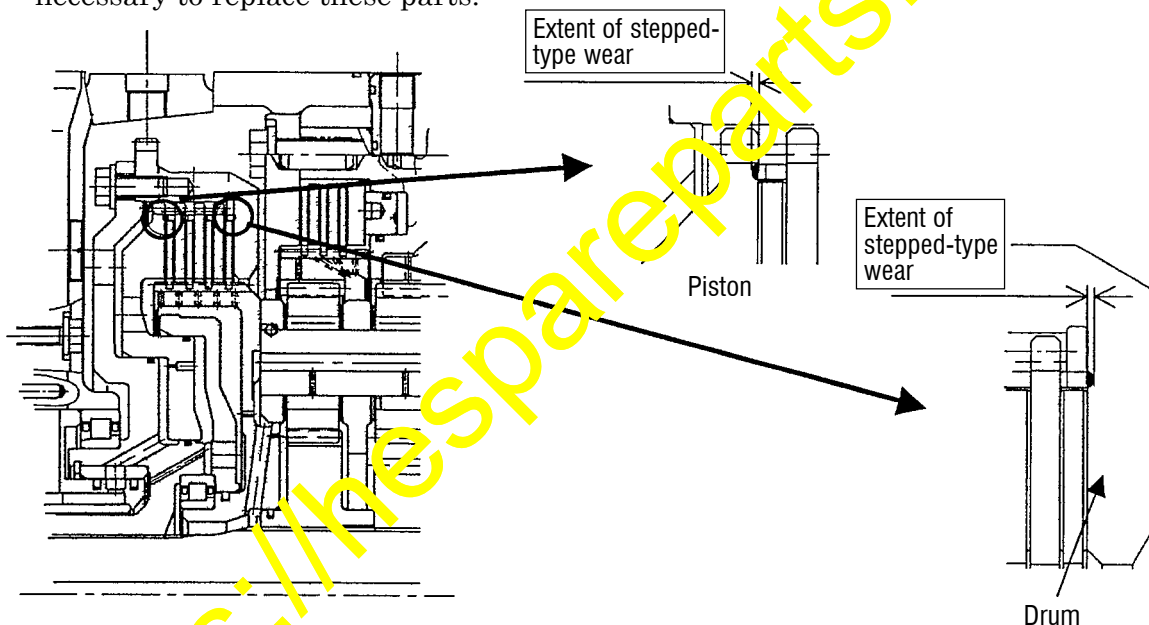
Fig. 1

4. Modification procedure to carry out when overhauling the transmission

(1) Judgment if the piston, ring gear and drum can be reused or not

Judge if the piston, ring gear and drum can be reused or not by the extent of the stepped-type wear on the wave spring sliding surface

- ① In case the wear depth on the piston and on the ring gear/drum is less than 0.5 mm each, it is possible to reuse these parts after carrying out necessary reworking for these parts as usual. Use the standard plate in this case. Carry out reworking to machine the surface until the stepped section of less than 0.5 mm is removed.
- ② When the stepped-typed wear by 0.5 mm – 1 mm is occurring on either one or both of the piston and ring gear/drum:
 - It is possible to reuse these parts after carrying out necessary reworking for these parts. However, it is necessary to install only 1 pc. of the over size plate to each clutch.
- ③ However, in case the wear depth of the piston and the ring gear/drum are exceeding 1 mm:
 - It is not allowed to reuse these parts. When the wear depth exceeds 1 mm, it is necessary to replace these parts.



(2) Modification procedure

In case it is possible to reuse the parts by the judgment per the above Section (1), carry out reworking and reassembly following the procedure indicated below.

- HD325-6 and HD405-6 : Refer to page 5 and 6.
- HD465-5 and HD605-5 : Refer to page 7 and 8.
- HD465-7 and HD605-7 : Refer to page 9 and 10.
- HD785-3 and HD785-5 : Refer to page 11 and 12.
- HD985-3 and HD985-5 : Refer to page 13 and 14.
- 530M and HD1500-5 : Refer to page 15 and 16.

Note

The over size plate being introduced this time is with a thickness of 1 mm thicker than the thickness of the standard plate.

When using the over size plate, be sure to install it to the position instructed in this procedure manual.

1. HD325-6 and HD405-6 (1/2)

- (1) As per the instructions given in Fig. 2-1 shown below, carry out reworking to machine the stepped-typed wear section on the piston (566-15-72780), ring gear (566-15-62650) and drum (566-15-72671) until the stepped-typed wear sections will be removed.

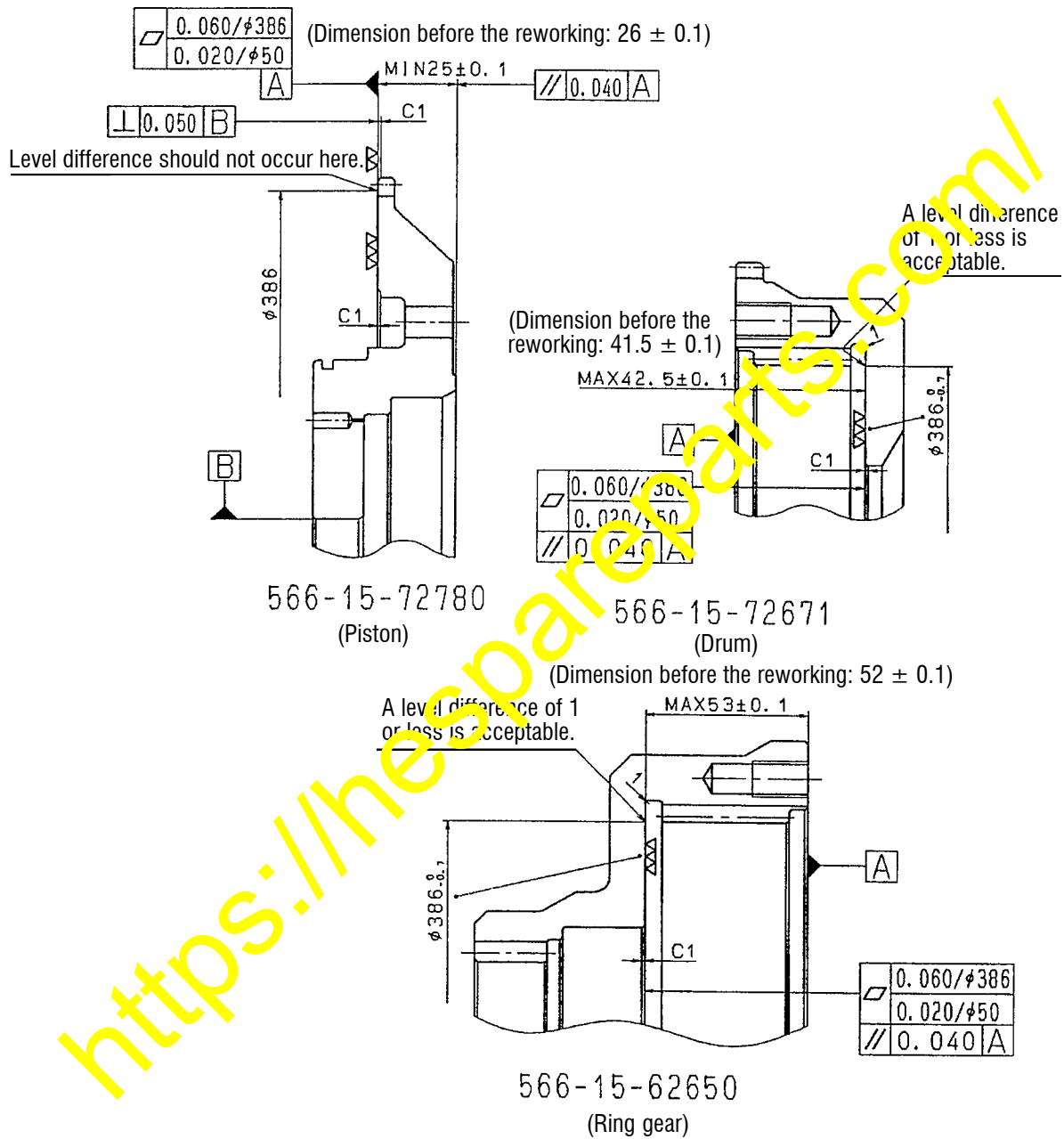


Fig. 2-1. Detailed reworking drawing for the ring gear, piston and drum

1. HD325-6 and HD405-6 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 2-2 shown below.

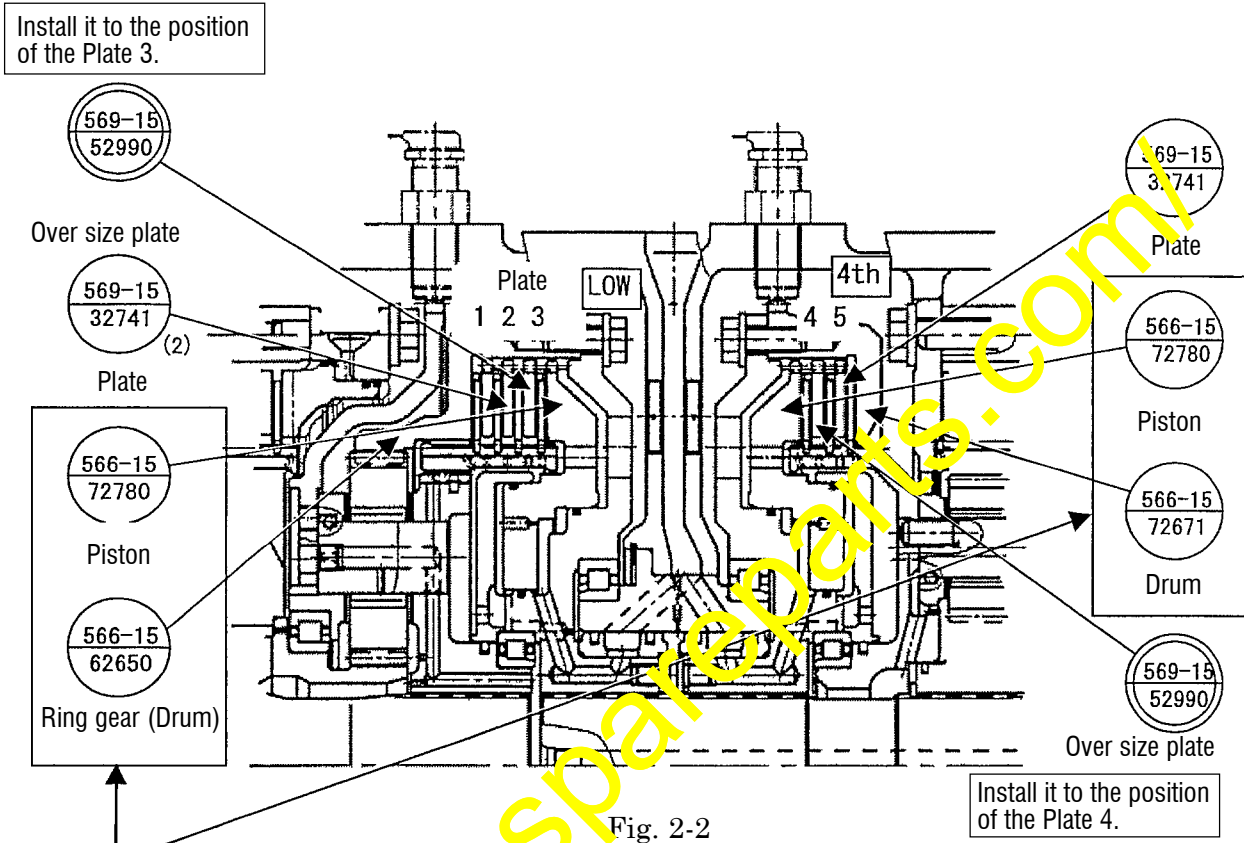
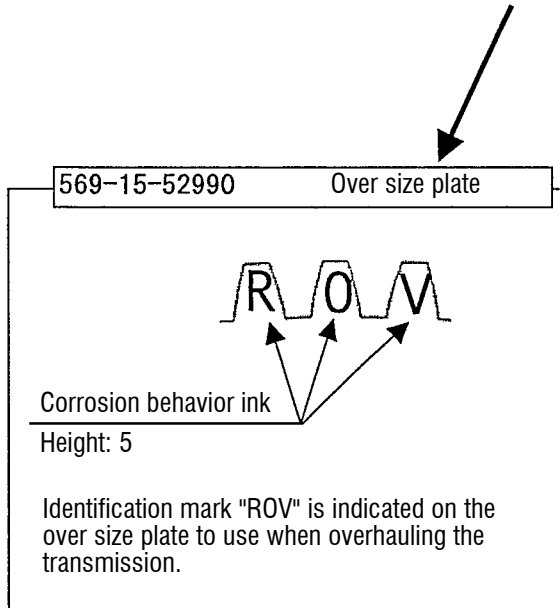


Fig. 2-2

Reusing parts after the reworking

Use the over size plate only in case either one or both of the piston and drum for each rotation clutch are reused after reworking to remove 0.5 to 1 mm of the stepped-wear.

In case the piston and drum are being reused after reworking to remove less than 0.5 mm, do not use the over size plate and use the standard plate.



2. HD465-5 and HD605-5 (1/2)

- (1) As per the instructions given in Fig. 3-1 shown below, carry out reworking to machine the wave spring sliding surface on the piston (569-15-42780), ring gear (569-15-32650) and drum (569-15-42670) until the stepped wear sections are removed.

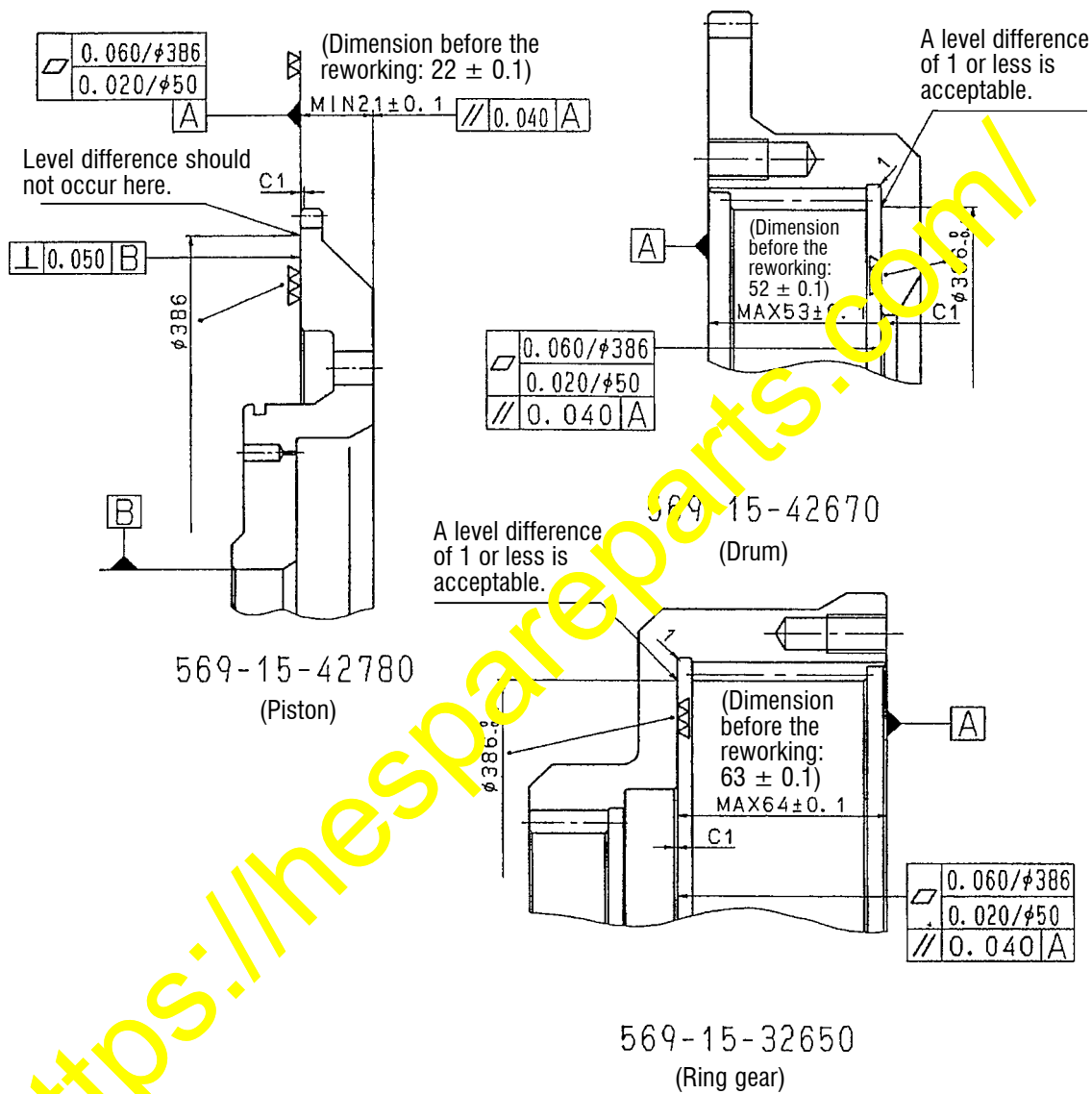


Fig. 3-1. Detailed reworking drawing for the ring gear, piston and drum

2. HD465-5 and HD605-5 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 3-2 shown below.

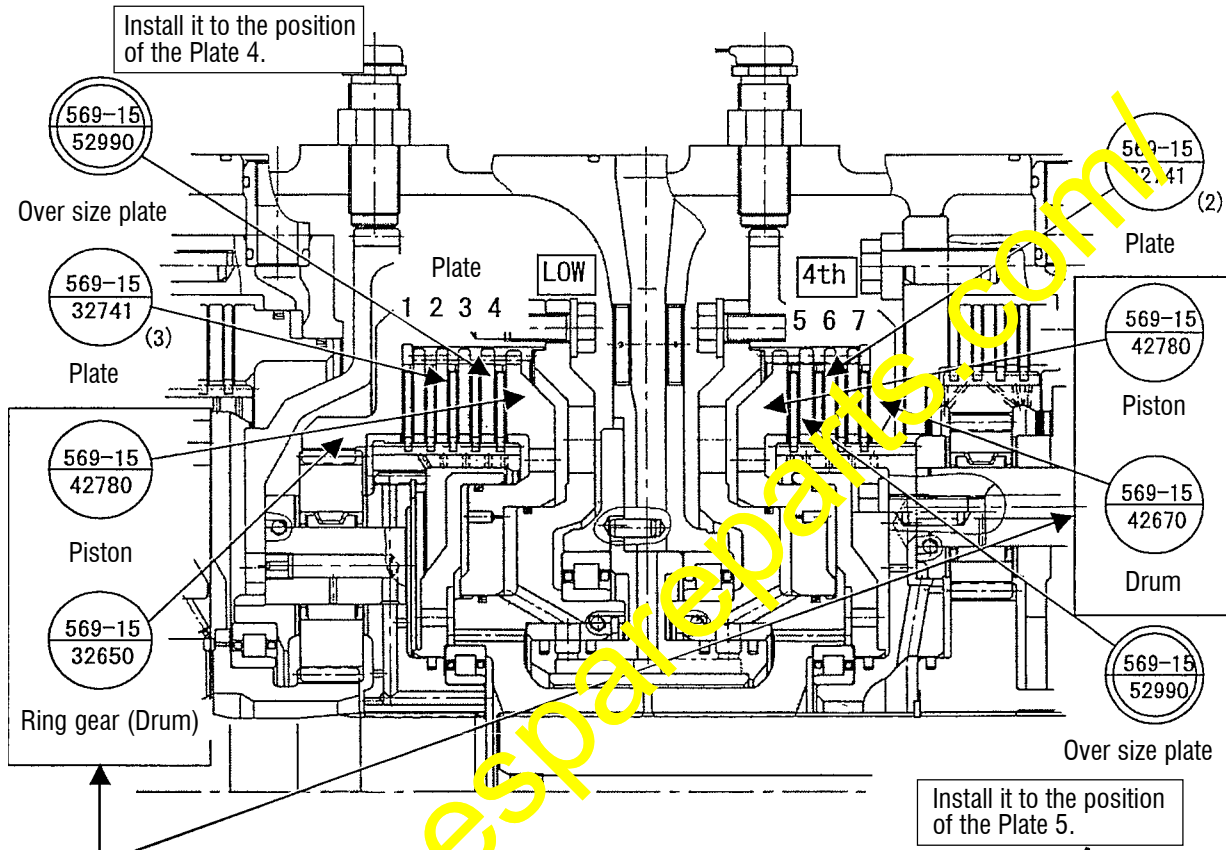
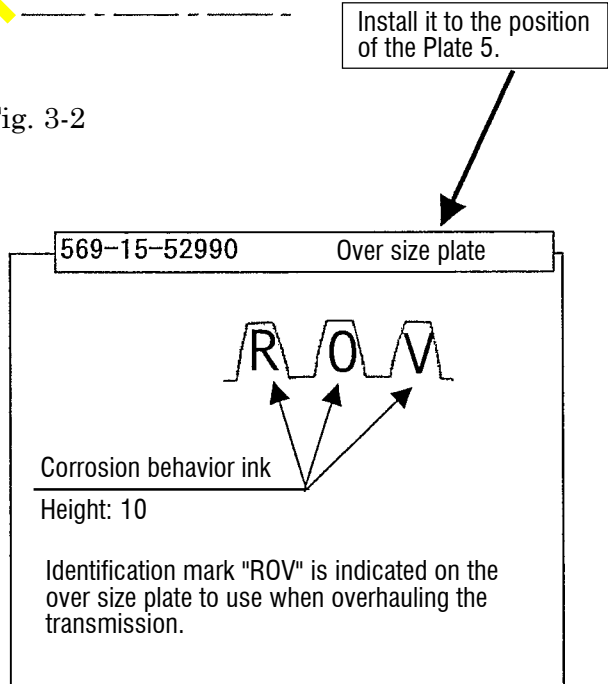


Fig. 3-2

Reusing parts after the reworking

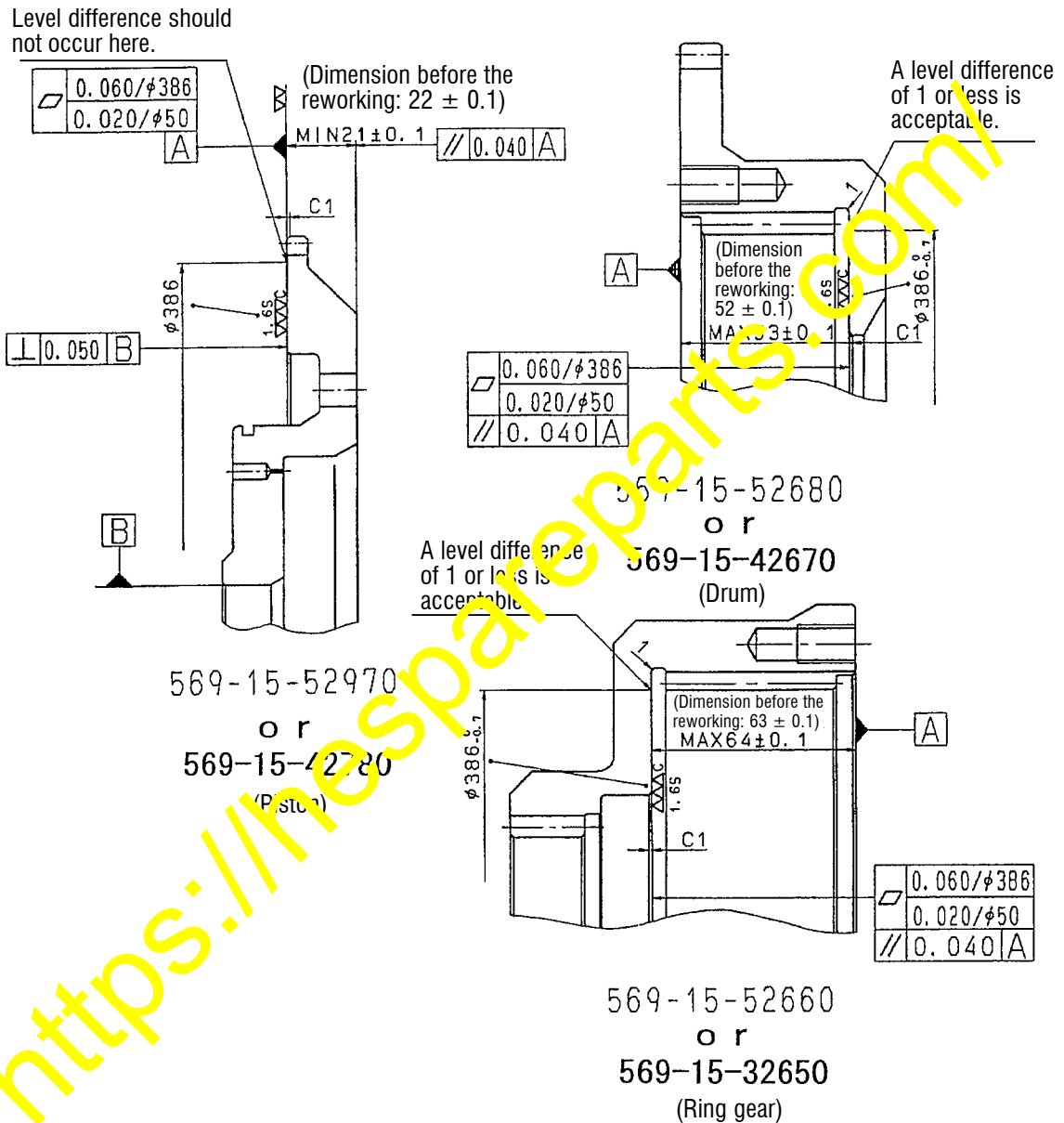
Use the over size plate only in case either one or both of the piston and drum for each rotation clutch are being reused after the reworking to remove 0.5 to 1 mm the stepped-type wear section.

In case the piston and drum are being reused and the reworking to remove less than 0.5 mm, do not use the over size plate and use the ordinary plate.



3. HD465-7 and HD605-7 (1/2)

- (1) As per the instructions given in Fig. 4-1 shown below, carry out reworking to machine the wave spring sliding surface on the piston (569-15-52970 or 569-15-42780), ring gear (569-15-52660 or 569-15-32650) and drum (569-15-52680 or 569-15-42670) until the stepped-typed wear is removed.



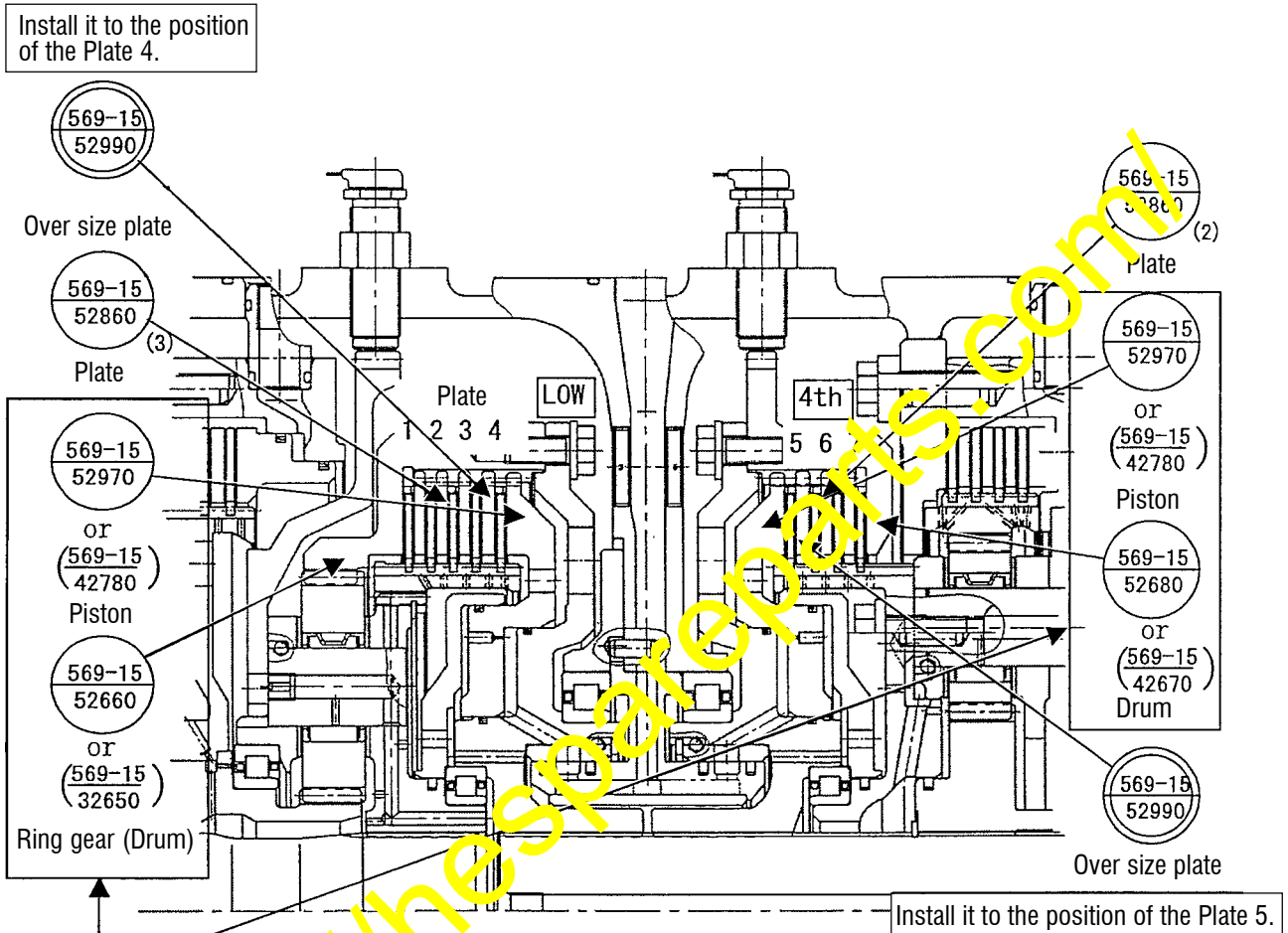
Note The machining traces of the section with the surface coarseness $\nabla\nabla\nabla$ (1.6S) should be in a concentric circle.

Fig. 4-1. Detailed reworking drawing for the ring gear, piston and drum

3. HD465-7 and HD605-7 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 4-2 shown below.

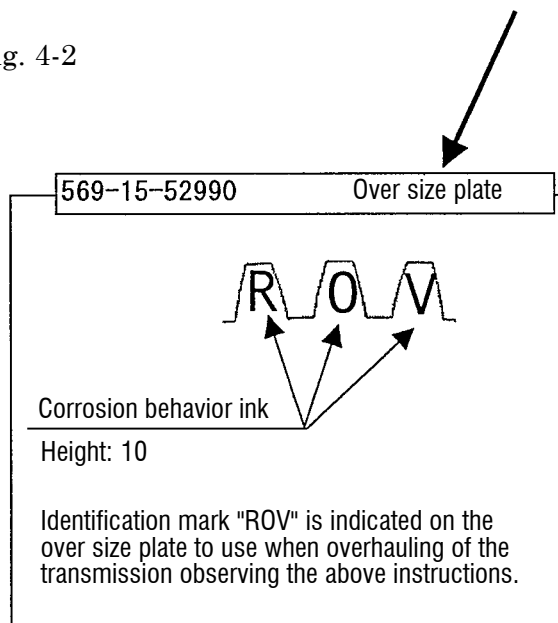


Reusing parts after the reworking

Use the over size plate only in case either one or both of the piston and drum for each rotation clutch are being reused after reworking to remove 0.5 to 1 mm the stepped-type wear section.

In case the piston and drum are being reused after reworking to remove less than 0.5 mm, do not use the over size plate and use the standard plate.

Fig. 4-2



4. HD785-3/-5 (1/2)

- (1) As per the instructions given in Fig. 5-1 shown below, carry out reworking to machine the wave spring sliding surface on the piston (561-15-52880), ring gear (561-15-42650) and drum (561-15-52671) until the stepped-type wear sections will be removed.

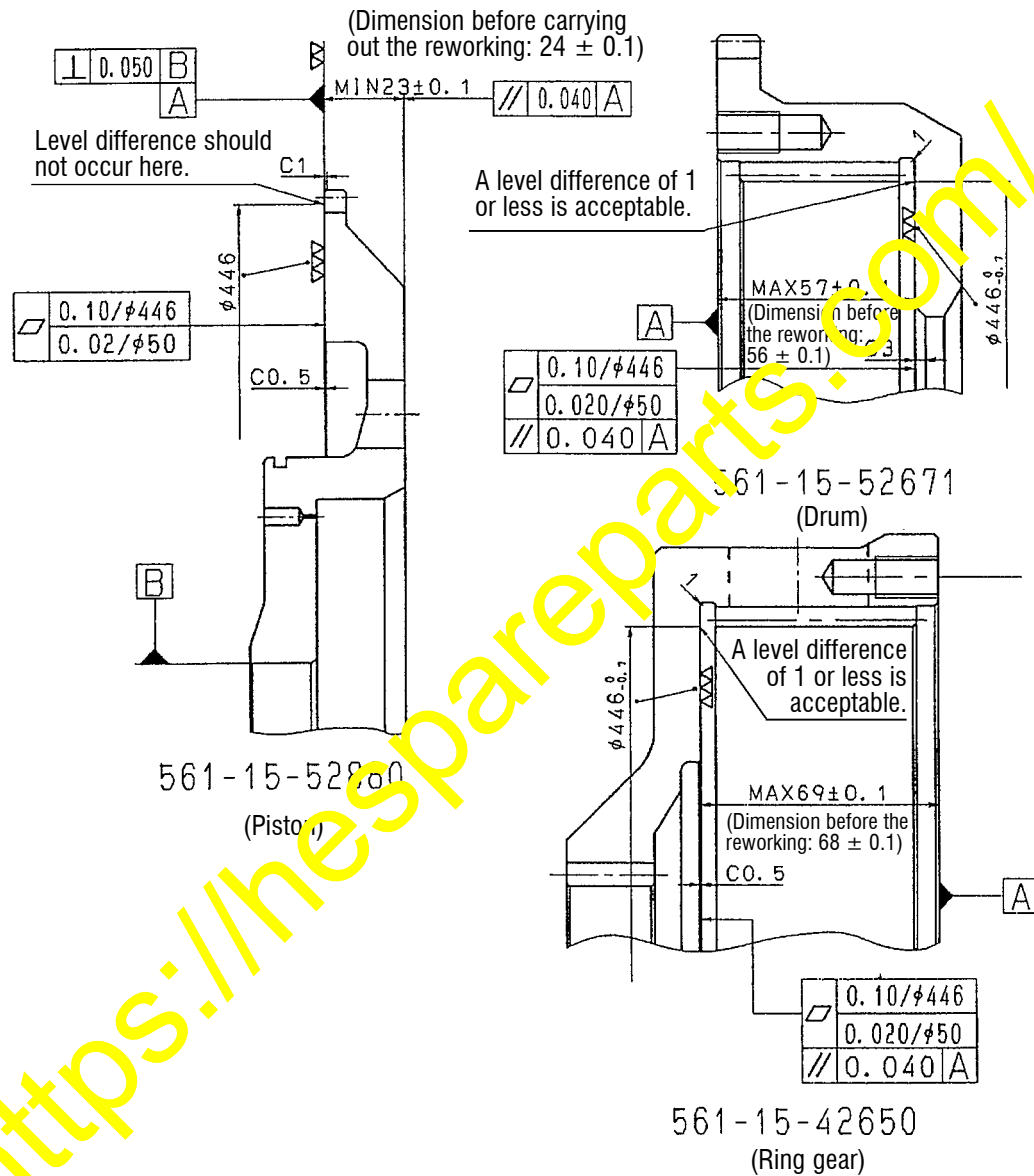


Fig. 5-1. Detailed reworking drawing for the ring gear, piston and drum

4. HD785-3/-5 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 5-2 shown below.

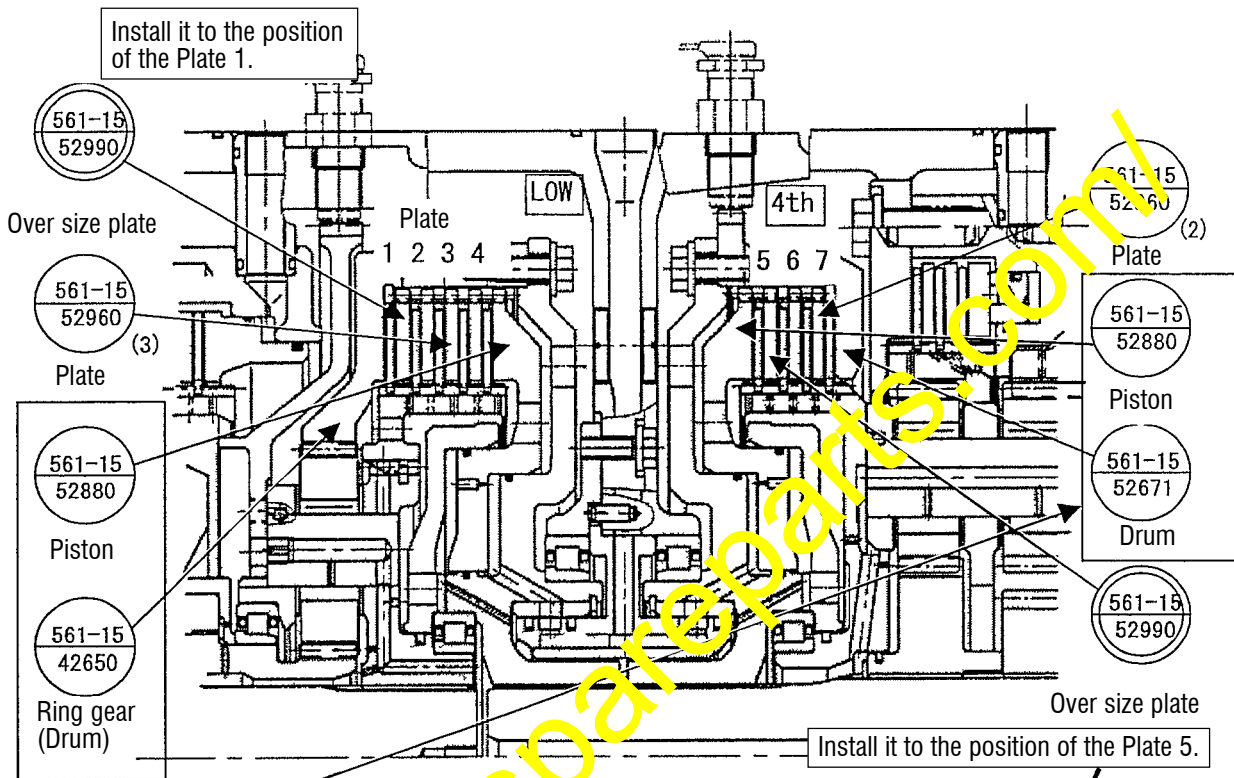
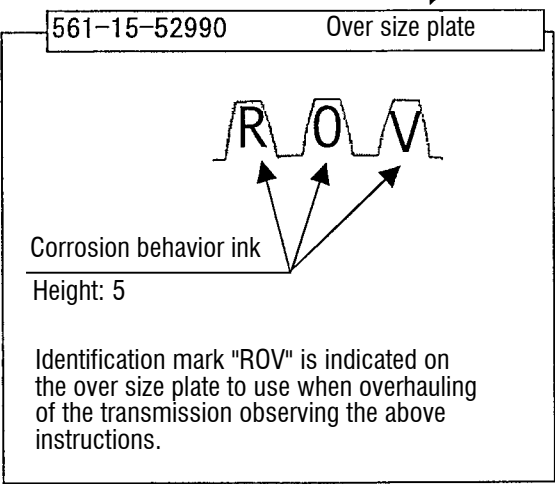


Fig. 5-2

Reusing parts after the reworking

Use the over size plate only in case both of the piston and drum for each rotation clutch are being reused after reworking (to machine 0.5 mm each off) to remove the stepped-type wear section.

In case either one of the piston or the drum is being reused after reworking, do not use the over size plate and use the standard plate.



5. HD985-5/-3 (1/2)

- (1) As per the instructions given in Fig. 6-1 shown below, carry out reworking to machine the wave spring sliding surface on the piston (561-15-52880), ring gear (561-15-42650) and drum (561-15-52671) until the stepped-type wear sections will be removed.

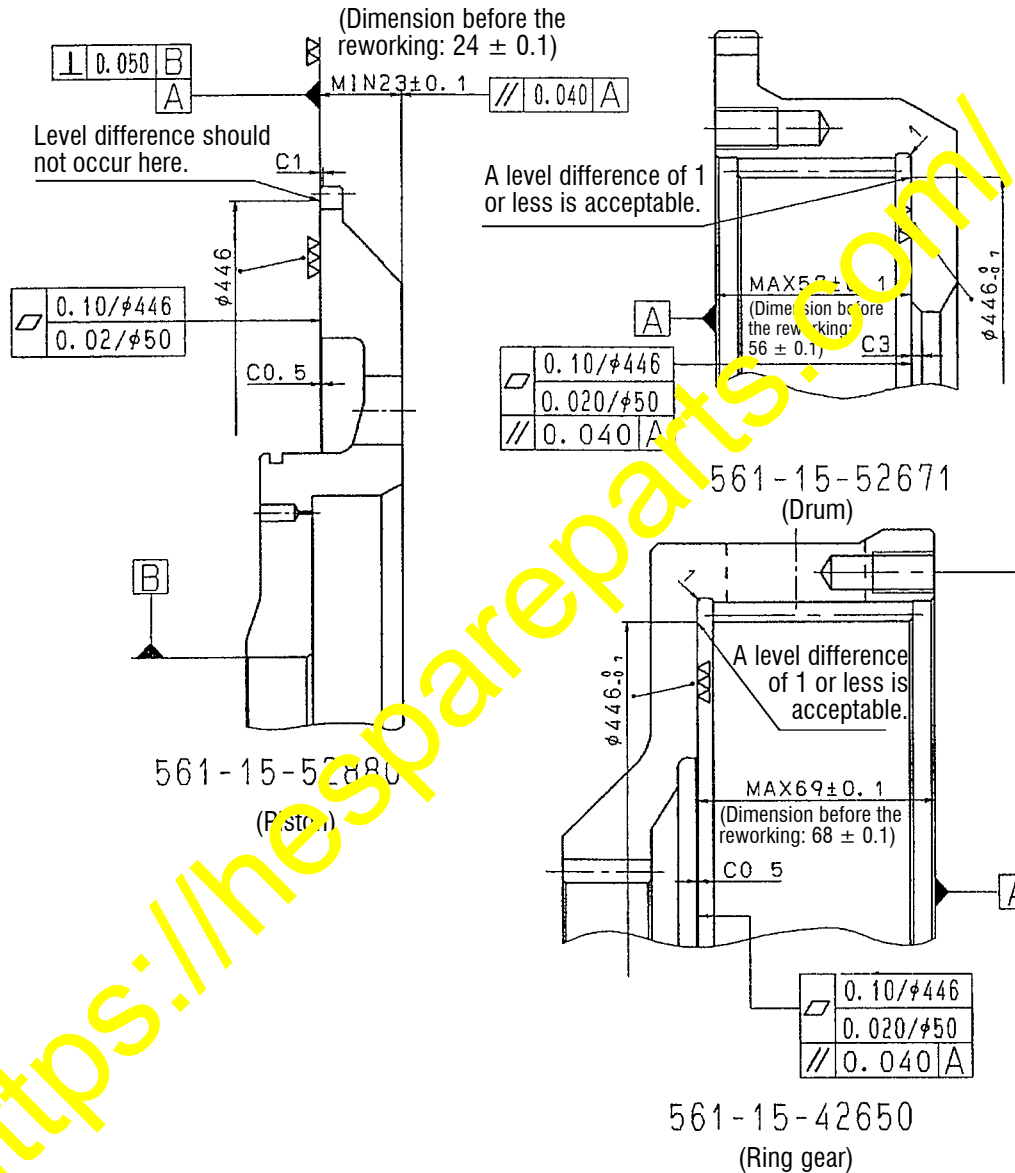


Fig. 6-1. Detailed reworking drawing for the ring gear, piston and drum

5. HD985-5/-3 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 6-2 shown below.

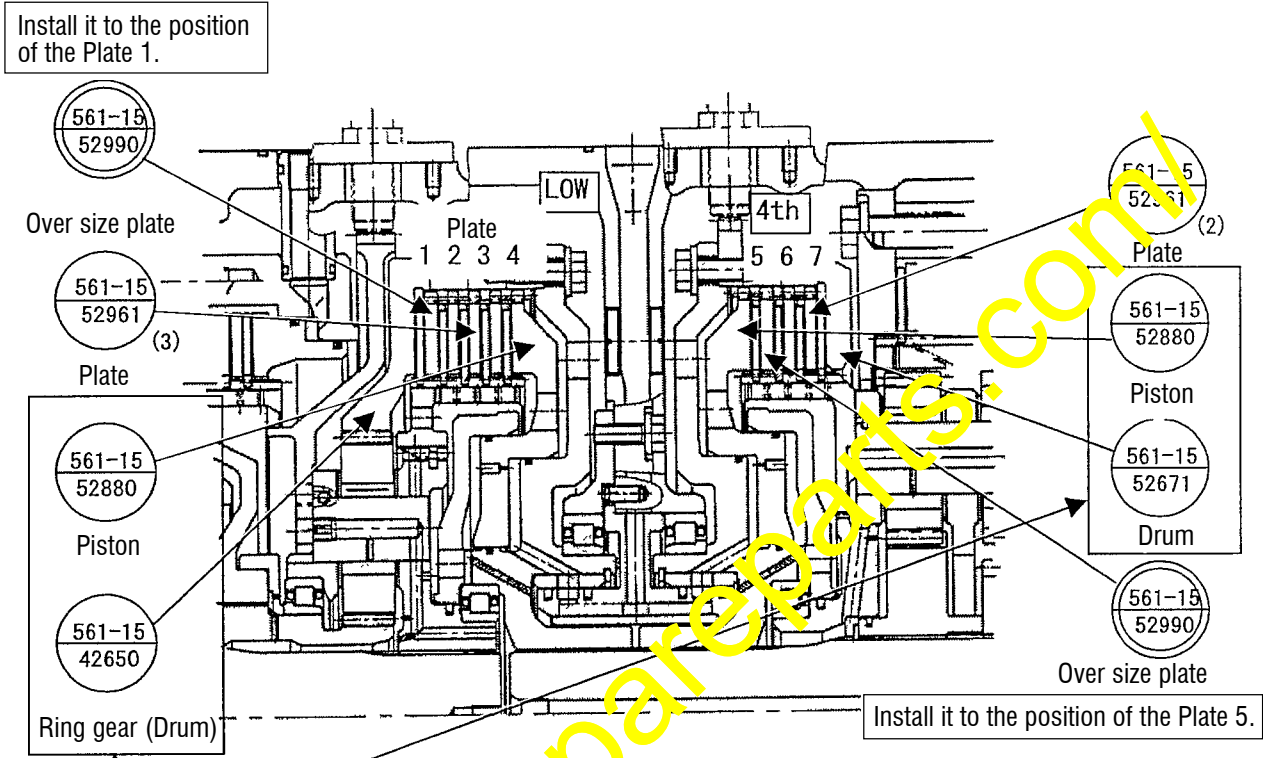
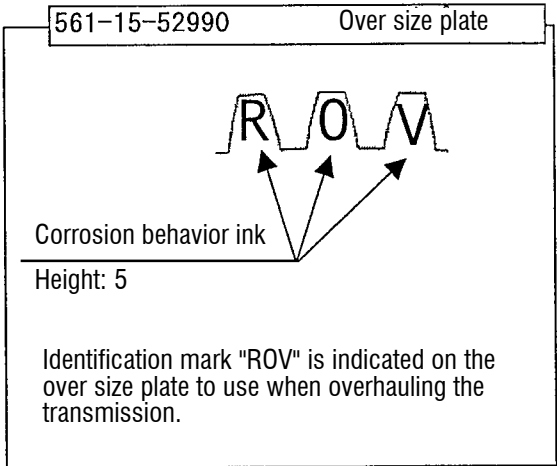


Fig. 6-2

Reusing parts after the reworking

Use the over size plate only in case either one or both of the piston and drum for each rotation clutch are being reused after reworking to remove 0.5 to 1mm of the stepped-type wear section.

In case the piston and drum are being reused after reworking to remove less than 0.5 mm, do not use the over size plate and use the standard plate.



6. 530M and HD1500-5 (1/2)

- (1) As per the instructions given in Fig. 7-1 shown below, carry out reworking to machine the wave spring sliding surface on the carrier (562-15-22321 and 562-15-22341), piston (562-15-22730), plate (562-15-22830) until the stepped-type wear sections are removed.

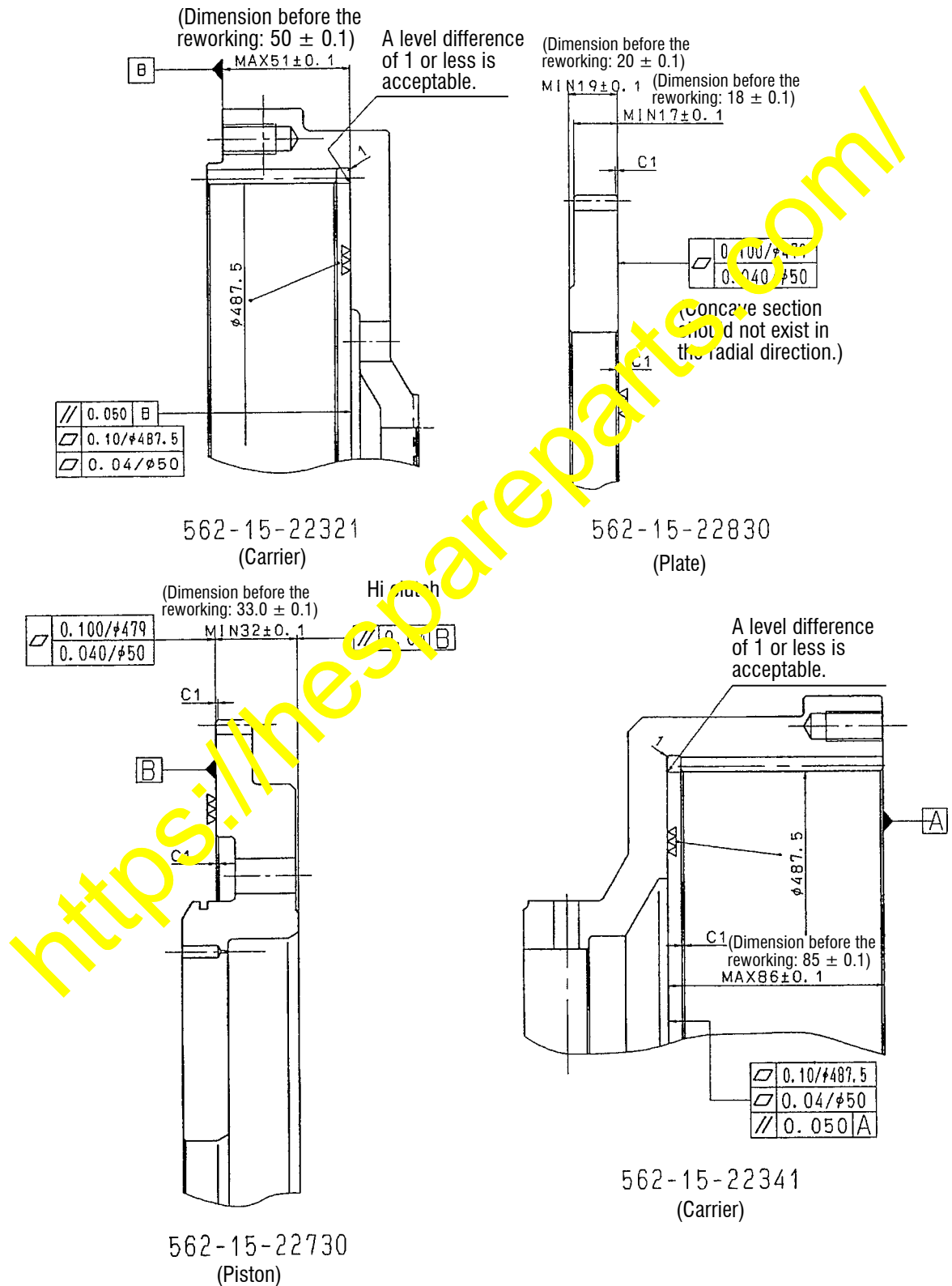


Fig. 7-1. Detailed reworking drawing for the carrier, piston and plate

6. 530M and HD1500-5 (2/2)

(2) Reassembly procedure when overhauling

- When carrying out the reassembly work, install the over size plate to the position instructed in Fig. 7-2 shown below.

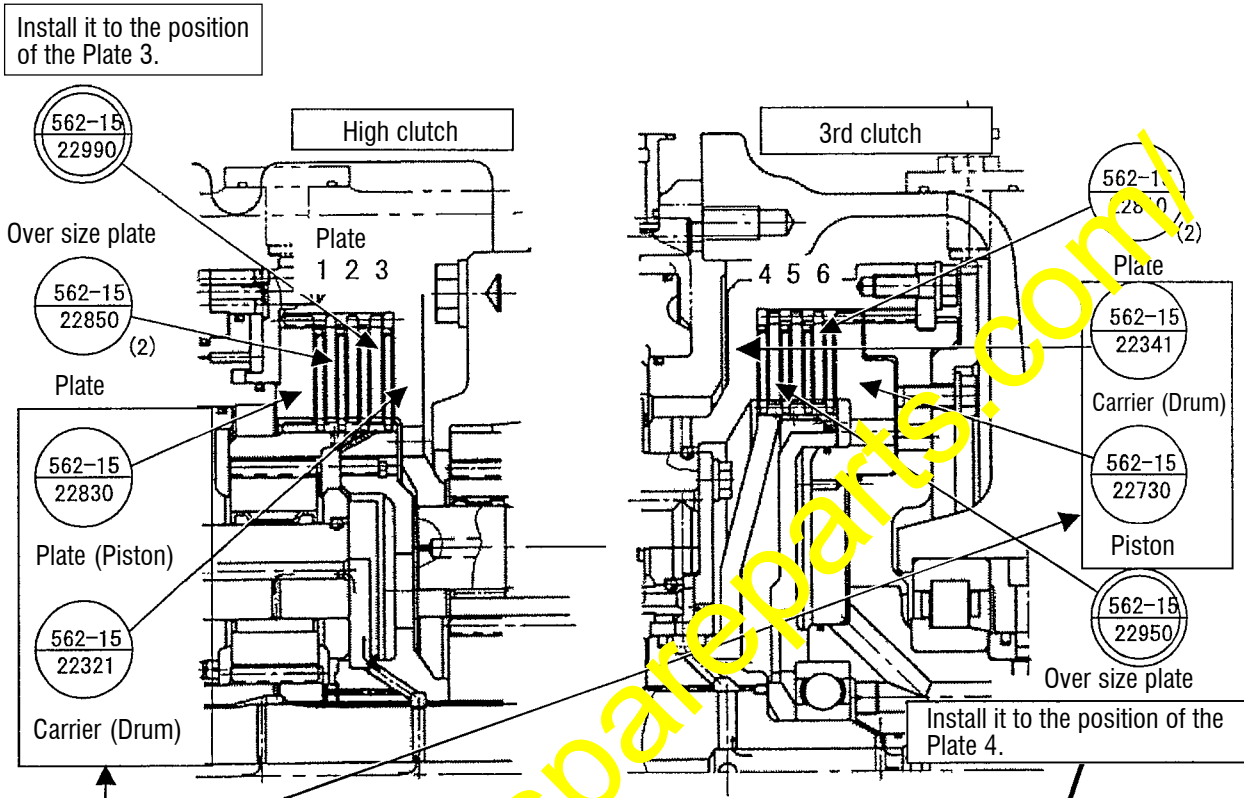


Fig. 7-2

Reusing parts after the reworking

Use the over size plate only in case either one or both of the piston and drum for each rotation clutch are being reused after reworking to remove 0.5 to 1 mm the stepped-type wear section.

In case the piston and drum are being reused after reworking to remove less than 0.5 mm, do not use the over size plate and use the standard plate.

562-15-22950, 562-15-22990 Over size plate

Corrosion behavior ink
Height: 5

Identification mark "OV" is indicated on the over size plate to use when conducting overhauling of the transmission observing the above instructions.