

INSTALLATION MANUAL

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SUBJECT: REVERSIBLE FAN PARTS NUMBER CHANGE

PURPOSE: To introduce revision of the part number for the reversible fan (owing to changing the supply source of the reversible fan)

APPLICATION: See pages 2/18 thru 4/18

DESCRIPTION:

1. Introduction

We have changed the supply source of the reversible fans for the engines to an overseas manufacturer and made due reorganization of the current reversible fan parts. We therefore are introducing the contents of revisions and reorganizations, necessary parts when replacing the reversible fans and replacement procedures in this INSTALLATION MANUAL.

2. Contents of this INSTALLATION MANUAL

- (1) Comparison table of the part numbers of reversible fans before and after the revision and reorganization
- (2) List of modification parts necessary for replacement of the reversible fans
- (3) Replacement procedures for respective applicable model categories

Note: Depending on the machine models, machine body parts replacement may become necessary (D85A-2, WA500-1, etc.).

Therefore, before starting replacement work, refer to the aforementioned "list of modification parts necessary for replacement of the reversible fan" to secure these parts.

Comparison table of the part numbers of reversible fans before and after the revision and reorganization

No.	Fan dia.	Current part numbers	Current manufacturers	New part numbers	New manufacturers	Applicable models	Reorganized models
1	φ515	600-614-0510	Usui International	600-614-2510	Huber	D31-18 - 20, D37-2 - 5	D31-17, D37-1(4D105.6D95L.)
2	φ580	600-614-0586	Usui International	600-614-2581	Huber	D40, D41-1 - 5, D45S-2	
3	φ710	600-614-0718	Usui International	600-614-2717	Huber	D57S-1B	D60-6, D65-6 (NH220)
4	φ740	600-614-8742	Usui International	600-614-2740	Huber	D50, D53-17, D58, D63-1	
5	φ740	600-614-0744	Usui International	600-614-2740	Huber	D50, D53-16	Discontinued owing to nonexistence of the production needs and mortality
6	φ787.4	600-614-0789	Usui International	600-614-2789	Huber	D85-12	Discontinued since the interchangeability of this part has been discontinued.
7	φ850	600-614-0850	Usui International	600-614-2850	Schwitzer	D66S-1, D60, D65-8 - 12, D83E-1, D85E-2, D75A-1	D60-7, D65-7 (NH220)
8	φ900	600-614-0900	Usui International	600-614-2900	Schwitzer	D45S-3 - 5	
9	φ1000	600-614-9000	Usui International	—	—	WA500-1	Unified into the φ1060 spec. fans.
10	φ1060	600-614-1066	Usui International	600-614-2060	Schwitzer	D85A-21, D135A-1 - 2	D85-18 (NT855)
11	φ1120	600-614-1121	Usui International	600-614-2120	Schwitzer	D155A-1 - 2, D155C-1, D355C-3, D375C-1	
12	φ1120	600-614-9120	Usui International	600-614-2120	Schwitzer	WD600-1, WA600-1	
13	φ1180	600-614-1171	Usui International	—	—		Being discontinued owing to nonexistence of the production needs and mortality
14	φ1220	600-614-1223	Usui International	600-614-2220	Schwitzer	D275A-2, D355A-3 - 5	
15	φ1320	600-614-1320	Usui International	600-614-2320	Schwitzer	D375A-1 - 2, WA700-1	
16	φ1350	600-614-1353	Usui International	—	—	D455A	Discontinued owing to nonexistence of the production needs and mortality
17	φ1500	600-614-1500	Usui International	—	—	D455A	Discontinued owing to nonexistence of the production needs and mortality

- Applications without interchangeability of the reversible fans of the current part numbers shall be deemed applications with discontinued interchangeability and standard fans should be used for replacement.
- The Huber and the Schwitzer are fan manufacturers in the U.S.A. and in U.K., respectively.

List of modification parts necessary for replacement of reversible fans

No.	Applicable models	Fan dia. (mm)	If presently being mass produced or being replaced with interchangeable counterparts	New part numbers	Part names of the new part numbers	Q'ty	Current part numbers	Part names of the current part numbers	Remarks
1	D31-17, D37-1	φ515	Being replaced with interchangeable counterparts	—	—	—	—	—	Discontinued. Use STD fans for repairs and whatever other interchanging requirements
2	D31-18, D37-2	φ515	Being replaced with interchangeable counterparts	600-614-2510 6206-61-3950 01435-21025 01435-20830	Fan, reversible Spacer Bolt, fan Bolt, spacer	1 1 6 1	600-614-0510 6206-61-3940 01435-21030 01435-20845	Fan, reversible Spacer Bolt, fan Bolt, spacer	
3	D31-20, D37-5	φ515	Presently being mass produced	600-614-2510	Fan, reversible	1	600-614-0510	Fan, reversible	
4	D40/D41-3 -- 5	φ515	Presently being mass produced	01435-21025 600-614-2581	Bolt, fan Fan, reversible	6 1	01435-21030 600-614-0586	Bolt, fan Fan, reversible	Use of the spacer is discontinued. Use of the spacer bolt is discontinued.
5	D40/41-1, D45S-2	φ580	—	—	—	—	600-614-0586	Fan, reversible	Use of the spacer is discontinued. The fan bolt length has been changed (L=50 → 30 mm) The interchangeability is discontinued
6	D57S-1B	φ710	—	600-614-2717 6151-61-3740	Fan, reversible Spacer	1 1	600-614-0713 600-61-3720	Fan, reversible Spacer	For fan position adjustment (75 mm → 97 mm) Discontinued. Use STD fans for repairs and whatever other interchanging requirements.
7	D60/65-6	φ710	—	—	—	—	600-614-0718	Fan, reversible	
8	D50/53-17, D58-1, D63-1	φ740	Presently being mass produced	600-614-2740	Fan, reversible	1	600-614-8742	Fan, reversible	
9	D50/53-16	φ740	Being replaced with interchangeable counterparts	—	—	—	600-614-0744	Fan, reversible	Discontinued. Use STD fans for repairs and whatever other interchanging requirements.
10	D85-12	φ787.4	—	600-614-2789	Fan, reversible	1	600-614-0789	Fan, reversible	Discontinued since the interchangeability of this part has been discontinued.
11	D60/65-8 -- 11, D75A-1, D83E-1, D85E-2	φ850	Being replaced with interchangeable counterparts	600-614-2850 6151-61-3740 6151-61-3950 01010-51025	Fan, reversible Spacer Spacer Bolt	1 1 1 6	600-614-0850 — — 01010-51025	Fan, reversible Spacer — Bolt	Fan spacer specifications have been changed. (111 mm → (97 + 22) mm)
12	D60, D65-12	φ850	Presently being mass produced	600-614-2850 6151-61-3770 01010-51030	Fan, reversible Spacer Bolt	1 1 6	600-614-0850 6151-61-3720 01010-51025	Fan, reversible Spacer Bolt	Fan spacer specifications have been changed. (97 mm → 85 mm)
13	D60, D65-12 (EC anti-noise)	φ850	Presently being mass produced	600-614-2850 6151-61-3740	Fan, reversible Spacer	1 6	600-614-0850 6151-61-3770	Fan, reversible Spacer	Fan spacer specifications have been changed. (85 mm → 97 mm)
14	D75S-3	φ900	Being replaced with interchangeable counterparts	600-614-2900	Fan, reversible	1	600-614-0900	Fan, reversible	
15	D75S-5 WA500-1	φ1060	Presently being mass produced Presently being mass produced	600-614-2900 600-614-2060 6162-63-3290 425-03-11711	Fan, reversible Fan, reversible Spacer Shroud, fan	1 1 1 1	600-614-0900 600-614-9000 — 425-03-11710	Fan, reversible Fan, reversible — Shroud, fan	Fan diameter has been changed. (φ1,000 → φ1,060 mm) This fan spacer has been added. Fan shroud (a machine body part) specifications have been changed.

No.	Applicable models	Fan dia. (mm)	If presently being mass produced or being replaced with interchangeable counterparts	New part numbers	Part names of the new part numbers	Q'ty	Current part numbers	Part names of the current part numbers	Remarks
16	D85A-21, D135A-1 - 2 D85A-1	φ1060	Presently being mass produced Being replaced with interchangeable counterparts	600-614-2060 600-614-2060	Fan, reversible Fan, reversible	1 1	600-614-1060 600-614-1060	Fan, reversible Fan, reversible	
17	D85A, E-18	φ1060	Being replaced with interchangeable counterparts	600-614-2060	Fan, reversible	1	600-614-1060	Fan, reversible	
18	D155A-1 - 2, D155C-1, D355C-3, D375C-1	φ1120	Presently being mass produced	154-03-12575 07011-10090 600-614-2120	Boss Seal, oil Fan, reversible	1 1 1	154-03-12574 07011-10090 600-614-1111	Boss Seal, oil Fan, reversible	The boss is a machine body part. Oil seal shall always be replaced with a new oil seal.
19	WA/WD600-1	φ1120	Presently being mass produced	600-614-2120 6162-63-3290 01010-31270	Fan, reversible Spacer Bolt, spacer	1 1 6	600-614-9110 — 01010-31270	Fan, reversible — Bolt, spacer	A fan spacer has been added. (L = 40 → 70 mm)
20	D275A-2, D355A-3,5	φ1220	Presently being mass produced	600-614-2220	Fan, reversible	1	600-614-1223	Fan, reversible	
21	D375A-2 D375A-1	φ1320	Presently being mass produced Being replaced with interchangeable counterparts	600-614-2320 195-03-45122 195-03-41631	Fan, reversible Drum Plate	1 1 1	600-614-1320 195-03-45120 195-03-41630	Fan, reversible Drum Plate	Drum (a machine body part) specifications have been changed. (φ260 mm → φ245 mm) Plate (a machine body part) specifications have been changed(φ260 mm → φ245 mm)
22	WA700-1	φ1320	Presently being mass produced	600-614-2320 6161-63-8201	Fan, reversible Pully, ass'y	1 1	600-614-1320 6162-63-8200	Fan, reversible Pully, ass'y	For fan position adjustment (shifting the position by 11 mm).

<https://hespartsparts.com/>

Replacing the $\phi 515$ reversible fan

Applicable models: D31-18, 20 and D37-2, 5

The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

(a) Reversible fan ("4" in the sketch below)

<Current> 600-614-0510 \Rightarrow <New> 600-614-2510
 (Number of fan blades: 6) (Number of fan blades: 6)

(b) Fan spacer ("3" in the sketch below)

<Current> 6206-61-3940 \Rightarrow <New> 6206-61-3950

(c) Fan spacer ("1" in the sketch below)

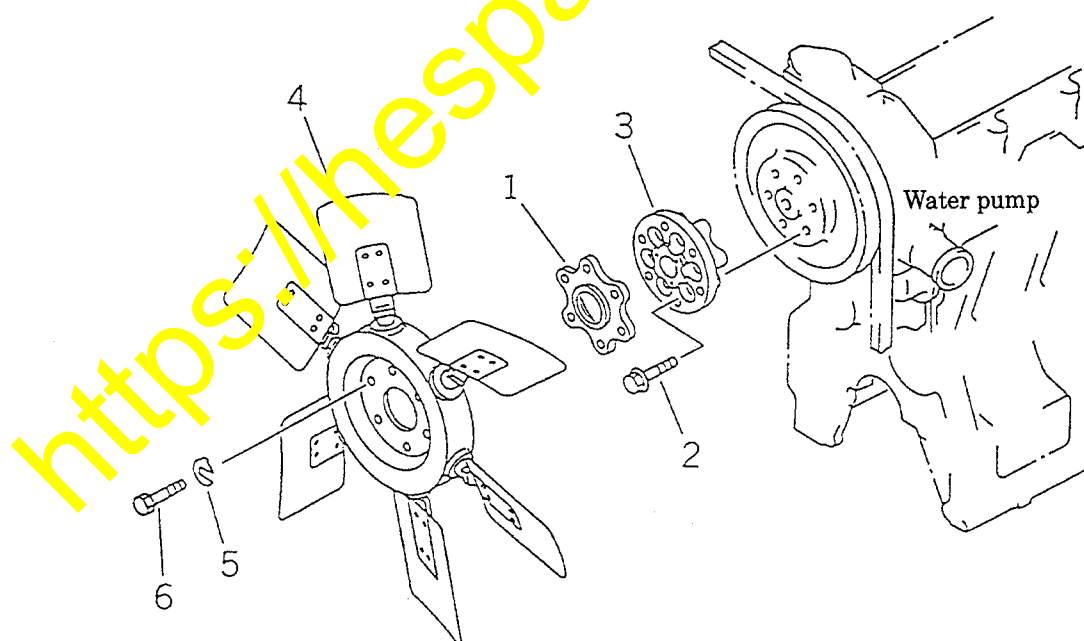
<Current> 6206-61-3920 \Rightarrow <New> Being discontinued

(d) Spacer mounting bolts ("2" in the sketch below)

<Current> 01435-20845 \Rightarrow <New> 01435-20830
 (The bolt length is being changed from 45 mm to 30 mm.)

(e) Fan mounting bolts ("6" in the sketch below)

<Current> 01435-21030 \Rightarrow <New> 01435-21025
 (The bolt length is being changed from 30 mm to 25 mm.)



Replacing the ϕ 580 reversible fan

Applicable models: D40, D41-1 — 5 and D45S-2

The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

(i) Reversible fan (① in the sketch below)

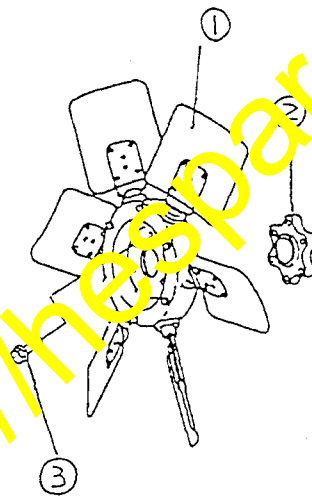
<Current> 600-614-0586 \Rightarrow <New> 600-614-2581
(Number of fan blades: 6) (Number of fan blades: 6)

(ii) Fan spacer (② in the sketch below)

<Current> 6130-62-3350 \Rightarrow <New> Being discontinued

(iii) Fan mounting bolts (③ in the sketch below)

<Current> 01435-01050 \Rightarrow <New> 01435-01030
(The bolt length is being changed from 50 mm to 30 mm.)



Replacing the $\phi 710$ reversible fan

Applicable models: D57S-1B

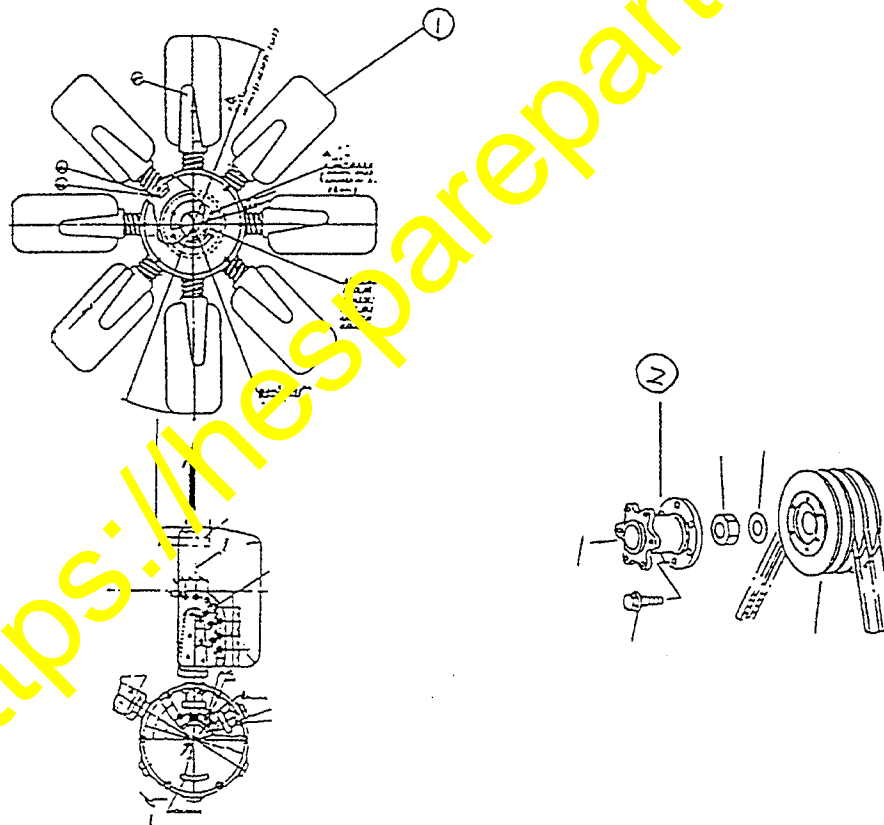
The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

(i) Reversible fan (① in the sketch below)

<Current> 600-614-0718 \Rightarrow <New> 600-614-2717
(Number of fan blades: 6) (Number of fan blades: 8)

(ii) Fan spacer (② in the sketch below)

<Current> 6151-61-3720 \Rightarrow <New> 6151-61-3740
(The spacer length is being changed from 75 mm to 97 mm.)



Replacing the $\phi 740$ reversible fan

Applicable models: D50, D53-16 — 17, D58 and D63-1

The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

With this application, the reversible fan given below only needs to be changed.

(i) Reversible fan (① in the sketch below)

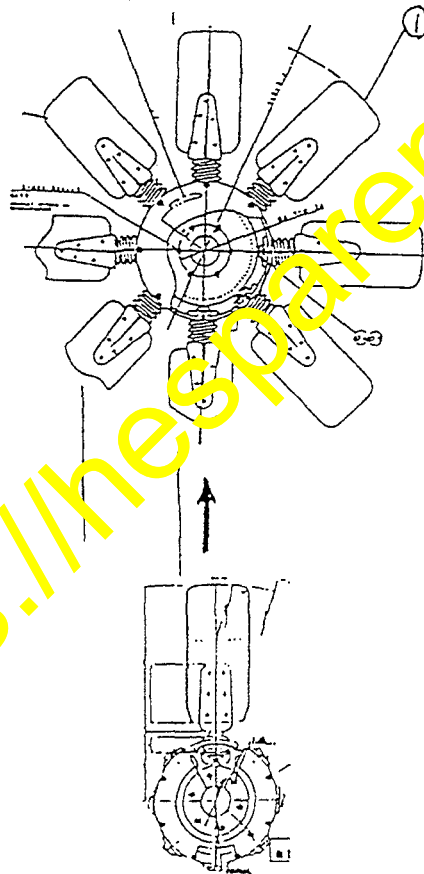
<Current> 600-614-8742

⇒

<New> 600-614-2740

(Number of fan blades: 8)

(Number of fan blades: 8)



Replacing the $\phi 850$ reversible fan

Applicable models: D60, D65-8 — 12, D83E-1, D85E-2 and D75A-1

The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

(1) Specifications for D60, D65-12

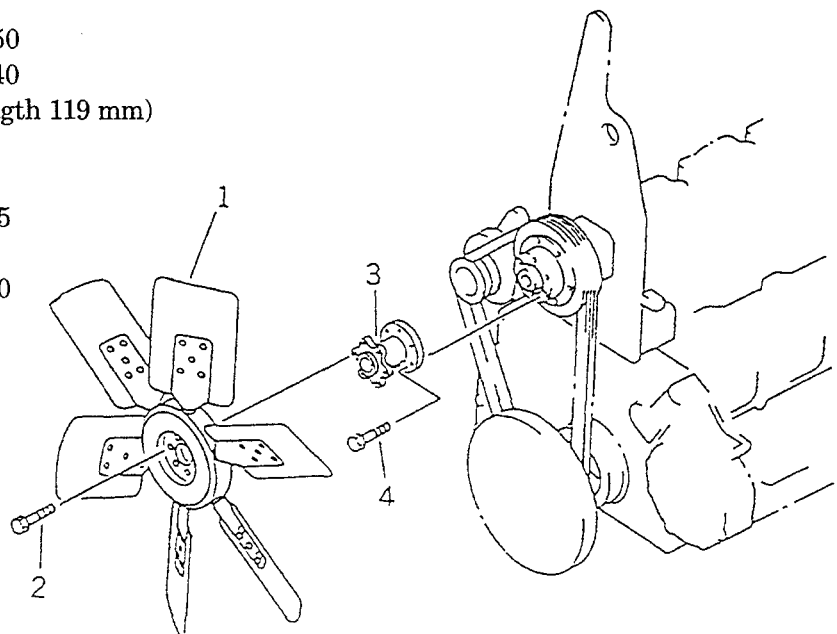
- Reversible fan ("1" in the sketch below)
 <Current> 600-614-0850 \Rightarrow <New> 600-614-2850
 (Number of fan blades: 6) (Number of fan blades: 8)
- Fan spacer ("3" in the sketch below)
 <Current> 6151-61-3720 \Rightarrow <New> 6151-61-3770
 (Length: 75 mm) (Length: 85 mm)
- Fan bolt ("2" in the sketch below)
 <Current> 01010-51025 \Rightarrow <New> 01010-51030
 (Length: 25 mm) (Length: 30 mm)

(2) Specifications for D60, D65-12 (Specifications for EC and noise)

- The spacer, fan "3" shall be changed as follows. Others, it remain the same as the above Item (1).
 <Current> 6151-61-3770 \Rightarrow <New> 6151-61-3740
 (Length: 85 mm) (Length: 97 mm)

(3) Specifications for D60, 65-8 — (1), D75A-1 and D83E-1

- The fan "1" remains the same as the above Item (1).
- Two spacers "3" shall be used as follows:
 <Current> 6151-61-3730 (Length: 111 mm)
 ↓
 <New> 6151-61-3350
 6151-61-3740
 (Overall length 119 mm)
- Bolt "2"
 <Current> 01010-51025
 ↓
 <New> 01010-51050



Replacing the $\phi 900$ reversible fan

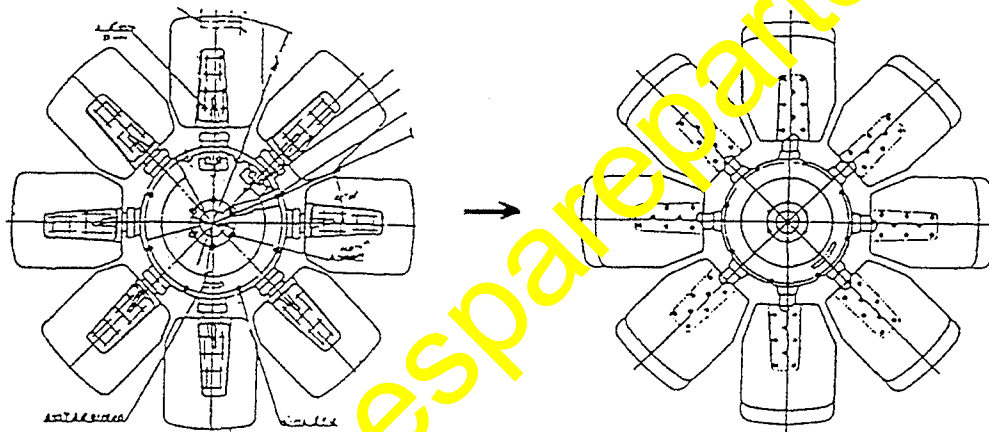
Applicable models: D75S-3 — 5

The following parts need be renewed or replaced. Refer to the Shop Manual when replacing the fan and its parts.

With this application, the reversible fan given below only needs to be changed.

Reversible fan (① in the sketch below)

<Current> 600-614-0900 \Rightarrow <New> 600-614-2900
(Number of fan blades: 8) (Number of fan blades: 8)



Replacing the $\phi 1060$ reversible fan

Applicable models: D85A-21, D135A-1—2 and WA500-1

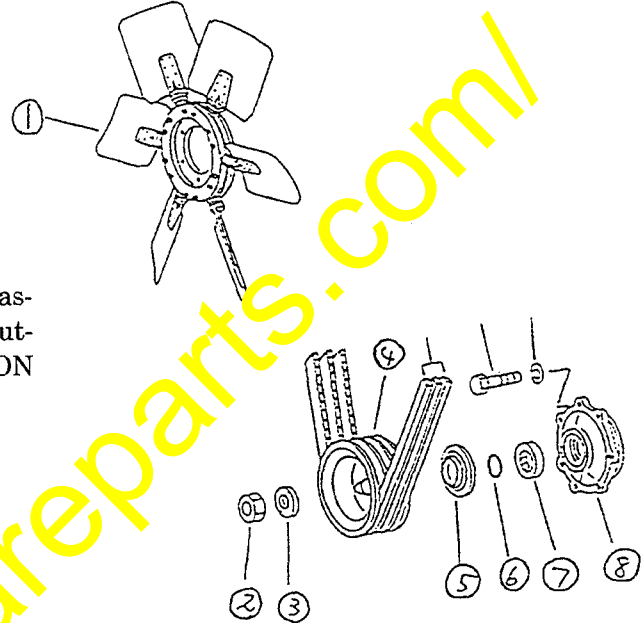
The following parts need be replaced. Refer to the Shop Manual and supplementary explanations given on pages 12 thru 13 of this INSTALLATION MANUAL when replacing the fan and its parts.

(1) Specifications for D85A-21 and D135A-1—2

Replace the following part:

- Reversible fan ①
 - <Current> 600-614-1066
(Number of fan blades: 6)
 - ↓
 - <New> 600-614-2060
(Number of fan blades: 8)

When replacing the fan, follow the disassembly and reassembly procedures outlined on page 12 of this INSTALLATION MANUAL.



(2) Specifications for WA500-1

The current $\phi 1,000$ fan ① shall be changed to a $\phi 1,060$ fan.

- <Current> 600-614-1060
(Number of fan blades: 6)
- ↓
- <New> 600-614-2060 (Number of fan blades: 8)

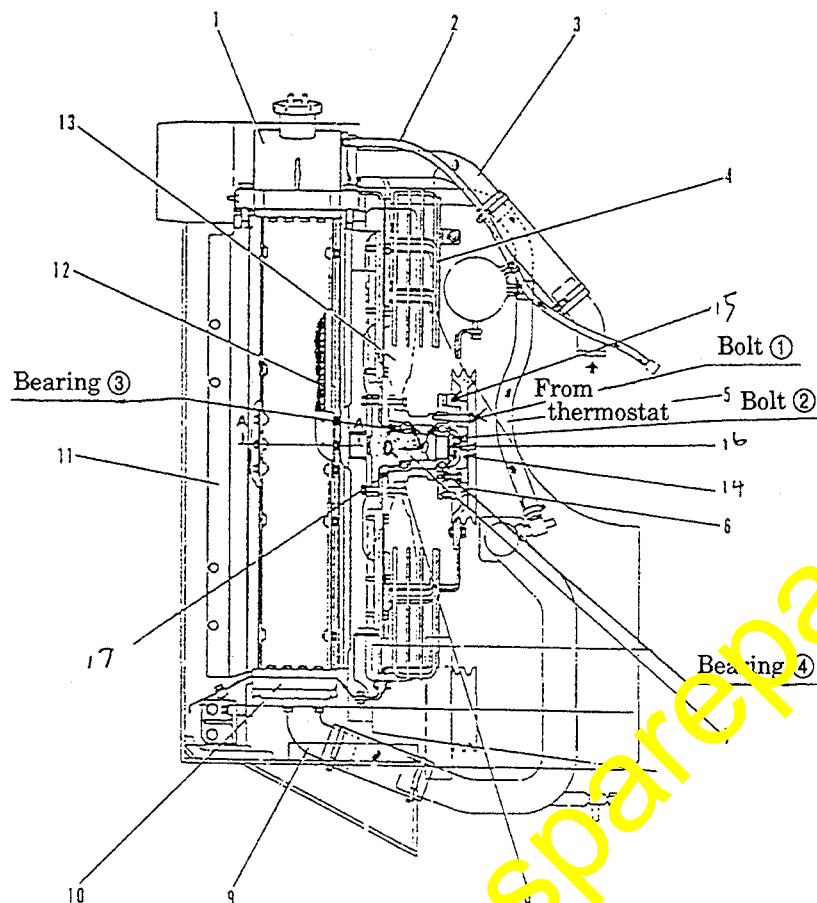
By the above change of the fan specifications, the shroud hole diameter and shroud thickness shall be accordingly changed to fit to the following fan dimension changes:

		Fan dia. (mm)	Fan thickness (mm)
<Current>	425-03-11710	1030	50
	↓	↓	↓
<New>	425-03-11750	1090	59

For replacement procedures of the fan shroud, refer to the replacement procedures given on page 13.

Disassembly and re-assembly procedures of the reversible fan with D85A/E-18 bulldozers

(1) Remove the radiator guard ass'y (Refer to the Shop Manual when doing this.)



- 1. Upper tank
- 2. Hose
- 3. Inlet tube
- 4. Fan guard
- 5. Hose
- 6. Pulley
- 7. Shaft
- 8. Boss
- 9. From thermostat
- 10. Lower tank
- 11. Wind breaker
- 12. Radiator core
- 13. Fan (reversible)
- 14. Cover
- 15. Shim
- 16. Lock plate
- 17. Oil seal

- (2) Remove the fan guard (4).
- (3) Remove bolts ① and ② before detaching the pulley (6), shim (15), cover (14) and lock plate (16).
- (4) Pull the boss ass'y (boss (8), fan (13), bearings ③ and ④ and oil seal (17)) out of the shaft (7).
- (5) Change the boss (8) (from 154-03-12574 → 154-03-12575) and the reversible fan (13) (from 600-614-1066 → 600-614-2060).

Meanwhile, re-assemble the removed bearings ③ and ④ onto the new boss and see that a gap does not occur at "a".

- (6) Replace the oil seal (17). (07011-10090). Fill grease G2-LI to the oil seal to 40% — 60% of its space.
- (7) Insert the boss ass'y onto the shaft and mount the lock plate, cover, shim and pulley.
- (8) Re-assemble detached parts following the assembling procedures in reverse.

Meanwhile, refer to the Shop Manual for the re-assembling procedures.

Note: When re-assembling, pay extra attention to protect the radiator core. Also, be careful about dropping or scratching the fan ass'y.

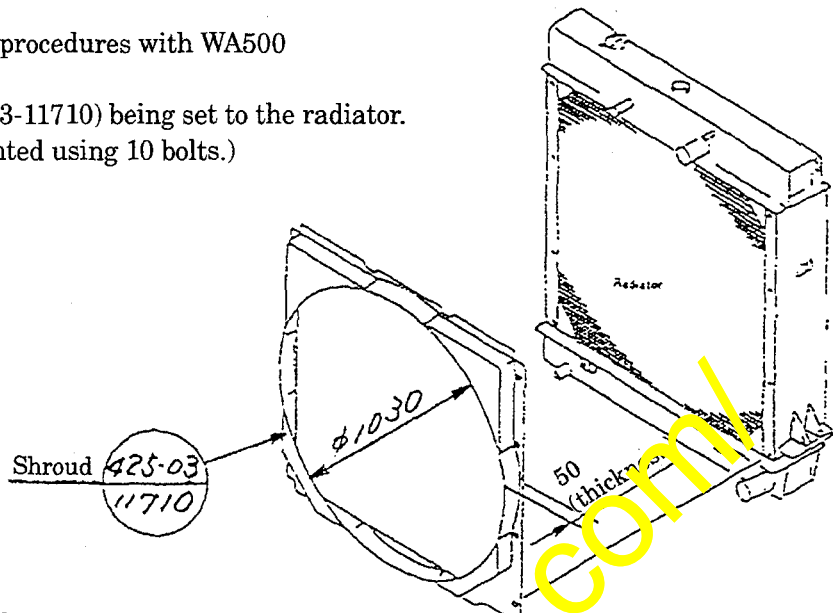
- (9) See that the decentering between the pulley (6) and the engine side pulley remains within 3 mm. Otherwise, adjust the alignment using shim (15).
- (10) Supply grease into the boss.

Note: The boss (8) (154-03-12575) is an exclusive part for the reversible fans. For standard fans, use boss 154-03-12574. Meanwhile, when the bearings ③ and ④ are found damaged, replace them.

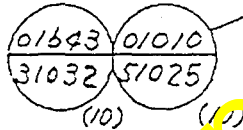
- ③ 06040-06212
- ④ 06040-06310

Radiator shroud replacement procedures with WA500

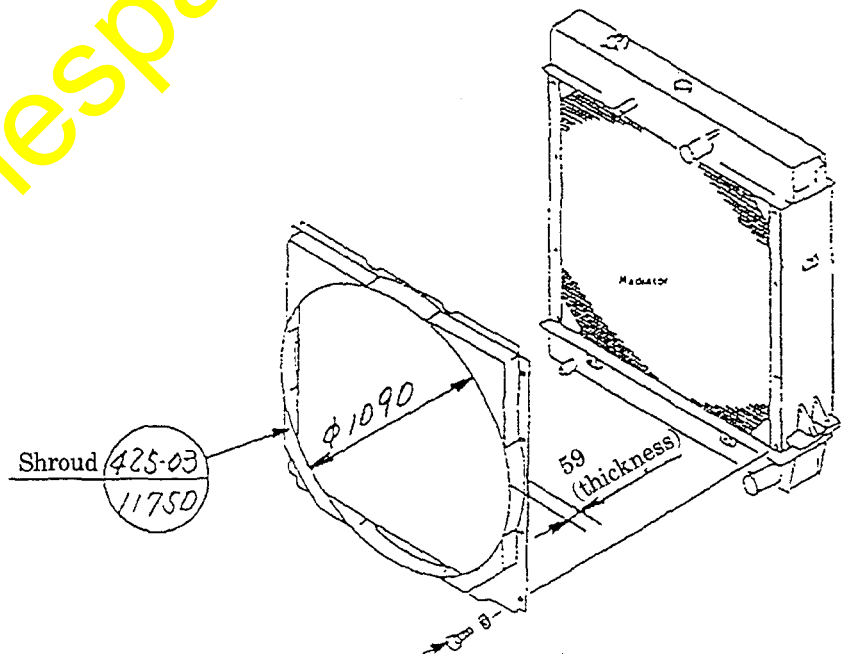
- (1) Remove the shroud (425-03-11710) being set to the radiator.
(The shroud is being mounted using 10 bolts.)



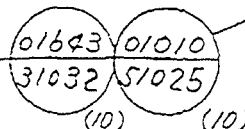
Note 1:
The bolts and washers shall be re-used when re-assembling the shroud.



- (2) Re-assembling the shroud (425-03-11750)
Install the shroud illustrated below to the radiator. Use the bolts and washers removed during the above procedure (1).



Note 2:
Bolt tightening torque:
53.4 — 73.5 Nm
(6.0 — 7.5 kgm/target 6.7 kgm)



Replacing the $\phi 1120$ reversible fan

Applicable models: D155-1 — 2, D155C-1, D355C-3, D375C-1, WA600-1 and WD600-1

The following parts need to be replaced. Refer to the Shop Manual when replacing the fan and its parts.

(1) Specifications for D155A-1 — 2, D155C-1, D355C-3 and D375C-1

Replace the following part:

Reversible fan ①

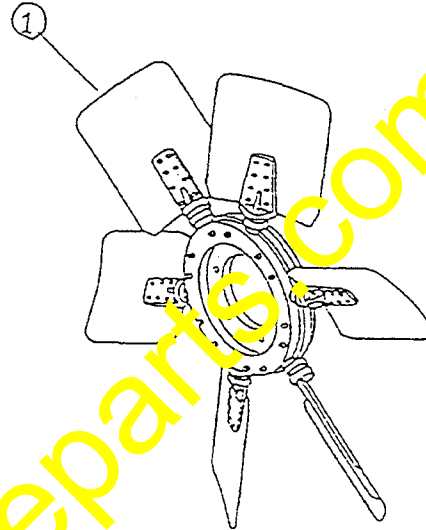
<Current> 600-614-1121

(Number of fan blades: 6)



<New> 600-614-2120

(Number of fan blades: 8)



(2) Specifications for WA600 and WD600

Reversible fan ①

<Current> 600-614-9120

(Number of fan blades: 6)



<New> 600-614-2120

(Number of fan blades: 8)

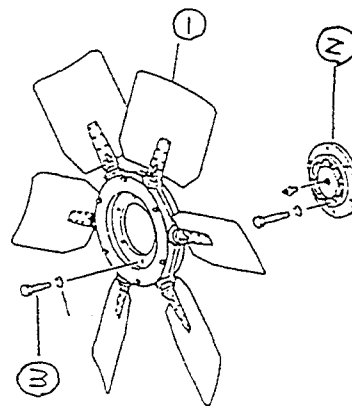
Spacer ②

<Current> 6162-63-3250



<New> 6162-63-3290

(Since the thickness is increased by 30 mm.)



Bolt ③

<Current> 01010-31240



<New> 01010-31270

(Since the length is changed 40 mm → 70 mm)

Replacing the $\phi 1120$ reversible fan

Applicable models: D275A-2 and D355A-3, 5

The following parts needs to be replaced. Refer to the Shop Manual when replacing the fan and its parts.

Reversible Fan ①

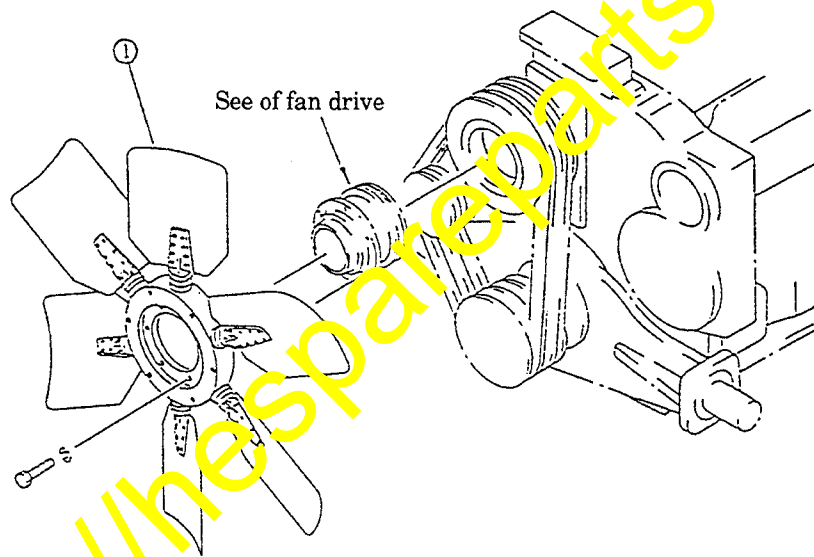
<Current> 600-614-1223

(Number of fan blades: 6)



<New> 600-614-2220

(Number of fan blades: 8)



Replacing the $\phi 1320$ reversible fan

Applicable models: D375A-1 — 2,
WA700-1

The following parts need be replaced. Refer to the Shop Manual and supplementary explanations given on pages 17 thru 18 of this Installation Manual when replacing the fan and its parts.

(1) Specifications for D375A-1 — 2

(i) Reversible fan ①
<Current> 600-614-1320
(Number of fan blades: 8)



<New> 600-614-2320
(Number of fan blades: 8)

(ii) Plate ②
<Current> 195-03-41630



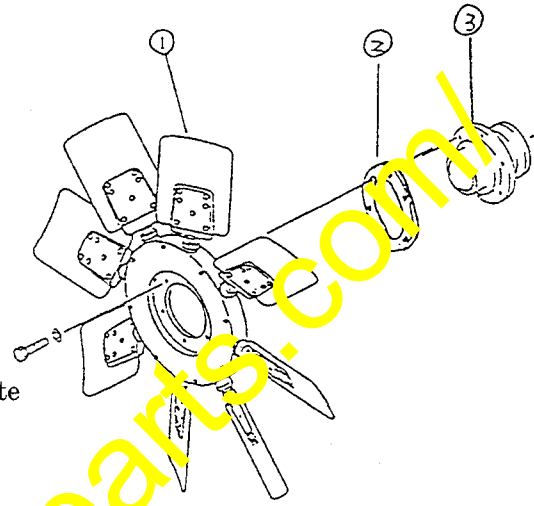
<New> 195-03-41631

(iii) Drum ③
<Current> 105-03-45120



<New> 195-03-45122

The bolt and plate
outside diameter
is being changed
from 260 mm to
245 mm.



When replacing the fan, follow the disassembly and reassembly procedures outlined on pages 17 thru 18 of this Installation Manual.

(2) Specifications for WA700-1

(i) Reversible fan ④
<Current> 600-614-1320



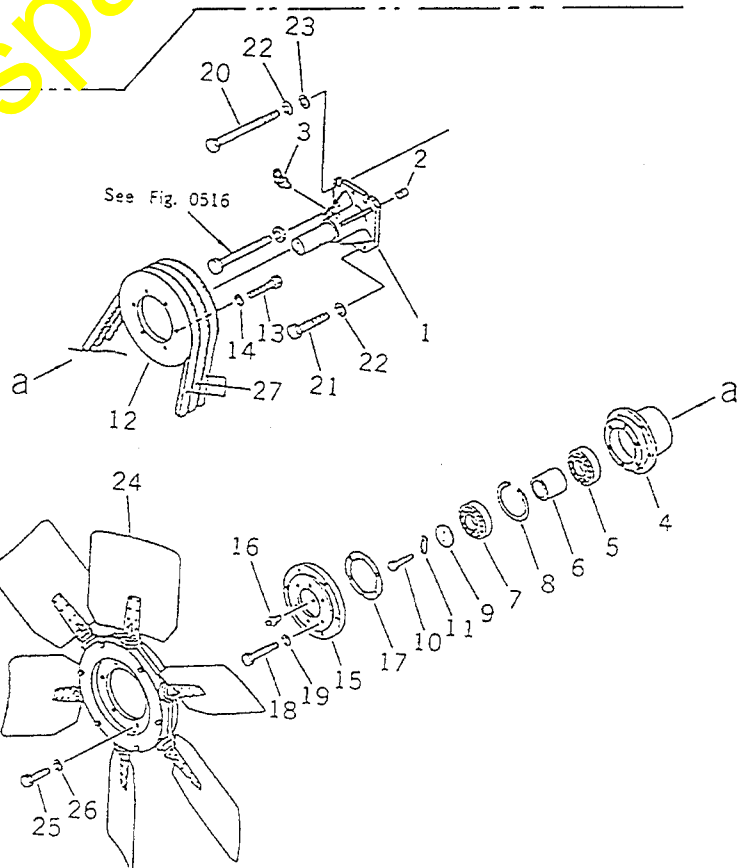
<New> 600-614-2320

(ii) Fan pulley ass'y (① — ③, ⑤, ⑥)

<Current> 6162-63-8200

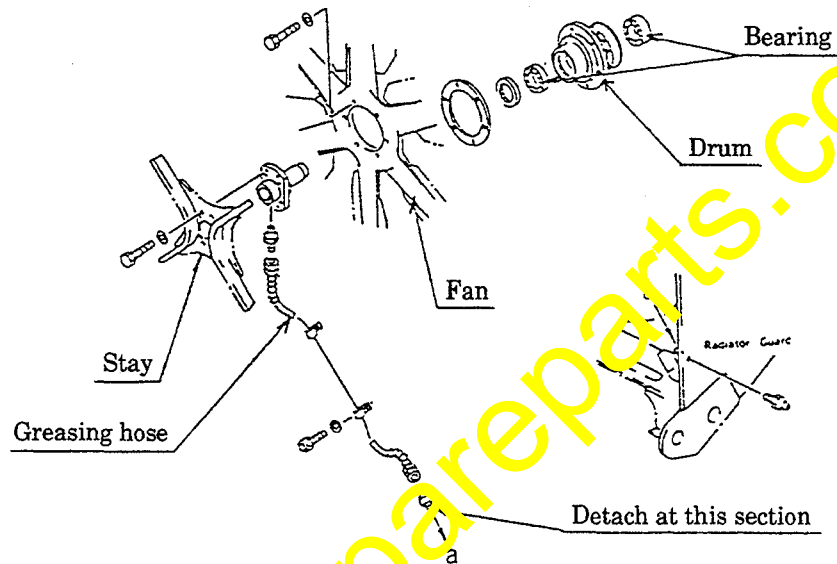


<New> 6162-63-8201

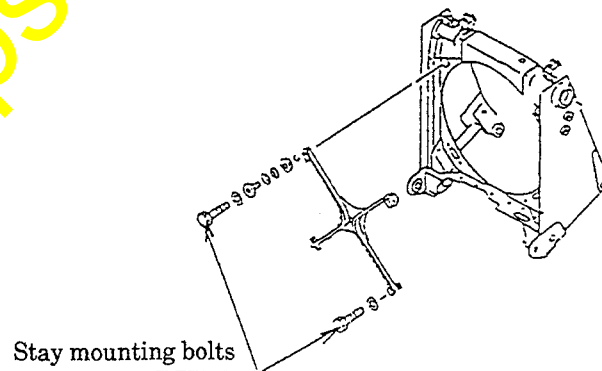


Replacing the reversible fan with D375A-1/2

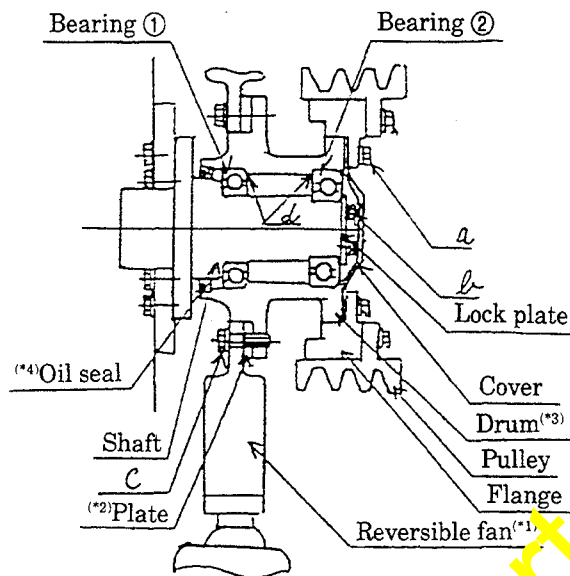
- (1) Turn over the radiator guard and the front guard ass'y.
(Refer to the Shop Manual when doing this.)
- (2) Disengage and remove the fan belt.
(Refer to the Shop Manual when doing this.)
- (3) Remove the bearing for the fan mount drum and detach the remote greasing hose from the radiator guard side.



- (4) Remove the stay mounting bolts (at 4 places) before detaching the fan ass'y from the machine body.



- (5) Replace the drum, plate and fan.



- (i) Remove bolt "a" to detach the pulley, flange and cover.
 - (ii) Remove the bolt "b" to detach the lock plate.
 - (iii) Pull out the fan-drum ass'y from the shaft.
 - (iv) Remove the bolt "c" and replace the fan (*1) (600-614-1320 → 600-614-2320), the plate (*2) (195-03-41630 → 195-03-41631), and the drum (*3) (195-03-45120 → 195-03-45122). Meanwhile, re-assemble detached bearings ① and ② to the new drum and see that gap does not occur at the section "d".
 - (v) Replace the oil seal (*4). (Apply grease.)
 STD oil seal 07011-20100: Fill G2-LI to 40% — 60% of the space.
 Extremely cold weather spec. oil seal 07011-20100: Fill GLT2-LI to 40% — 60% of the space.
 - (vi) Insert the drum ass'y onto the shaft and mount the rock plate, flange and pulley.
- (6) Re-assemble the detached parts following the disassembly procedures in reverse.
 (Refer to the Shop Manual regarding the re-assembly procedures.)

Note: When re-assembling, pay extra attention not to harm the radiator core and fan ass'y.

- (7) Apply grease to the drum.

Remark: The plate (*2) is an exclusive part for the reversible fans.
 The drum (*3) is a common part for the STD fans and reversible fans.
 Meanwhile, when bearings ① and ② are found damaged, replace them.
 (① 06040-06213 and ② 06040-06311)