MAINTENANCE

SERVICE INTERVALS

No.	Items			Indication on hour meter														Interval	Ref. page		
				50	100	150	200	250	300	350	400	450	500	550	600	650	700				
1	Engine start system	[Manual transmission]	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	130		
		[HST]																	131		
2	Wheel bolt torque		Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	132		
3	Greasing	[2WD]	-	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 Hr	129		
		[4WD]																	130		
4	Battery condition		Check		○		○		○		○		○		○		○	every 100 Hr	134	*1	
5	Fan belt		Adjust		○		○		○		○		○		○		○	every 100 Hr	133		
6	Brake		Adjust		○		○		○		○		○		○		○	every 100 Hr	134		
7	Clutch [Manual transmission]		Adjust	◎	○		○		○		○		○		○		○	every 100 Hr	133		
8	Air cleaner element	Primary element	Clean		○		○		○		○		○		○		○	every 100 Hr	132	*2	@
			Replace															every 1000 Hr or 1 Year	143	*3	
		Secondary element	Replace															every 1000 Hr or 1 Year	143	*3	
9	Transmission oil filter [HST]		Replace	◎			○				○				○			every 200 Hr	136		
10	Toe-in		Adjust				○				○				○			every 200 Hr	137		
11	Engine oil		Change	◎							○							every 400 Hr	140		
12	Engine oil filter		Replace	◎							○							every 400 Hr	140		
13	Water separator		Clean								○							every 400 Hr	142		
14	Fuel filter		Replace								○							every 400 Hr	142		@
15	Hydraulic oil filter	[HST]	Replace	◎							○							every 400 Hr	141		
		[Except HST]	Replace								○							every 400 Hr	141		
16	Transmission fluid		Change								○							every 400 Hr	141		
17	Greasing (2WD front wheel hub)		-								○							every 400 Hr	142		
18	Front axle pivot		Adjust												○			every 600 Hr	143		
19	Front axle case oil [4WD]		Change															every 800 Hr	143		
20	Engine valve clearance		Adjust															every 800 Hr	143	*4	
21	Exhaust manifold		Check															every 1000 Hr or 1 year	144	*3, *4	
22	Fuel injector nozzle tip		Clean															every 1500 Hr	144	*4	@
23	Oil separator element		Replace															every 1500 Hr	144		@
24	PCV (positive crankcase ventilation) valve (Oil separator)		Check															every 1500 Hr	144	*4	@

(Continued)

No.	Items		Indication on hour meter														Interval	Ref. page		
			50	100	150	200	250	300	350	400	450	500	550	600	650	700				
25	EGR cooler	Check and clean															every 1500 Hr	144	*4	@
26	Cooling system	Flush															every 2000 Hr or 2 years	145	*5	
27	Coolant	Change															every 2000 Hr or 2 years	145	*5	
28	EGR system	Check and clean															every 3000 Hr	146	*4	@
29	Supply pump	Check															every 3000 Hr	146	*4	
30	DPF muffler	Clean															every 3000 Hr	146	*4	@
31	Turbo charger	Check															every 3000 Hr	146	*4	@
32	Fuel line	Check															every 1 year	147	*6	@
		Replace															every 4 years	150	*4, *6	
33	Power steering oil line	Check															every 1 year	148	*6	
		Replace															every 4 years	150	*4, *6	
34	Oil cooler line [HST]	Check															every 1 year	148	*6	
		Replace															every 4 years	150	*4, *6	
35	Radiator hose and clamp	Check															every 1 year	147	*6	
		Replace															every 4 years	149	*6	
36	Intake air line	Check															every 1 year	147	*6	@
		Replace															every 4 years	150	*6	
37	Oil separator hose	Check															every 1 year	148	*6	
		Replace															every 4 years	150	*4, *6	
38	Antifrost heater for oil separator (if equipped)	Check															every 1 year	149	*4	
39	DPF related pipe	Check															every 1 year	149	*4	
40	EGR pipe	Check															every 1 year	149	*4	
41	DPF related rubber pipe	Replace															every 2 year	149	*4	
42	EGR cooler rubber pipe	Replace															every 2 year	149	*4	
43	Fuel system	Bleed															Service as required	150		
44	Clutch housing water	Drain																152		
45	Fuse	Replace																152		
46	Light bulb	Replace																154		
47	Fuel line	Replace																155	*6	
48	Radiator hose and clamp	Replace																155	*6	
49	Intake air line	Replace																155	*6	
50	Power steering oil line	Replace																155	*6	
51	Oil cooler line [HST]	Replace																156	*6	
52	Oil separator hose	Replace																156	*6	

IMPORTANT :

- **You must perform the jobs indicated by ◎ after the first 50 hours of operation.**
- **The items which is @ marked are registered as the emission-related-critical-parts by KUBOTA in the U.S.EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the preceding instruction.**
  Please refer to the Warranty Statement in detail.

- **When using biodiesel, be sure to check the maintenance requirements of biodiesel fuel because the intervals will change in some of the items.**

*1 When the battery is used for less than 100 hours per year, check the battery condition by reading the indicator annually.
*2 Clean the air cleaner more often in dusty conditions than in normal conditions.
*3 Every 1000 hours or every 1 year, whichever comes first.
*4 Consult your local KUBOTA Dealer for this service.
*5 Every 2000 hours or every 2 years, whichever comes faster.
*6 Replace if any deterioration (crack, hardening, scar, or deformation) or damage occurred. However, replace every 4 years regardless of the condition.

SERVICE INTERVALS (ONLY THE CHECK POINTS FOR TRACTORS WITH CAB)

No.	Items		Daily	Indication on hour meter								Interval	Ref. page
				100	200	300	400	500	600	700	800		
1	Clogging of air conditioner condenser screen	Clean	○										127
2	Tension of air conditioner drive belt	Adjust			○		○		○		○	every 200 Hr	139
3	Clogging of inner air filter	Clean			○		○		○		○	every 200 Hr	138
4	Clogging of fresh air filter	Clean			○		○		○		○	every 200 Hr	138
5	Clogging of air conditioner condenser	Check			○		○		○		○	every 200 Hr	139
6	CAB isolation cushion	Check										every 1 year	149
7	Air conditioner pipes and hoses	Check										every 1 year	149
		Replace										every 4 years	150
8	Washer liquid	Check										service as required	156
9	Amount of refrigerant (gas)	Check										service as required	156
10	Air conditioner pipes and hoses	Replace										service as required	150

charger, and the negative terminal of battery to the negative terminal of charger. Then recharge in the standard fashion.
A boost charge is only for emergencies. Boost charge will partially charge the battery at a high rate and in a short time.
When using a boost-charged battery, it is necessary to recharge the battery as early as possible.
Failure to recharge the battery may shorten the service life of battery.
The battery is charged if the indicator display turns green from black.

2. When exchanging an old battery for a new one, use the battery of equal specification shown in the following table.

	Battery type	Volts (V)	Reserve capacity (min)	CCA (SAE) (A)	Normal charging rate (A)
ROPS	80D26R	12	120	600	7.5
CABIN	85D26R	12	130	650	7.5

CCA
Cold cranking ampere

Direction for battery storage

1. When storing the tractor for long periods of time, follow the following procedure.
   a. Remove the battery from the tractor.
   b. Adjust the electrolyte to the proper level.
   c. Store the battery in a dry place out of direct sunlight.
2. Recharge the battery once every three months in hot seasons and once every six months in cold seasons.
   The battery self-discharges while it is stored.

SERVICE EVERY 200 HOURS

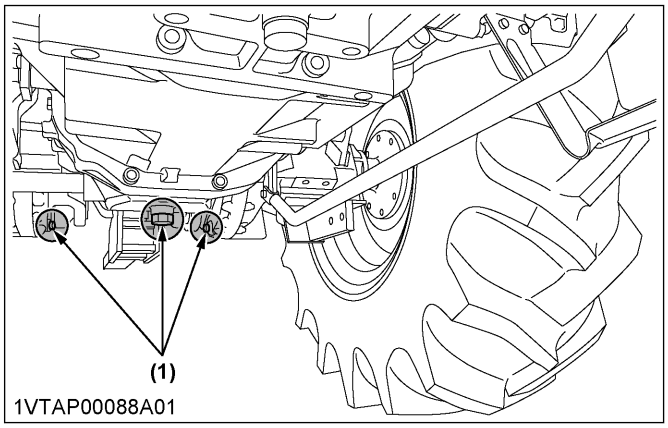
1. Replacing the transmission oil filter [HST type only]

⚠ WARNING
To avoid personal injury or death:
- **Be sure to stop the engine and remove the starter key before changing the transmission-oil-filter-cartridge.**
- **Allow the engine to cool down sufficiently because the transmission oil can be hot and can burn.**

IMPORTANT :
- **To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.**
- **Do not operate the tractor immediately after changing the transmission fluid.**

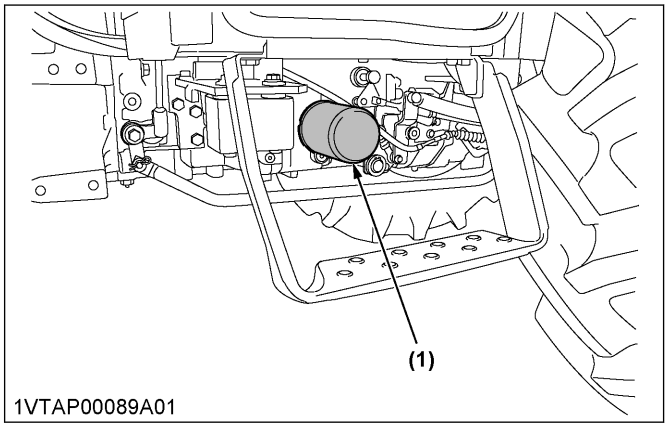
Run the engine at medium speed for a few minutes to prevent damage to the transmission.

1. Remove the drain plugs at the bottom of the transmission case and drain the transmission oil completely into the oil pan.
2. After draining the transmission oil, reinstall the drain plugs.



(1) Drain plugs

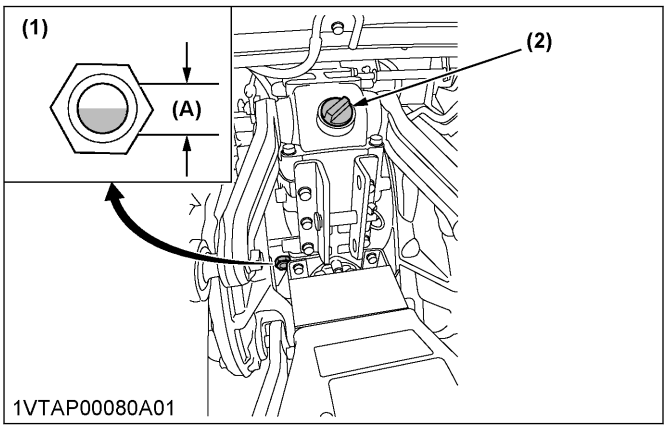
3. Remove the transmission-oil-filter.



(1) Transmission oil filter [HST type]

4. Put a film of clean transmission oil on the rubber seal of the new transmission-oil-filter.
5. Quickly tighten the transmission-oil-filter until it contacts the mounting surface, then, with a filter wrench, tighten the transmission-oil-filter an additional one turn only.

6. After the new transmission-oil-filter has been replaced, fill with the transmission oil up to the upper line of the gauge.



(1) Gauge
(2) Oil inlet
(A) Range which transmission oil level is acceptable within

7. After running the engine for a few minutes, stop the engine and check the oil level again, add the transmission oil to the prescribed level.
8. Make sure that the transmission fluid does not leak past the rubber seal on the the transmission-oil-filter.

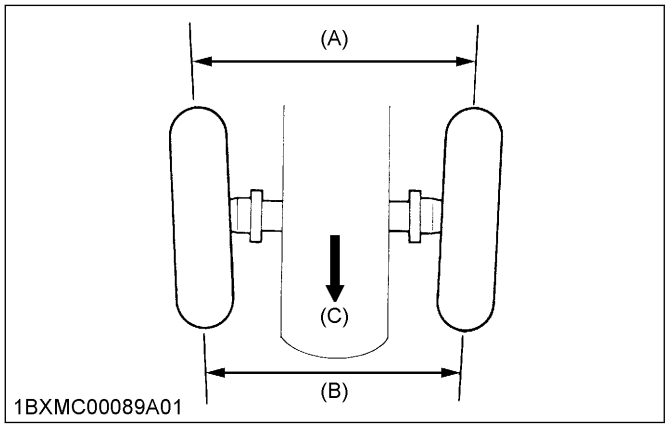
2. Checking the toe-in

WARNING

To avoid personal injury or death:

- **Park the tractor on a firm, flat, and level place.**
- **Lower the implement to the ground and lock the parking brake.**
- **Stop the engine and remove the starter key.**

1. Park the tractor on a flat place.
2. Turn the steering wheel so that the front wheels are in the straight ahead position.
3. Lower the implement, lock the parking brake, and stop the engine.
4. Measure the distance between the tire beads at front of tire, at the hub height.
5. Measure the distance between the tire beads at rear of tire, at the hub height.
   The distance between the tire beads at front of tire should be shorter than the distance between the tire beads at rear of tire.
6. If the distance between the tire beads at front of tire is not shorter than the distance between the tire beads at rear of tire, adjust the length of tie rod.
   (See Adjusting the toe-in on page 137.)



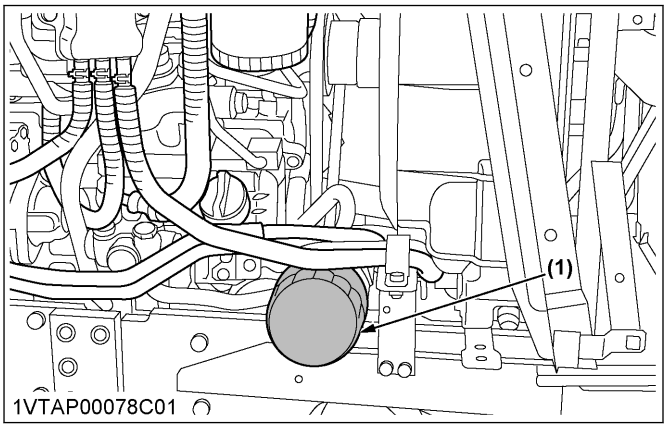
(A) Wheel-to-wheel distance at rear
(B) Wheel-to-wheel distance at front
(C) Front

Proper toe-in	2 mm to 8 mm (0.08 in. to 0.31 in.)

2.1 Adjusting the toe-in

1. Detach the snap ring.
2. Loosen the tie-rod nut.
3. Turn the tie-rod joint to adjust the length of tie-rod until the proper toe-in measurement is obtained.
4. Retighten the tie-rod nut.

6. Then, replenish the engine oil up to the prescribed level.



(1) Engine oil filter

3. Changing the transmission fluid, replacing the hydraulic oil filter, and cleaning the magnetic filter

⚠ WARNING

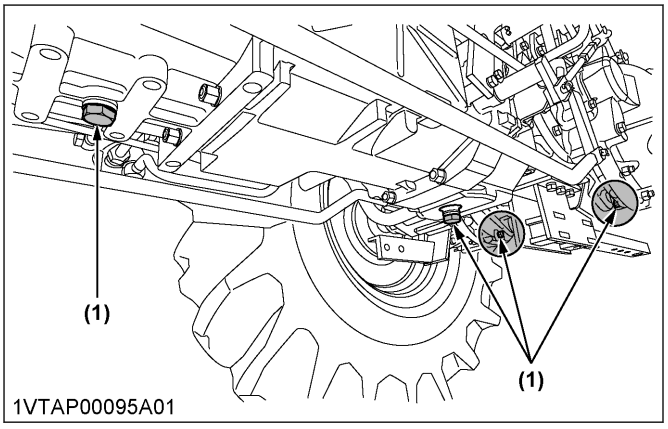
To avoid personal injury or death:

- **Be sure to stop the engine and remove the starter key before changing the hydraulic-oil-filter-cartridge.**
- **Allow the engine to cool down sufficiently because the transmission oil can be hot and can burn.**

IMPORTANT :

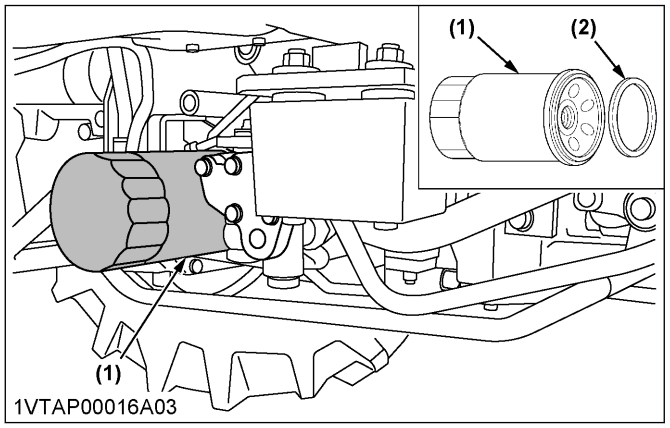
- **To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.**

1. Remove the drain plugs at the bottom of the transmission case and drain the transmission oil completely into the oil pan.
2. After draining, reinstall the drain plugs.



(1) Drain plugs

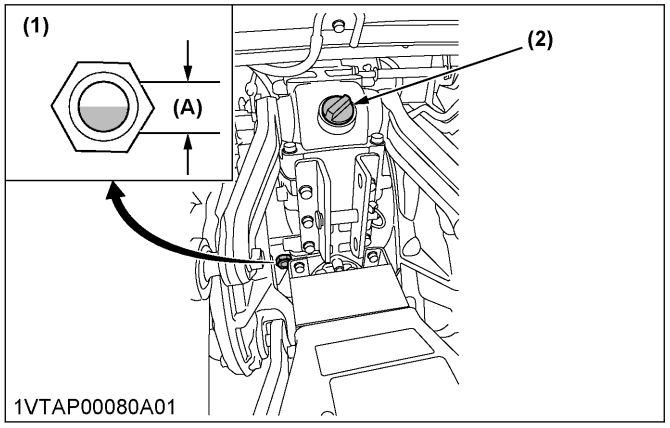
3. Remove the hydraulic-oil-filter.
4. Wipe off metal filings from the magnetic filter with a clean rag.



(1) Hydraulic oil filter
(2) Magnetic filter (wipe off metal filings)

5. Put a film of clean transmission oil on the rubber seal of the new hydraulic-oil-filter.
6. Quickly tighten the hydraulic-oil-filter until it contacts the mounting surface.
7. Then tighten the hydraulic-oil-filter by hand an additional 1/2 turn only.
8. After the new hydraulic-oil-filter has been replaced, fill with transmission oil up to the upper line of the gauge.
9. After running the engine for a few minutes, stop the engine and check the level of the transmission oil again. Add the transmission oil to the prescribed level.
10. Make sure that the transmission fluid does not leak past the seal on the hydraulic-oil-filter.

Transmission oil capacity	44.0 L (11.6 U.S.gals.)



(1) Gauge
(2) Oil inlet
(A) Range which transmission oil level is acceptable within

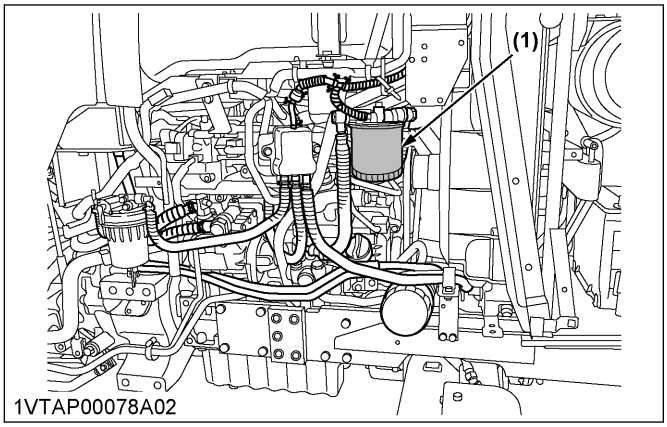
IMPORTANT :

- **Do not operate the tractor immediately after changing the transmission fluid.**

Run the engine at medium speed for a few minutes to prevent damage to the transmission.

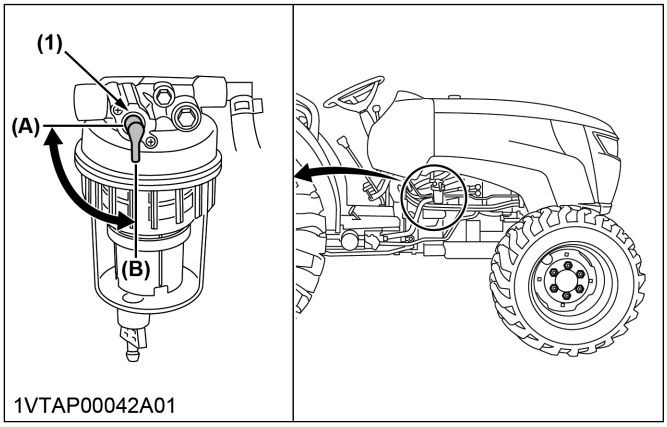
4. Replacing the fuel filter

1. Remove the fuel filter.
2. Put a film of clean fuel on the rubber seal of the new filter.
3. Tighten the fuel filter quickly until it contacts the mounting surface.
4. Tighten the fuel filter by hand an additional 1/2 turn only.



(1) Fuel filter

5. Bleed the fuel system.
(See How to purge air from the fuel on page 150)



(1) Fuel shutoff-valve
(A) Close
(B) Open

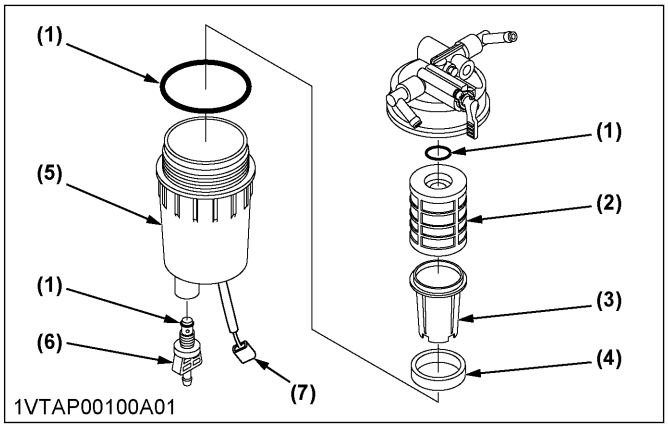
5. Cleaning the water separator

This job should not be performed in the field, but in a clean place.

1. Disconnect the connector of water sensor.
2. Close the fuel shutoff-valve.
3. Loosen the cup and remove it, then rinse the inside with kerosene.
4. Remove the element and dip it in the kerosene to rinse.

IMPORTANT :
- **If a fuel element is broken, replace it with new one.**

5. After cleaning, reassemble the water separator, keeping out dust and dirt.
6. Connect the connector of water sensor.



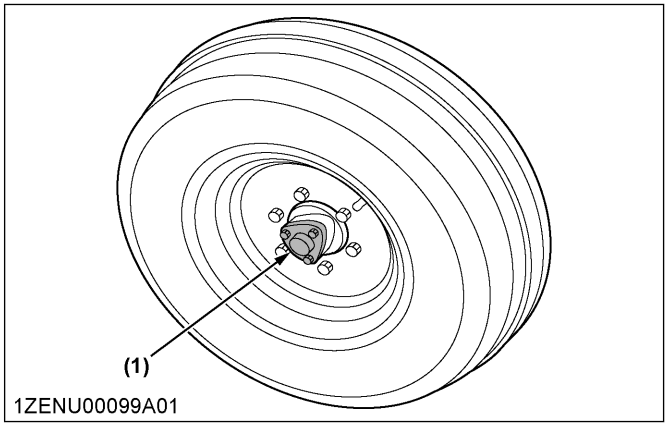
(1) O ring
(2) Element
(3) Element cup
(4) Red float
(5) Cup
(6) Drain plug
(7) Water sensor connector

7. Bleed the fuel system.
(See How to purge air from the fuel on page 150)

IMPORTANT :
- **If the water separator and/or fuel filter is not well maintained, the supply pump and injector may be damaged earlier than expected.**

6. Lubricating the grease fitting of front wheel hub [2WD]

1. Detach the front-wheel-hub-cover.
2. Apply the bearing grease to the grease fitting.



(1) Front wheel hub cover