

# PARTS & SERVICE NEWS

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(C)

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**SUBJECT:** INTRODUCTION OF TRANSMISSION SPIN-ON TYPE OIL FILTER

**PURPOSE:** To introduce an improved oil filter for the transmission on wheel loaders.

**APPLICATION:** WA120-3L Wheel Loader Serial Number A30001 to A30189  
 WA180-3L Wheel Loader Serial Number A80001 to A80591  
 WA180PT-3L Wheel Loader Serial Number A85001 to A85220  
 WA250-3L Wheel Loader Serial Number A70001 to A70402  
 WA250PT-3L Wheel Loaders Serial Number A75001 to A75237  
 WA320-3L Wheel Loaders Serial Number A30001 to A30193

**FAILURE CODE:** 15B0Z9

**DESCRIPTION:** A modified oil filter for the wheel loader transmission is being changed to a spin-on type cartridge structure. At the same time, the service life of the oil filter has been extended. This Service News will introduce the details of the modification. For already shipped vehicles not yet finished with this modification, the new type filter can be installed by replacing the filter assembly and the filter bracket at the same time.

## MACHINE PREPARATION

1. Park the machine on a flat level surface; lower the work equipment to the ground. Shut off the engine and cycle the controls to remove any residual hydraulic pressure from the work equipment circuits. Turn the parking brake switch on and block the tires.
2. Remove the key from the ignition switch until the repairs are complete. Place a tag on the steering controls advising: "This machine is being repaired. It should not be started or moved for any reason until the tag is removed by the person doing the repairs."



**WARNING!** Observe all safety and precautionary standards as dictated by the environment and work conditions under which the equipment will be inspected, reworked and repaired. consult the "Shop Manual" and "Operator's and Maintenance Manual" and your "Komatsu district service manager" with any/all questions regarding safety.

## Remark

*These instructions are intended to supplement the service data contained in the appropriate "Shop Manual". Always refer to that manual for Removal, Installation, Disassembly and Reassembly instructions when not contained in this document.*

**ADDITIONAL MACHINES**

Models	Categorization	Serial numbers of the applicable machines	
		Shipped machines	Being shipped from factory
WA100-3	3 speed T/M	50001 to 55001 (T/MNo.- 52934)	55002 - (T/MNo.52935-)
WA100-3 WA120-3	4 speed T/M 3 speed T/M	60001 - 63515 50001 - 53059 (T/MNo. - 54020)	64001- 54001 T/MNo. 54021-)
WA120-3 WA150-3 WA180-3 WA180PT-3	4 speed T/M	50001 - 53059 60001 - 63415 50001 - 53223 50001 - 50044 (T/MNo.- 68554)	54001 - 64001 - 54001 - 51001 - (T/MNo.- 68555-)
WA200-3  WA250-3  WA250PT-3		60001 - 63469 50001 - 53185 60001 - 65036 50001 - 50012 50014 - 50018 (T/MNo.-77879)	63470 - 53186 - 65037 - 50013, 50019 - T/MNo. 77880-)
WA300-3CS WA320-3CS		51004 - 52001 50001 - 50409 (T/MNo.- 85094)	52002- 50410 (T/MNo. 85095-)
WR11-3		30001 - 30428 (T/MNo.- 52900)	53001- (T/MNo.53864, 53968-)
WA100-3	3 speed T/M	50001 - 55001 (T/MNo.-52934)	55002 - (T/MNo.-52935-)
WA100-3 WA120-3	4 speed T/M 3 speed T/M	60001 - 63515 50001 - 53059 (T/MNo. 54020)	64001 - 54001 - (T/MNo.-54021-)
WA120-3 WA150-3 WA180-4 WA180PT-3		50001 - 53059 60001 - 63415 50001 - 53223 50001 - 50044 (T/MNo.-68554)	54001 - 64001 - 54001 - 51001 - (T/MNo.-68555-)
WA200-3  WA250-3  WA250PT-3		60001 - 63469 50001 - 53185 60001 - 65036 50001 - 50012 50014 - 50018  (T/MNo.-77879)	63470 -  53186 - 65037 -  50013, 50016 - (T/MNo.-77880)
WA300-3CS WA320-3CS		51004 - 52001 50001 - 50409 (T/MNo.-85094)	52002 - 50410 - (T/MNo.-85095)
WR11-3		30001 - 30424 (T/MNo.-52900)	53001 - (T/MNo.-53864, 53968-)

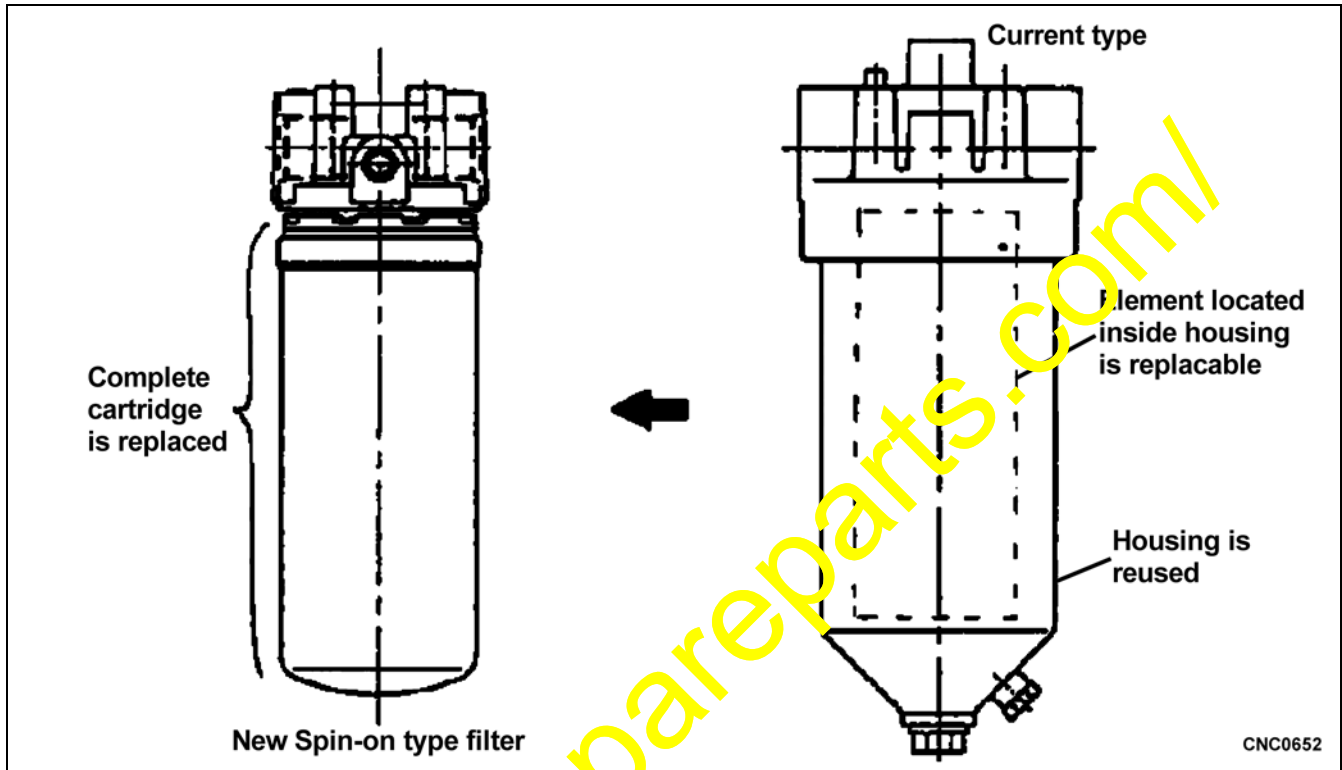
**PART LISTING**

Part Number	Description	Qty.	Remark
714-07-28702	FILTER ASSEMBLY . . . . .	1	--
(419-15-14800)	(FILTER ASSEMBLY) . . . . .	(1)	
714-07-28712	CARTRIDGE . . . . .	1	Only for replacement of cartridge
(424-16-11140)	(CARTRIDGE) . . . . .	(1)	
417-15-14590	SUPPORT . . . . .	1	WA100, 120-3 (3 speed T/M and WR11-3
(417-15-14580)	(SUPPORT) . . . . .	(1)	
714-11-18760	SUPPORT . . . . .	1	WA100-180-3 (4speed T/M)
(714-11-18830)	(SUPPORT) . . . . .	(1)	
714-12-18780	SUPPORT . . . . .	1	WA200, WA300-3CS
(714-12-18751)	(SUPPORT) . . . . .	(1)	
714-11-18100	ELBOW . . . . .	1	WA100, 120-3 (3speed T/M) WA100, 180-3 (4speed T/M) WR11-3 and WA300-3CS
(419-15-14641)	(ELBOW) . . . . .	(1)	
714-13-18100	ELBOW . . . . .	1	WA200-3
(419-15-14670)	(ELBOW) . . . . .	(1)	
07040-11007	PLUG. . . . .	1	Required when replacing
07002-11023	O-RING. . . . .	1	
07002-03334	O-RING. . . . .	2	

<https://hespareparts.com/>

## MODIFICATION PROCEDURES

As explained below, we have modified the structure of the oil filter for the transmission on the WA100-WA250, WA300-3CS and WR11-3 wheel loaders from the current type with which the element only is replaced to the new type (spin-on type) with which the housing and the element are integrated into a cartridge which is replaced, and at the same time, we have extended the service life of the oil filter.



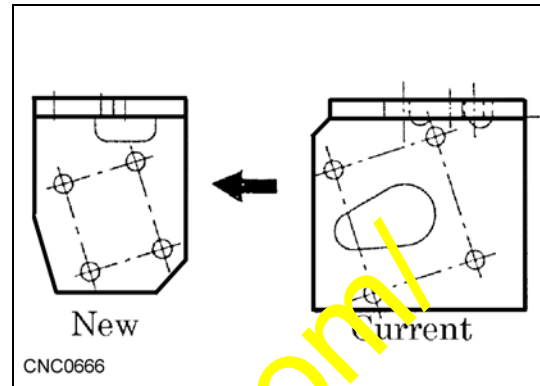
### ★ Service Interval Comparison

Part Number information	Spin-on type filter with prolonged service life	Current filter type
Part number of filter assemblies	714-07-28702	419-15-14800
Part number of the parts to be replaced periodically	714-07-28712 (Cartridge)	424-16-11140 (Element)
Element/cartridge replacement interval	First replacement after delivery of machine: 250 hours and after every 1,000 hours of operation	First replacement after delivery of machine: 250 hours and after every 500 hours of operation
Reference information	Transmission case oil replacement intervals every 1,000 hours	

Also, because of the change to the filter assembly, the filter mating surface mounting is now different and it becomes necessary to change the filter bracket also.

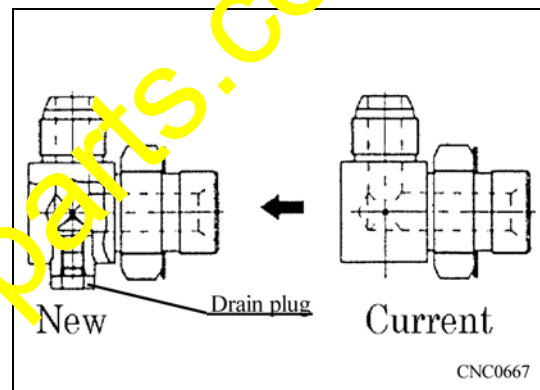
- Filter bracket

Changing the filter assembly from center bolt type to syphon type, the filter head dimension for mounting are different between the filter assembly, so the filter bracket must be changed.



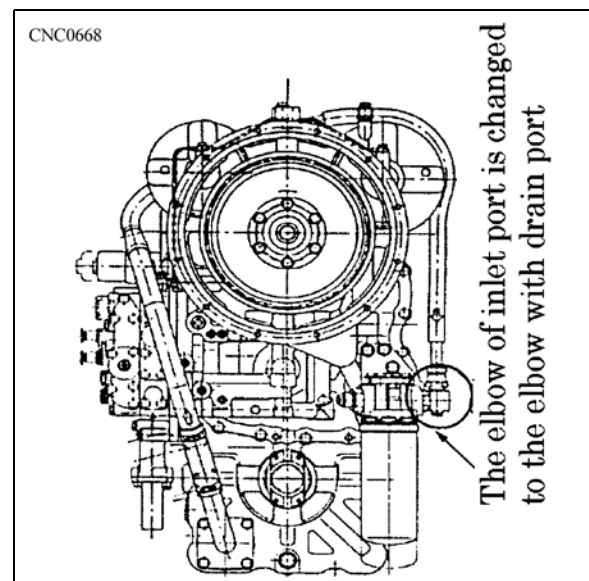
- Elbow of inlet port

In order to minimize oil flow when loosening the cartridge, the drain plug is provided on the elbow.



- Transmission piping view

When installing this new system be sure the piping arrangement is correct.

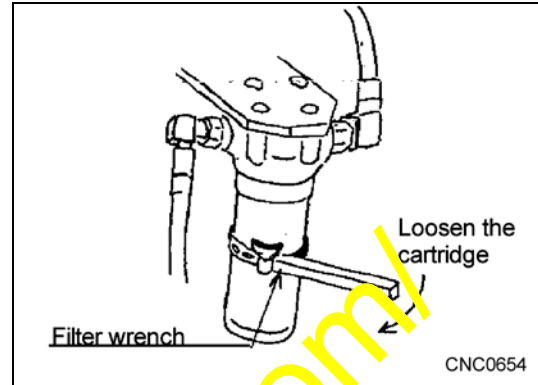


★ Cartridge Replacement Procedures With The Spin-on Type Filter

Outlined below are the cartridge replacement procedures with the spin-on type filter.

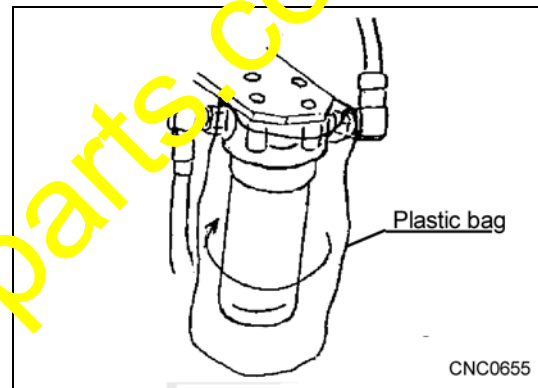
**REMOVAL PROCEDURES**

1. Loosen the cartridge using the filter wrench (09019-08035).
2. Gradually turn the cartridge by hand until it comes off.



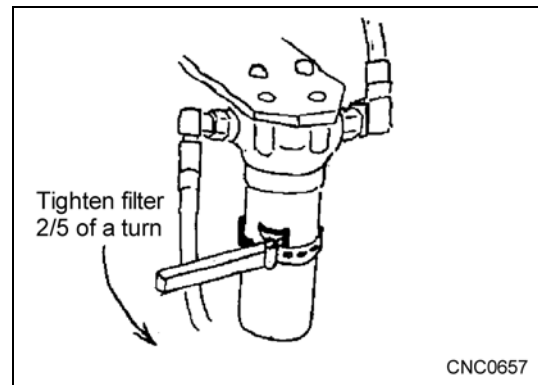
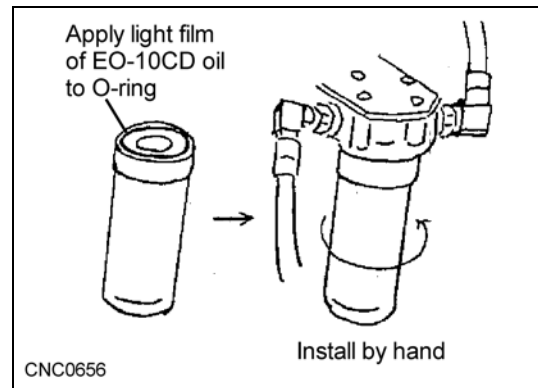
**Remark**

*Since oil remaining inside the cartridge and the piping flows out when the cartridge is separated, cover the cartridge with a plastic bag in which the spare cartridge was wrapped to prevent oil from spilling. It is also advised to prepare a pan to catch any oil that may spill.*



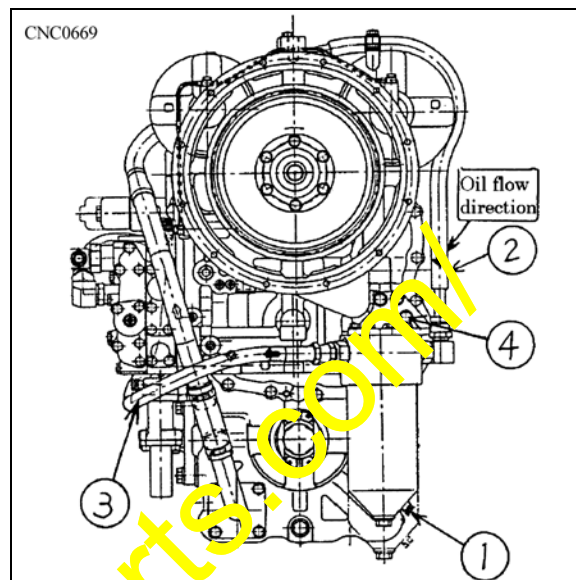
**INSTALLATION PROCEDURES**

3. After applying clean oil EO-10CD over the O-ring placed on the mating surface of the cartridge, turn the cartridge manually until the O-ring comes in contact with the mating surface.
4. From the position where the O-ring has come in contact with the mating surface, turn the cartridge 2/5 of a turn using the filter wrench.



- ★ The procedures to replace the filter assembly from center bolt type to spin-on type on **WA100/ 120-3 (3 speed T/M), WA1006180-3 (4 speed T/M), WR11-3** are shown below. This procedure is applied to the delivered machine with center bolt type filter.

1. Remove the drain plug (1) located on the filter, then drain the oil contained in the filter.
2. Remove the hose (2) of inlet port and hose (3) of outlet port of the filter.
3. Remove the mounting bolt (4) of filter bracket, then remove the filter together with bracket.
4. Remove the mounting bolt (5), then remove the bracket 6 from the filter.
5. Remove the elbow of filter outlet port (7).
6. Assemble the plug and O-Ring (9) to the new elbow 8 that has the drain port.
7. Assemble the elbow (8) that has the drain port to the inlet port of new filter, and assemble the elbow (7) that was removed in the process 5 to the outlet port of new filter.

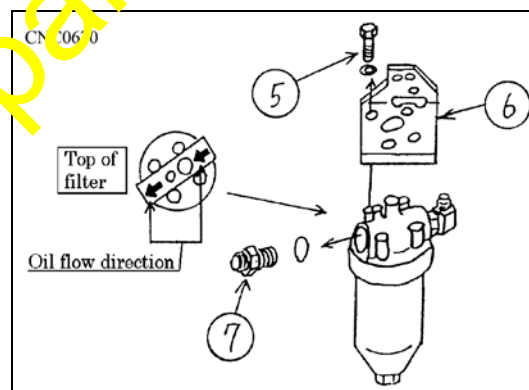


#### Remark

*Assembling angle of the elbow to the new filter should be similar to that to the old filter.*

#### Remark

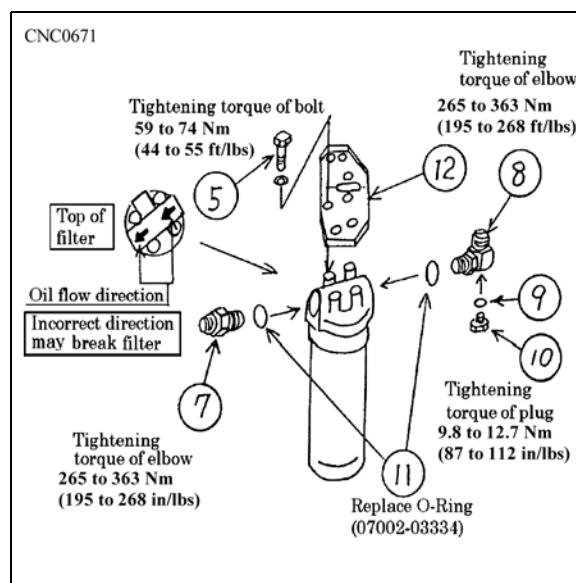
*O-Ring (11) must be replaced with new one.*



8. Mount the new filter on the new bracket (12) using the bolt (5) that was removed in process 5.

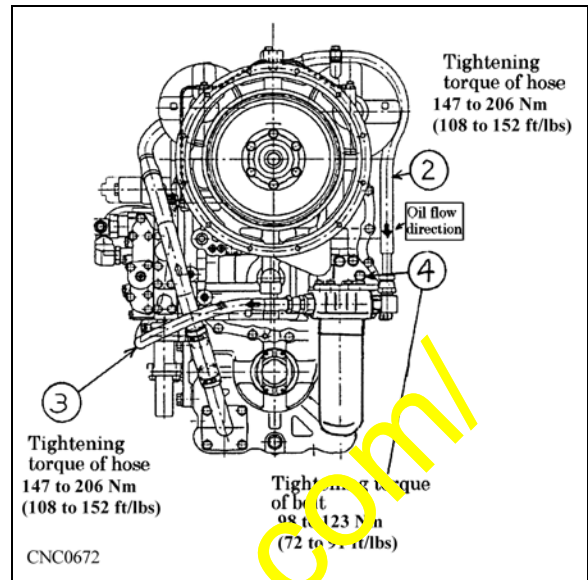
#### Remark

*The filter must be mounted along with the arrow mark that is shown on the top of filter head as shown in the picture.*

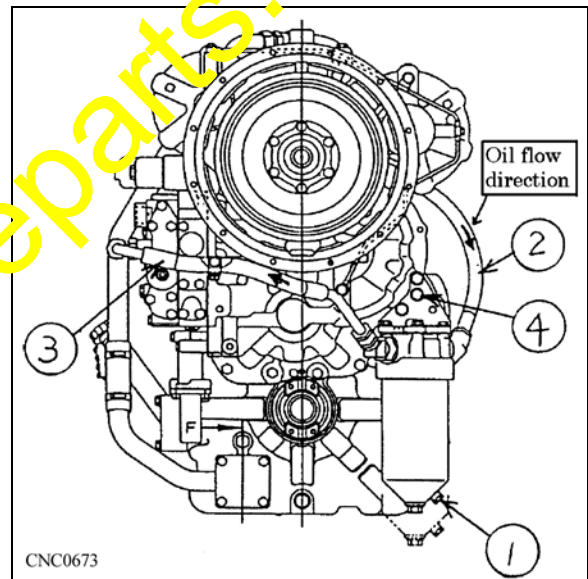


9. After mounting the new filter to the new bracket, install the filter on the transmission using the bolt (4) that are removed in the process 3.
10. Assemble the inlet hose (2) and the outlet hose (3) of filter.

★ The procedure to replace the filter assembly from center bolt type to spin-on type on **WA200/250-3**, **WA300-3CS** are shown below. This procedure is applied on the delivered machine with center bolt type filter.



1. Remove the drain plug (1) located on the filter, then drain the oil contained in the filter.
2. Remove the hose (2) of inlet port and hose (3) of outlet port of the filter.
3. Remove the mounting bolt (4) of filter bracket, then remove the filter together with bracket.
4. Remove the mounting bolt (5), then remove the bracket (6) from the filter.
5. Remove the elbow (7) of filter outlet port.
6. Assemble the plug and O-Ring (9) to the new elbow (8) that has the drain port.
7. Assemble the elbow (8) that has the drain port to the inlet port of new filter, and assemble the elbow (7) that was removed in the process 5 to the outlet port of new filter.

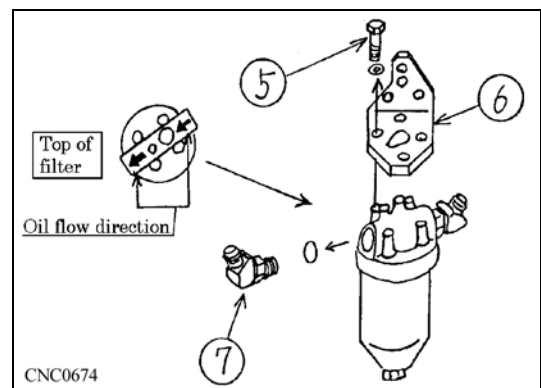


**Remark**

*Assembling angle of the elbow to the new filter should be similar to that to the old filter.*

**Remark**

*O-Ring (11) must be replaced with new one.*

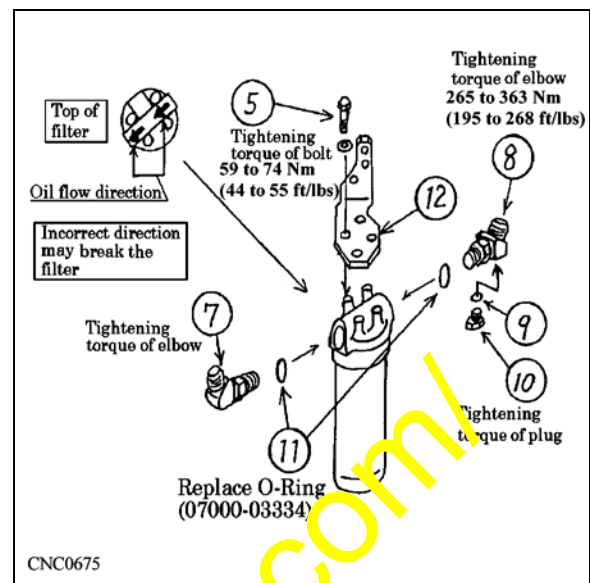




8. Mount the new filter on the new bracket (12) using the bolt (5) that was removed in process 5.

### Remark

*The filter must be mounted along with the arrow mark that is shown on the top of filter head as shown in the picture. If the filter is mounted to opposite direction, it may be damaged.*



9. After mounting the new filter to the new bracket, install the filter on the transmission using the bolt (4) that are removed in the process 3.
10. Assemble the inlet hose (2) and the outlet hose (3) of filter.

