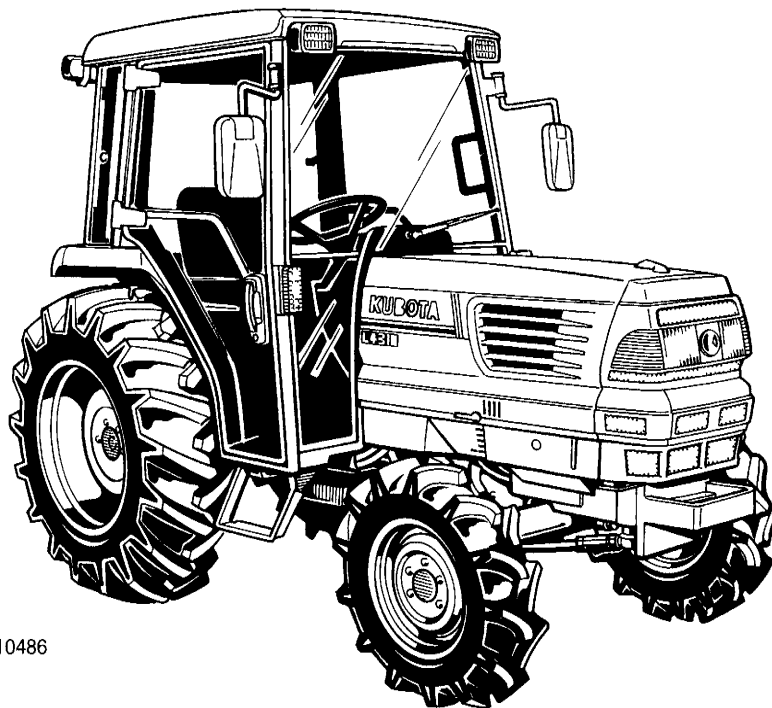


OPERATOR'S MANUAL

KUBOTA TRACTOR

MODELS L3710•L4310•L4610



F 10486

READ AND SAVE THIS MANUAL

Kubota

ABBREVIATION LIST

Abbreviations	Definitions
2WD	Two Wheel Drive
4WD	Four Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers, USA
ASTM	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DT	Dual Traction [4WD]
fpm	Feet Per Minute
GST	Glide Shift Transmission
Hi-Lo	High Speed-Low Speed
HST	Hydrostatic Transmission
m/s	Meters Per Second
PTO	Power Take Off
RH/LH	Right-hand and left-hand sides are determined by facing in the direction of forward travel
ROPS	Roll-Over Protective Structures
min ⁻¹ (rpm)	Revolutions Per Minute
S ⁻¹ (r/s)	Revolutions Per Second
SAE	Society of Automotive Engineers, USA
SMV	Slow Moving Vehicle

California Proposition 65

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

FOREWORD

Thank you very much for choosing the L series tractor with CAB

This operator's manual covers the operation, inspection and preventive maintenance instructions that are specific to the L series CAB models. For other information and instructions, refer to the separately issued operator's manual for their sister models.

Please read this manual carefully along with the tractor operator's manual, to operate the machine properly and safely.

Proper daily inspection, servicing and lubrication keeps your machine in good condition.

SAFETY FIRST

This symbol, the industry's Safety Alert Symbol, is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT

Indicates that equipment or property damage could result if instructions are not followed.

NOTE

Gives helpful information.

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SAFE OPERATION

Careful operation is your best insurance against an accident.

Read and understand carefully this section of the separately issued operator's manual before operating the tractor.

■ DANGER, WARNING AND CAUTION LABELS

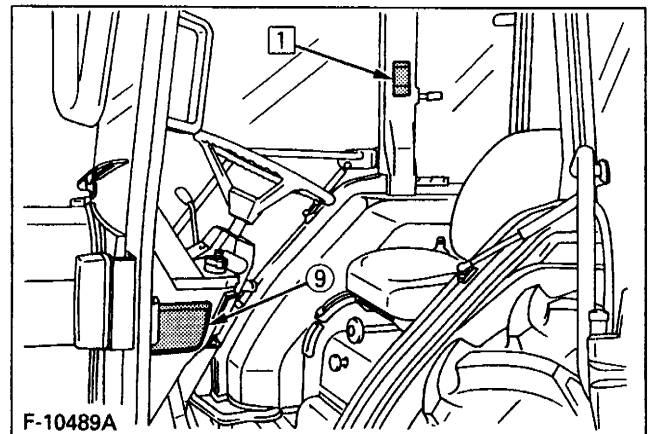
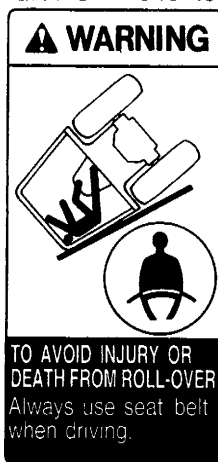
⑨ Part No. 35260-3491-3

CAUTION

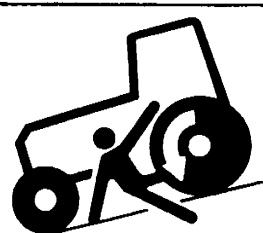
TO AVOID PERSONAL INJURY:

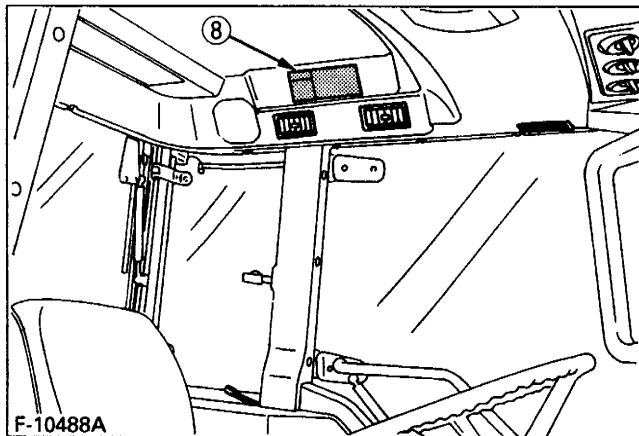
1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement, set the parking brake, stop the engine and remove the key.

1 Part No. TA040-4902-1



⑧Part No. TA240-4933-2

<p>⚠ WARNING</p> 	<p>BEFORE DISMOUNTING TRACTOR:</p> <ol style="list-style-type: none"> 1. ALWAYS SET PARKING BRAKE. Leaving transmission in gear with the engine stopped will not prevent tractor from rolling. 2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope. 3. LOWER ALL IMPLEMENTS TO THE GROUND. Failure to comply to this warning may allow the wheels to slip, and could cause injury or death. 4. STOP THE ENGINE.
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CARE OF DANGER, WARNING AND CAUTION LABELS

1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels from your local KUBOTA Dealer.
4. If a component with danger, warning and caution label (s) affixed is replaced with new part, make sure new label (s) is (are) attached in the same location (s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

SPECIFICATIONS

Model		L3710HST		L4310HST		L4610HST	
		4WD		2WD	4WD	4WD	
Engine	Model	V1903-EA		V2203-EA		V2203-EHA	
	Type	Indirect Injection Vertical, water-cooled, 4-cycle diesel					
	Number of cylinders	4					
	Total displacement	L (cu. in.)	1.857 (113.3)		2.197 (134.1)		
	Bore and stroke	mm (in.)	80X92.4 (3.1X3.6)		87X92.4 (3.4X3.6)		
	Net power	kW (HP)	27.3 (36.6)*		32.1 (43.0)*		34.3 (46.0)*
	PTO power (factory observed)	kW (HP)/min ⁻¹ (rpm)	22.4 (30.0)* / 2600		26.8 (36.0)* / 2600		29.1(39.0)* / 2700
	Maximum torque	N·m (ft·lb)	120.3 (88.7)		139.5 (102.9)		
	Battery capacity	12V, RC:133 min, CCA:582A					
	Fuel	Diesel fuel No.1 [below -10°C (14°F)] Diesel fuel No.2 [above -10°C (14°F)]					
Capacities	Fuel tank	L (U.S. gals.)	35.0 (9.2)				
	Engine crankcase (with filter)	L (U.S. qts.)	7.6 (8.0)				
	Engine coolant	L (U.S. qts.)	7.5 (7.9)				
	Transmission case	L (U.S. gals.)	39.0 (10.3)				
Dimensions	Overall length (without 3p)		mm (in.)	3000 (118.1)		3020 (118.9)	
	Overall width (min. tread)		mm (in.)	1525 (60.0)		1585 (62.4)	
	Overall height		mm (in.)	2175 (85.6)			
	Wheel base		mm (in.)	1805 (71.1)	1810 (71.3)	1805 (71.1)	1815 (71.5)
	Min. ground clearance		mm (in.)	350 (13.8)		380 (15.0)	
	Tread	Front	mm (in.)	1155 (45.5)		1145 (45.1) 1245 (49.0) 1345 (53.0) 1445 (56.9)	1155 (45.5)
Rear		mm (in.)	1180 (46.4), 1200 (47.2), 1300 (51.2), 1450 (57.1), 1545 (60.8)		1180 (46.5), 1200 (47.2), 1300 (51.2) 1450 (57.1), 1545 (60.8)		
Weight (with ROPS)		kg (lbs.)	1585 (3490)		1595 (3520)		1655 (3650)
Traveling system	Standard tire size	Front	8.3-16		6.00-16	8.3-16	
		Rear	14.9-24				
	Clutch	Dry type single stage					
	Steering	Hydrostatic power steering					
Transmission	Hydrostatic transmission (3speeds)						
Braking system	Wet disk type						
Min. turning radius (with brake)	m (feet)	2.5 (8.2)				2.7 (8.9)	
Hydraulic unit	Hydraulic control system		Position control				
	Pump capacity		L (U.S. gals.)/min.	29.5 (7.8)		36.4 (9.6)	
	Three point hitch		SAE Category I				
	Max. lift force	At lift points	kg (lbs.)	1300 (2870)			
		24in. behind lift points	kg (lbs.)	1050 (2310)			
System pressure		MPa(kgf/cm ²)	17.1 (175)				
PTO	Rear PTO		SAE 1-3/8, 6 splines (with overrunning clutch)				
	PTO/Engine speed		min ⁻¹ (rpm)	540 / 2436		540 / 2700	
	MID-PTO (if equipped)		USA No.5 (KUBOTA 10-tooth) involute spline		—		—
PTO/Engine speed		min ⁻¹ (rpm)	2000 / 2394		—		—

NOTE : *Manufacturer's estimate The company reserves the right to change the specification without notice.

CAB OPERATION

DOOR AND WINDOW

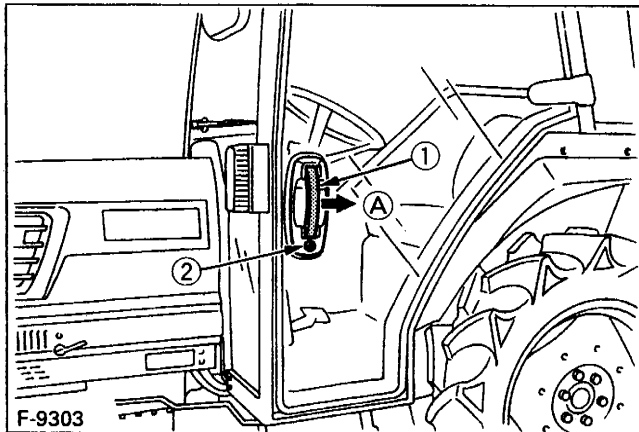
Locking and Unlocking the Door

From the outside ... Insert the key into the key hole. Turn the key clockwise to unlock the right door. Turn the key counterclockwise to unlock the left door. To lock the doors, turn the key in the opposite direction. The key can be removed when it is in the vertical direction.

From the inside ... Push down the lock knob to lock the door. Pull up the lock knob to unlock the door.

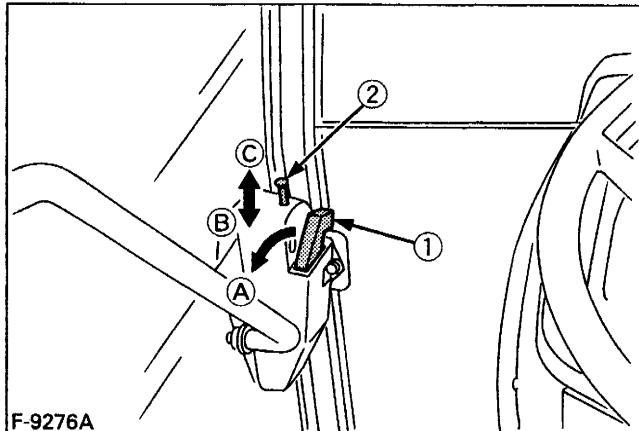
Opening the Door

From the outside ... Unlock the door, and pull the outer door handle.



(1) Outer door handle (A) "PULL"
(2) Key hole

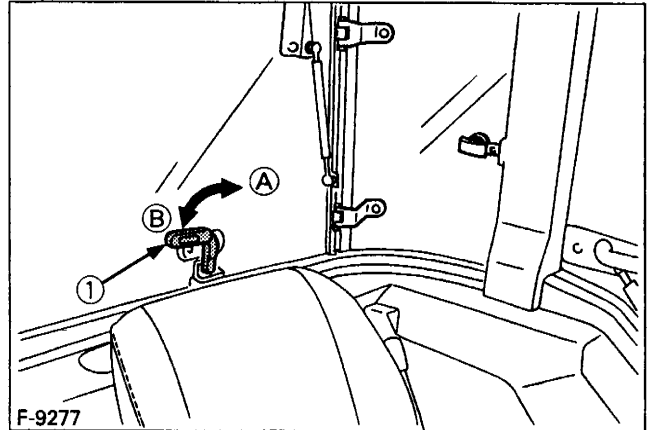
From the inside ... Unlock the door and pull the inner door handle.



(1) Inner door handle (A) "PULL"
(2) Lock knob (B) "PUSH"(Lock)
(C) "PULL"(Unlock)

Rear Window

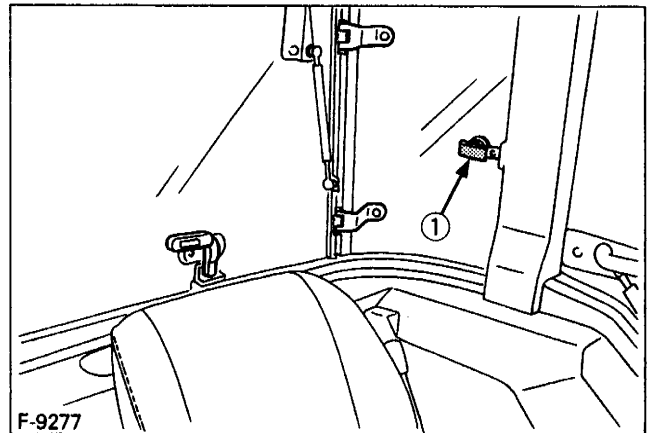
Turn the rear window handle clockwise to the vertical position and push the handle. The rear window is opened by the gas spring cylinder.



(1) Rear window handle (A) "OPEN"
(B) "CLOSE"

Side Window

Pull the side window handle and push the side window to open the window.



(1) Side window handle

DOME LIGHT

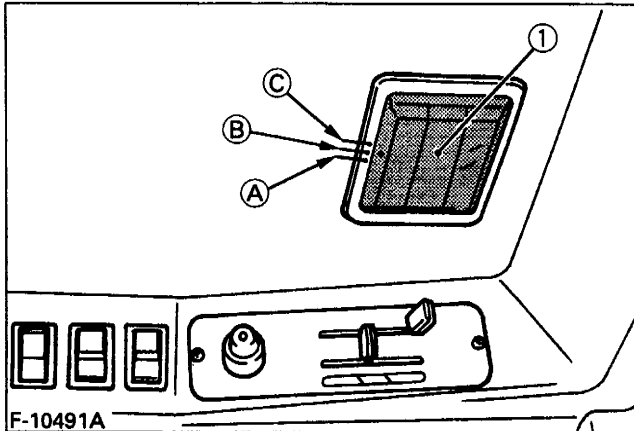
■ Dome Light

Sliding the dome light lens will give the following light condition:

OFF The light does not turn on when the door is opened.

DOOR The light turns on when the door is (if equipped) opened. It turns off when the door is closed.

ON The light turns on regardless of the door positions.



F-10491A

(1) Dome light

(A) "OFF"
(B) "DOOR"
(C) "ON"

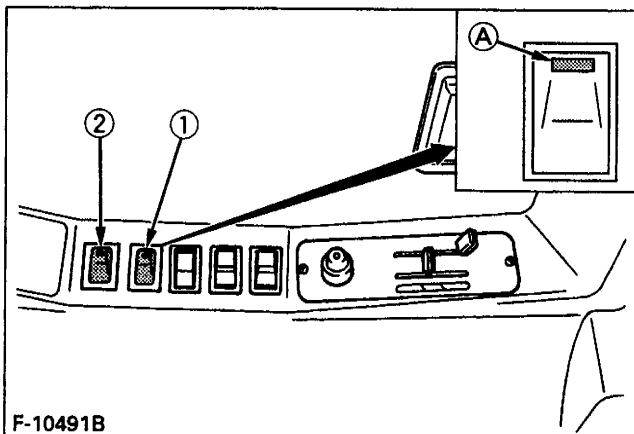
IMPORTANT:

- The battery will discharge if the dome light remains on. Be sure to check the dome light lens position and/or door closure.

WORK LIGHT

■ Work Light Switch

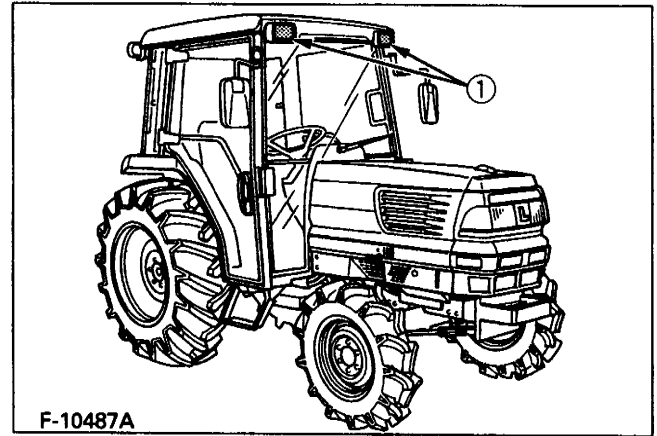
Turn on the key switch and press the top half of the work light switch. The work light and the switch's indicator light up. Press the bottom half of the work light switch to turn off the light and indicator.



F-10491B

(1) Front work light switch (A) Indicator for work lights
(2) Rear work light switch
(if equipped)

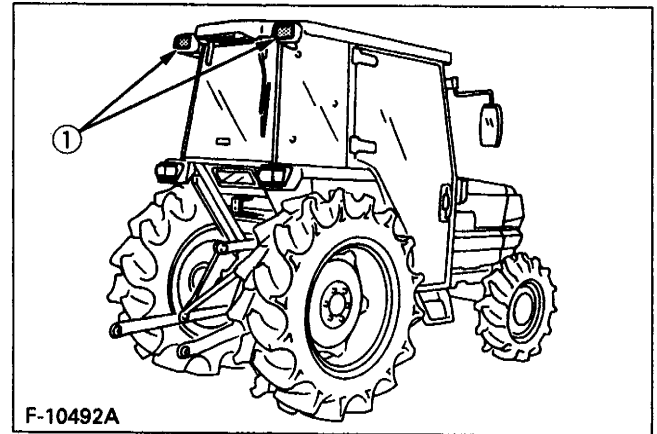
■ Front Work Light



F-10487A

(1) Front work light

■ Rear Work Light (if equipped)



F-10492A

(1) Rear work light

WIPER

■ Front Wiper/Washer Switch

When the button marked  is pressed to the first step, the wiper only is activated.

When the button is pressed further to the second step, washer liquid jets out.

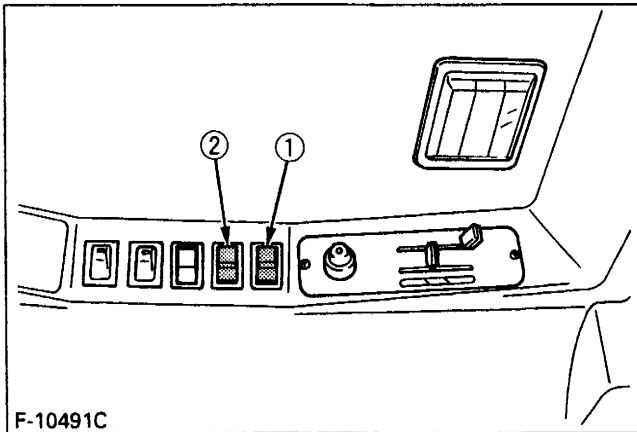
The washing continues while the button is pressed and wiper is activated continuously.

Hold down the button marked "OFF" when the front wiper is off, and washer liquid will keep jets out.

To wet the glass before activating the wipers, press the button down passed the "OFF" position.

■ Rear Wiper/Washer Switch (if equipped)

See "Front wiper / Washer switch" section, for instructions to use this switch.



- (1) Front wiper / washer switch
(2) Rear wiper / washer switch

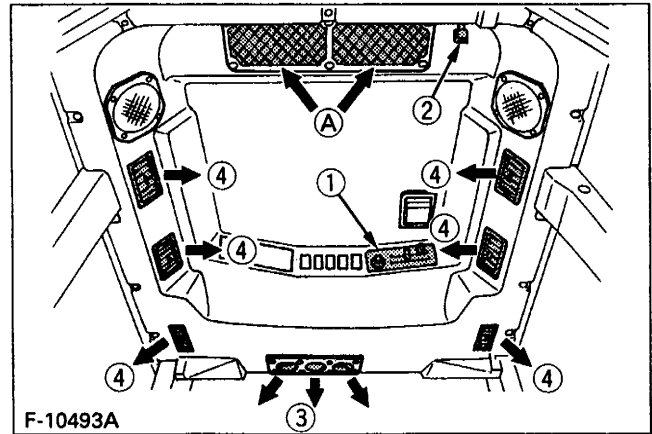
IMPORTANT:

- Do not activate the wipers when the windows are dry, they may be scratched.
Be sure to jet washer liquid first and then activate the wipers.

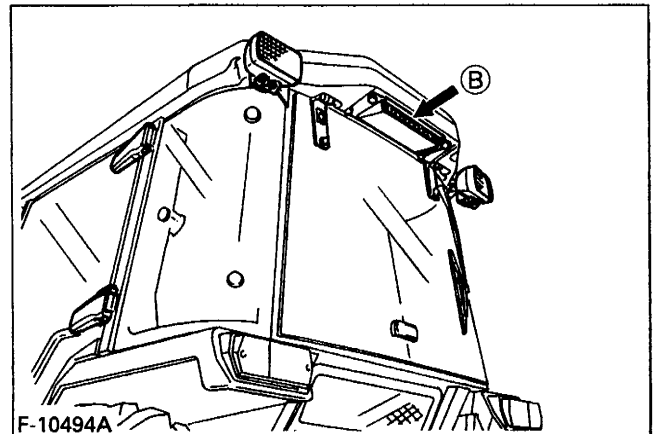
AIR CONDITIONER

■ Airflow

Air in the CAB and fresh air introduced into the CAB flow as shown below. Adjust the nine air ports to obtain the desired condition.



- (1) Control panel
(2) Recirculation / Fresh air selection lever
(3) Front air outlet (defrost, windshield, foot area)
(4) Side air outlet (face, door back area)
(A) Inner air recirculation

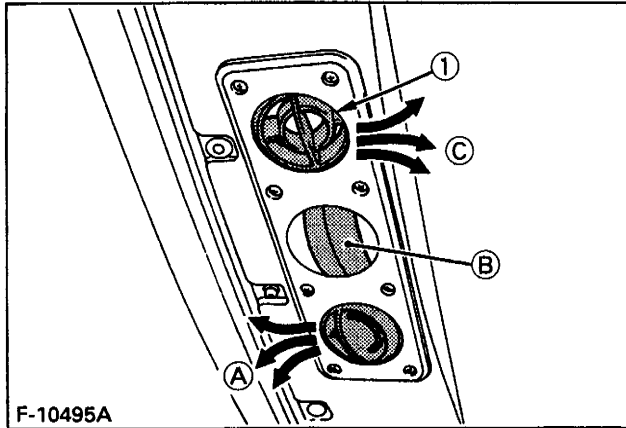


- (B) Fresh air inlet

■ Air Control Vent

◆ Front air outlet

The front air outlets can be independently adjusted as required. To defrost the windshield, rotate the outlets toward the windshield.



F-10495A

(1) Front air outlet

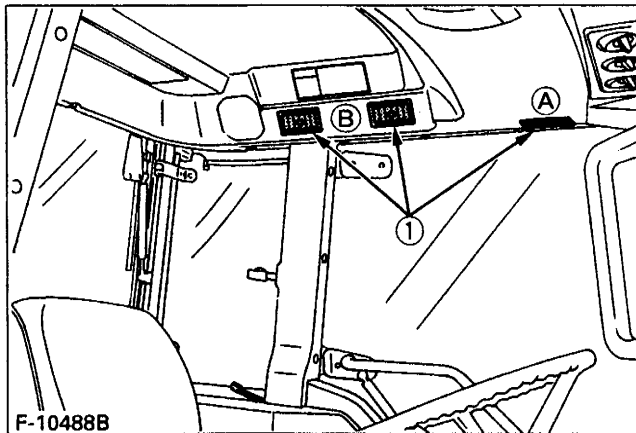
(A) "WINDSHIELD"

(B) "CLOSED"

(C) "CHEST AREA"

◆ Side air outlet

The side air outlets can be adjusted to direct air on to the operator or the rear of the CAB.



F-10488B

(1) Side air outlet

(A) Door area

(B) Face area

NOTE:

- The side air outlets can be independently opened. If the airflow rate at the face is too low, close the air outlet (A).






CAUTION

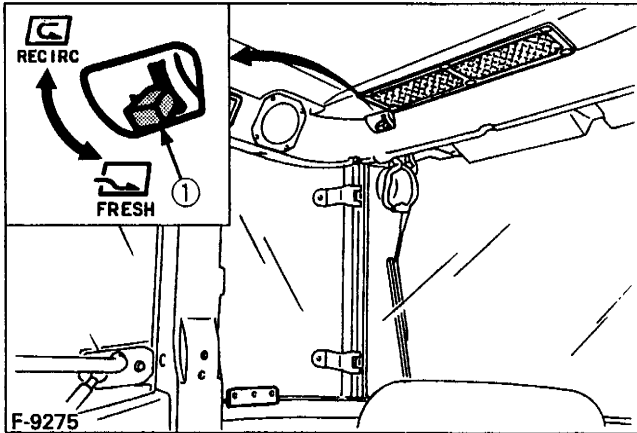
To avoid personal injury;

- Replace the water hoses every two seasons.
- Daily inspection
Have the tractor repaired immediately if any of the following defects are discovered.
(Such defects may cause burns or injury. They may also cause engine seizure or other serious failure.)
 - Scratches, cracks or swelling in water hoses
 - Water leakage at water hose joints
 - Missing or damaged water hose protective wrap or grommet.
 - Loose mounting bolt, damaged bracket
- Do not touch the water hoses and the heater with your hand. You may get burned.
- If the window fail to defrost in extreme conditions or become cloudy when dehumidifying the CAB, wipe off moisture with soft cloth.
- Do not block all the air outlets of the air conditioner. A trouble may result.

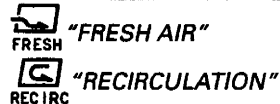
◆ Recirculation / fresh air selection lever

FRESH AIR: Set the lever to the  position, and fresh air will flow into the CAB. This is helpful when you work in a dusty conditions or if the glass windows get foggy.

RECIRCULATION: Set the lever to the  position, and the in-CAB  air will be recirculated. This is useful for cooling or heating the CAB quickly or keeping it extra cool or warm.



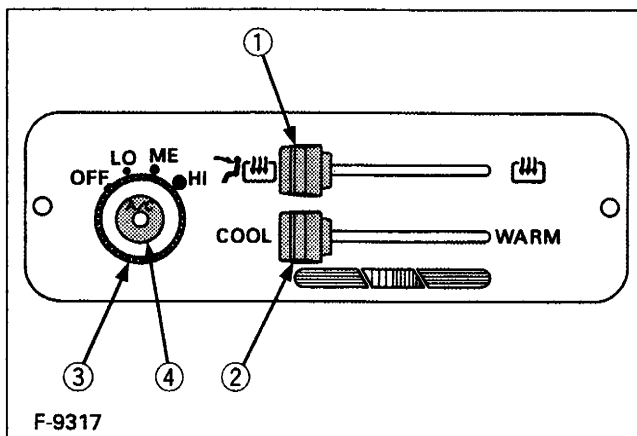
(1) Recirculation /
fresh air selection lever



NOTE:

- When heating, do not keep the lever at the "RECIRCULATION" position for a long time. The windshield easily gets foggy.
- While working in a dusty conditions, keep the lever at the "FRESH AIR" position. This increases the pressure in the CAB, which helps prevent dust from coming into the CAB.


■ Control Panel



- (1) Mode lever
(2) Temperature control lever
(3) Blower switch
(4) Air conditioner switch with indicator light

◆ Mode lever

Set the mode lever to the desired position.

 Air is blown from the front and side air outlets.

 Air is blown from only the front air outlets.

■ Temperature Control Lever

Set this lever at the desired position to obtain the optimum air temperature. Move the lever to the right to obtain warmer air. Move it to the left to obtain cooler air.

■ Blower Switch



Air volume can be changed in three steps. At the "HI" position, the largest air volume is obtained.

■ Air Conditioner Switch

Push this switch to activate the air conditioner. An indicator light will light up when the switch is set to "ON". Push switch again to turn air conditioner off, in which case the indicator light will be off.

■ Operation


◆ Heating

1. Set the mode lever to the  or  position.
2. Set the recirculation / fresh air selection lever to the "FRESH AIR" position. To raise the temperature in the CAB quickly, set this lever to the "RECIRCULATION" position.
3. Adjust the blower (LO/ME/HI) switch and the temperature control lever to achieve a comfortable temperature level.

NOTE:

- In summer when the heater is not used, keep the temperature control lever at the "COOL" (leftmost) position. Otherwise, hot air will raise the temperature in the CAB.

◆ Cooling or dehumidifying-heating


1. Set the mode lever to the  position.
2. Set the recirculation / fresh air selection lever to the "FRESH AIR" position.
3. Press and turn on the air-conditioner switch with indicator.
4. Turn on the blower (LO/ME/HI) switch.
5. Adjust the temperature control lever to the "COOL" or an intermediate position to achieve a comfortable temperature level.

◆ Foot warming and head cooling


In the cooling or dehumidifying-heating mode, set the temperature control lever at the center position. You can feel your head cool and your feet warm.

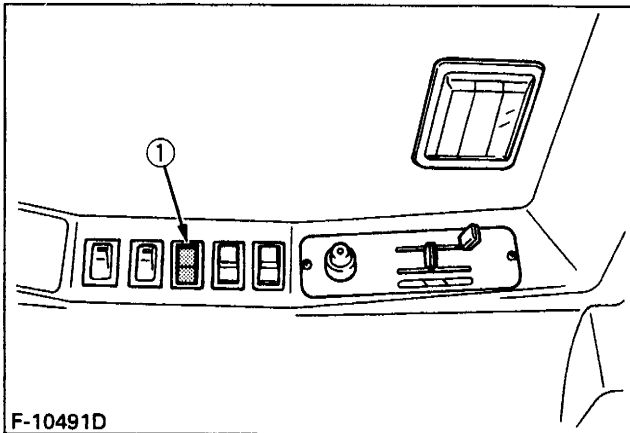
◆ Defrosting or demisting

To defrost or demist the windshield, take the following steps.

1. Open the front air outlet and direct it to the windshield.
2. Open the side air outlets above the door and direct it to the door glass.
3. Close the other side air outlets.
4. Set the mode lever to the  position.
5. Set the recirculation / fresh air selection lever to the "FRESH AIR" position.
6. Set the blower switch and the temperature control lever to the "HI" and "WARM" (rightmost) positions, respectively.

REAR / SIDE DEFOGGER (if equipped)

To activate the rear / side window defoggers, press the switch marked  while the key switch is in the "ON" position. To turn the defogger off, push down the switch marked "OFF".

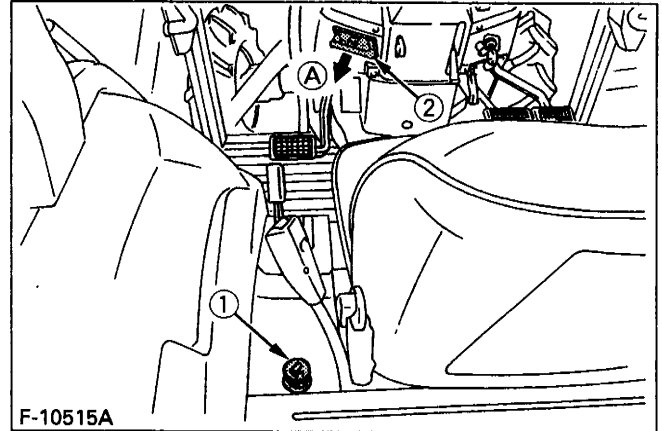


F-10491D

(1) Defogger switch

CIGARETTE LIGHTER/ASHTRAY

Push the lighter knob down to activate, with the key switch in the "ON" or "ACC" positions. Lighter will move up when ready to use.



F-10515A

(1) Cigarette lighter

(A) "OPEN"

(2) Ashtray

MAINTENANCE

SERVICE INTERVALS

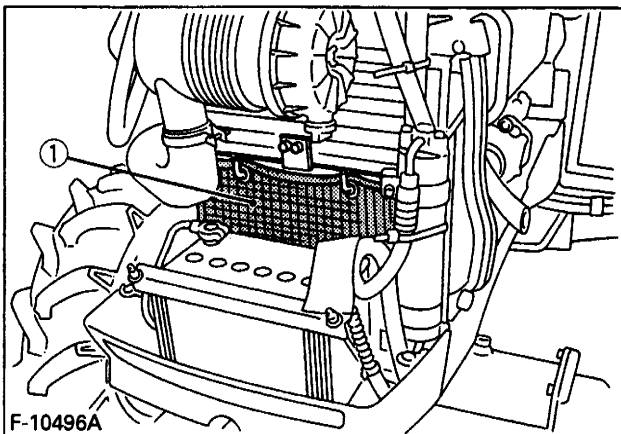
(Only the Check Points Different from Those for Tractors with CAB)

No.	Items	Period	Daily	Indication on hour meter								Since then	Reference page	
				100	200	300	400	500	600	700	800			
1	Clogging of the insect control mesh for condenser	Clean	○											10
2	Tension of air conditioner drive belt	Adjust			○		○		○		○		every 200 Hr	10
3	Clogging of inner air filter	Clean			○		○		○		○		every 200 Hr	11
4	Clogging of fresh air filter	Clean			○		○		○		○		every 200 Hr	11
5	Clogging of air conditioner condenser	Check			○		○		○		○		every 200 Hr	12
6	Air conditioner pipes and hoses	Check											every 1 year	12
7	CAB isolation cushion	Check											every 1 year	12
8	Washer liquid	Check											service as required	12
9	Amount of refrigerant (gas)	Check											service as required	13

DAILY CHECK

■ Cleaning the Insect Control Mesh (for Condenser)

Machines with air-conditioner are provided with insect control meshes both at the radiator and condenser. Detach the mesh and clean. Finally straighten the mesh down along the condenser.

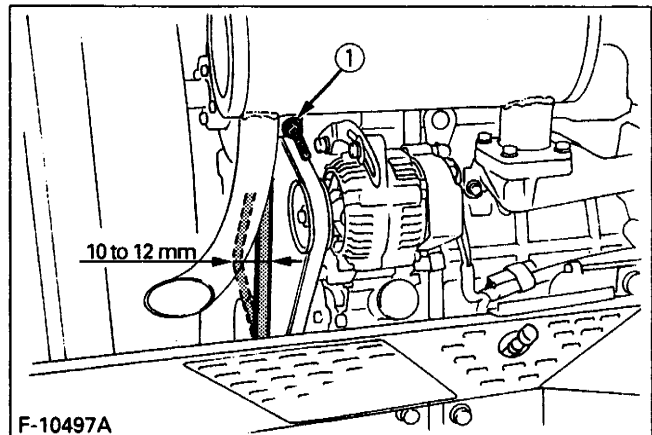


(1) Insect control mesh

EVERY 200 HOURS

■ Air-conditioner Belt Tightness

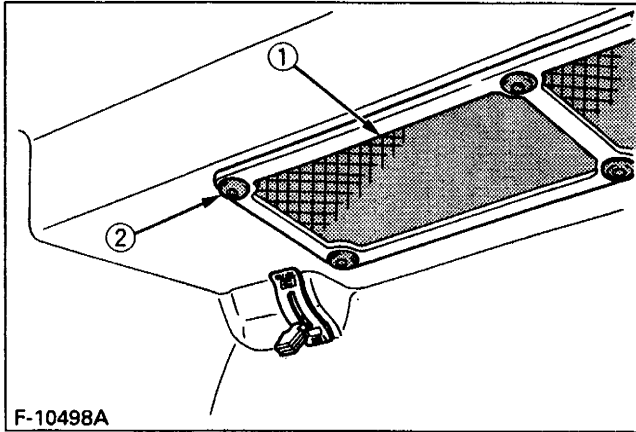
Push on the belt between the pulleys with a finger. A deflection of 10 to 12mm (0.4 to 0.48in.) under a 10 kgf (22 lbs.) load is appropriate.



(1) Adjusting bolt

■ Cleaning the Inner Air Filter

Remove the inner filter, and blow air from the direction opposite to the filter's normal air flow.

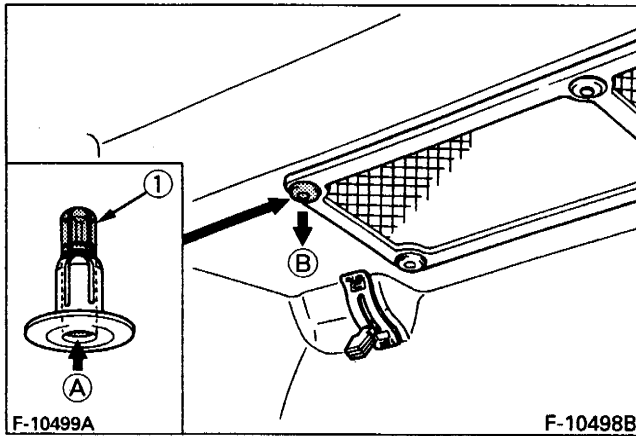


F-10498A

- (1) Inner air filter
- (2) Push-rivet

◆ How to attach and detach the push-rivet assy.

- Detaching procedure

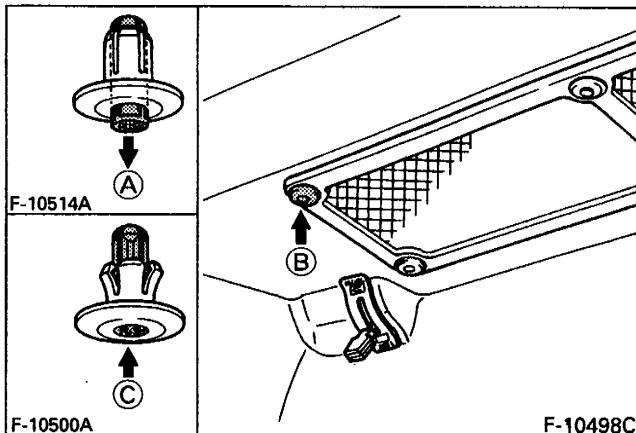


F-10499A

F-10498B

- (1) Center-rivet
- (A) Push in the center-rivet.
- (B) Pull out the push-rivet assy.

- Attaching procedure



F-10514A

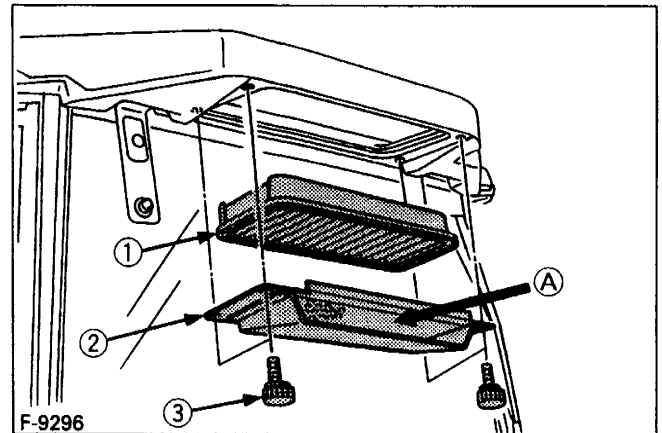
F-10500A

F-10498C

- (A) Pull out the center-rivet.
- (B) Attach the push-rivet assy.
- (C) Push up the center-rivet.

■ Cleaning the Fresh Air Filter

Remove the knob bolts and pull out filter.



F-9296

- (1) Fresh air filter
- (2) Cover
- (3) Knob bolt
- (A) Air inlet port

NOTE:

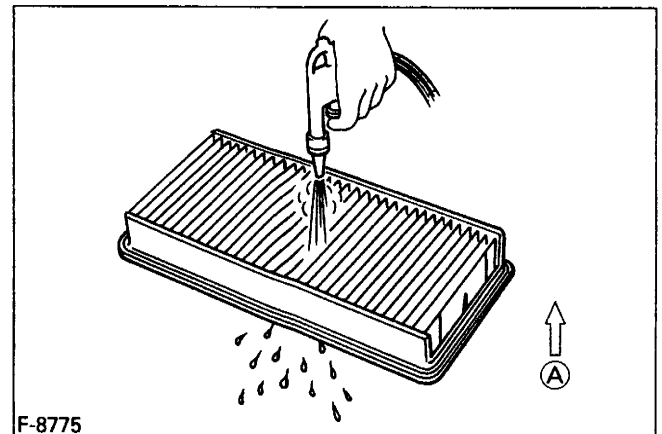
- Attach the filter and cover as illustration above.

◆ Cleaning the air filter

- Normal use
- Blow air from the opposite direction to the filter's normal air flow.

IMPORTANT:

- Do not hit the filter. If the filter becomes deformed, dust may enter into the air-conditioner, which may cause damage and malfunction.



F-8775

(A) "AIR CONDITIONER AIRFLOW"

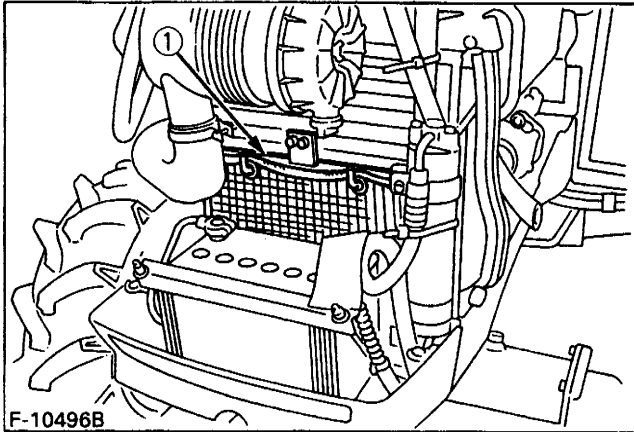
NOTE:

- If the filter is very dirty:
Dip the filter in lukewarm water with mild dish washing detergent.
Move it up and down as well as left and right to loosen dirt. Rinse the filter with clean water and let it air-dry.

IMPORTANT:

- Do not use gasoline, thinner or similar chemicals to clean the filter as damage to the filter may occur.
- It may also cause an unpleasant odor in the CAB when the system is used next.

■ Checking the Air Conditioner Condenser
 Check air conditioner condenser to be sure it is clean of debris.



F-10496B

(1) Air conditioner condenser

EVERY 1 YEAR

■ Checking the Air-conditioner Pipe and Hose

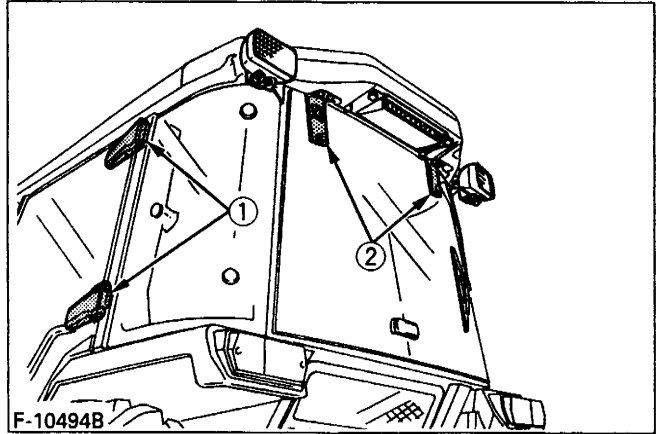
1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, consult your local KUBOTA Dealer for this service.

■ Checking the CAB Isolation Cushion

Check the cushion for any breakage or fatigue. Replace them if they have deteriorated.

SERVICE AS REQUIRED

■ Lubricating Points



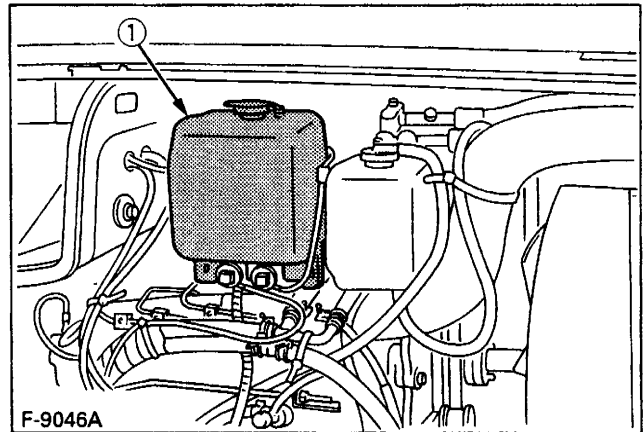
F-10494B

(1) Door hinge

(2) Rear window hinge

■ Adding the Washer Liquid

Add a proper amount of automobile washer liquid. (Tank capacity: 2.0 liters (0.53 U.S.gals.))



F-9046A

(1) Washer liquid tank

■ Checking the Amount of Refrigerant (gas)



WARNING

To avoid personal injury:

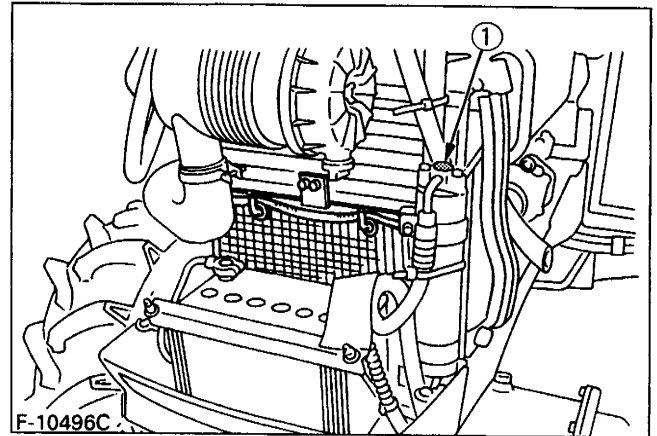
- Liquid contact with eyes or skin may cause frostbite.
- In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to eyes.
- In contact with a flame, R134a refrigerant gives a toxic gas.
- Do not disconnect any part of the refrigeration circuit of the air conditioning system. Consult your local KUBOTA Dealer for assistance and service.

A shortage of refrigerant impairs the air-conditioner performance. Check the following points. If it is indicated that the amount of refrigerant is extremely low, ask your dealer to inspect and charge.

◆ Checking procedure

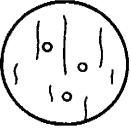
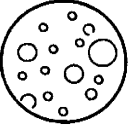
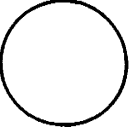
1. Run the air-conditioner in the following conditions.
 - Engine speed: About 1500 min⁻¹ (rpm)
 - Temperature control lever: Maximum cooling position (leftmost)
 - Fan switch: Highest blow (HI)
 - Air-conditioner switch: ON

2. Look into the sight glass to see if the refrigerant is flowing through its circuit.



F-10496C

(1) Sight glass

	Proper:	Little or no air bubbles in the refrigerant flow.
	Low:	Lots of air bubbles in the refrigerant flow (air bubbles or foam passing continuously).
	Overfull or no refrigerant:	Colorless and transparent.

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IMPORTANT:

- Charge only with R134a not R12 refrigerant (gas).

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