

FOREWORD

Congratulations on your purchase of a versatile **KIOTI DK-Series Tractor**. This tractor has been designed and manufactured with the finest materials and under rigid quality control standards set forth by the **DAEDONG** engineering department. Reading and understanding this manual is the first step toward many years of safe, dependable and reliable service. This manual covers models **DK 651/751/801** and **901** tractors; and it provides important information about tractor safety, operation and maintenance.

It is the policy of **DAEDONG** to provide a detailed owner's manual with every tractor. Please read, understand and follow the instructions in this manual before operating your new tractor. After reading and understanding this manual, please contact your **KIOTI** dealer if you have additional questions.



SAFETY ALERT SYMBOL

The industry standard “**SAFETY ALERT SYMBOL**” is used throughout this manual to call your attention to items or operations that could be dangerous to you or bystanders. Wherever this symbol appears, important information will be provided for your safety. Please read, understand and heed these instructions.

Throughout this manual, the safety alert symbol will be followed by the words **DANGER**, **WARNING**, **CAUTION** or **IMPORTANT**. These indicate the hazard level and are defined below.

SIGNS		DESCRIPTION
	DANGER	This mark indicates a significant hazard. Failure to observe this warning may result in death.
	WARNING	This mark indicates a potential hazard which may result in serious injury or death.
	CAUTION	This mark indicates a potential hazard which may result in minor injury or significant equipment damage.
	IMPORTANT	This mark indicates important information regarding proper operating procedures.

ABBREVIATIONS LIST

ABBREVIATION	DEFINITION
4WD	Four-Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers
SAE	Society of Automotive Engineers
ISO	International Organization for Standardization
PTO	Power Take Off
ROPS	Roll-Over Protective Structure
RPM	Revolution Per Minute
SMV	Slow Moving Vehicle

UNIVERSAL SYMBOLS

As a guide to the operation of your tractor, various universal symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.



Safety Alert Symbol



T/M Oil Filter



Engine Coolant-Temperature



Diesel Preheat/Glow Plugs
(Low Temperature Start Aid)



Parking Brake



Battery Charging Condition



Engine Oil-Pressure



Turn Signal



Power Take-Off Clutch
Control-Off Position



Power Take-Off Clutch
Control-On Position



Differential Lock



Position Control-Raised
Position



Position Control-Lowered
Position



Hazard Warning Lights



Master Lighting Switch



Position Lamps



Headlight-Low Beam



Headlight-High Beam



Audible Warning Device



Four-Wheel Drive-ON



Four-Wheel Drive-OFF



Slow



Fast



Coolant Level

PRE-DELIVERY SERVICE

CHECK AND ADJUST AS REQUIRED

PRE-OPERATIONAL SERVICE CHECKS

1. Tire pressure and condition ☐
2. Lift linkage leveling crank for proper operation (3-point hitch) ☐
3. Radiator coolant level and specific gravity ☐
(1.071 ~ 1.083 at 16°C (60°F))
4. V-belt tension and condition ☐
5. Engine oil level ☐
6. Transmission / rear axle oil level ☐
7. Front axle differential oil level... ☐
8. Front axle oil level..... ☐
9. Brake adjustment and pedal equalization..... ☐
10. Parking brake adjustment ☐
11. Upper link, draw-bar and pin in position ☐
12. Wheel-to-rim clamp bolts and lock nuts for tightness .. ☐
13. Wheel disc-to-hub nuts for tightness ☐
14. Front end weight clamp bolts for tightness ☐
15. Front axle support bolts for tightness ☐
16. Fuel level ☐
17. Sheet metal and paint condition..... ☐
18. Drain diesel fuel filter and water separator..... ☐
19. Lubricate all grease fittings ... ☐
20. Air cleaner element and air intake connections ☐

21. Seat mounting and adjustment ☐
22. All electrical cables, terminals and wires ☐

SAFETY ITEMS CHECKLIST

1. Safety decals installed and readable ☐
2. Neutral start switches operative ☐
3. Parking brake operation..... ☐
4. Flashing lights/tail lights operation ☐
5. Owner's manual supplied . ☐
6. PTO guard installed ☐
7. SMV emblem installed (where applicable) ☐

OPERATIONAL SERVICE CHECKS

All operational checks are to be performed with the tractor at normal operating temperature.

1. Lights and instruments for proper operation ☐
2. Fluid and oil leaks ☐
3. Maximum no-load speed and idle speed adjustments and fuel shut-off ☐
4. PTO operation ☐
5. Hydraulic system:
 - Draft and position control operation ☐
 - Flow control operation ☐

- Draft control for tension and compression loads... ☐
- Auxiliary equipment control and remote control valves (If installed) ☐

PERFORMANCE SERVICE CHECKS:

1. Engine operation including throttle and governor operation ☐
2. Transmission ☐
3. Steering control ☐
4. Differential lock engagement and disengagement ☐
5. Brake action ☐
6. All optional equipment and accessories ☐

RECORD MODEL AND SERIAL NUMBERS:

- Tractor Model No.
- Tractor Serial No.

CONTENTS

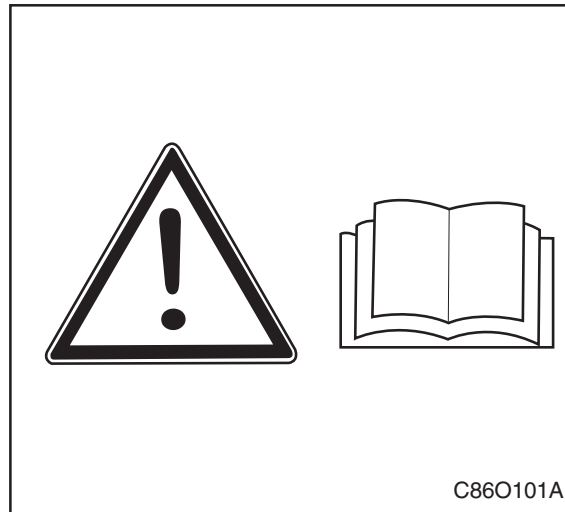
1. SAFETY PRECAUTIONS	
2. SERVICING THE TRACTOR	
3. SPECIFICATIONS	
4. DESCRIPTION OF OPERATING SYSTEM	
5. OPERATING	
6. MAINTENANCE	
7. LONG-TERM STORAGE	
8. TROUBLESHOOTING	
9. INDEX	

1 SAFETY PRECAUTIONS

**BEFORE OPERATING THE TRACTOR
OPERATING THE TRACTOR
DRIVING THE TRACTOR
PARKING THE TRACTOR
OPERATING THE P.T.O
USING 3-POINT HITCH
SERVICING THE TRACTOR
TRACTOR SAFETY LABELS**

BEFORE OPERATING THE TRACTOR

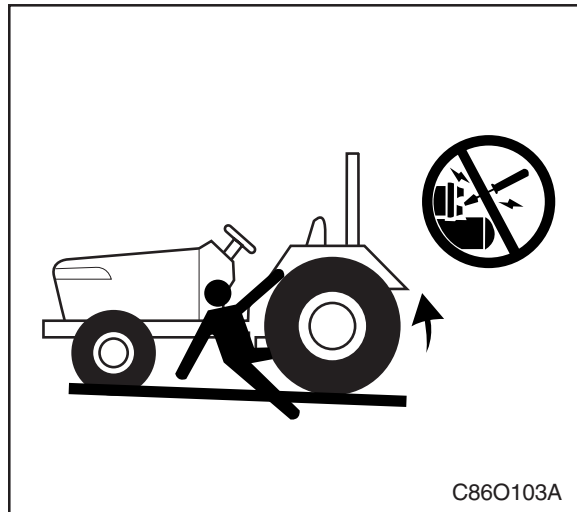
A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, use these safety precautions and pay attention to the job at hand. If you can prevent an accident in advance, your time will have been well spent.



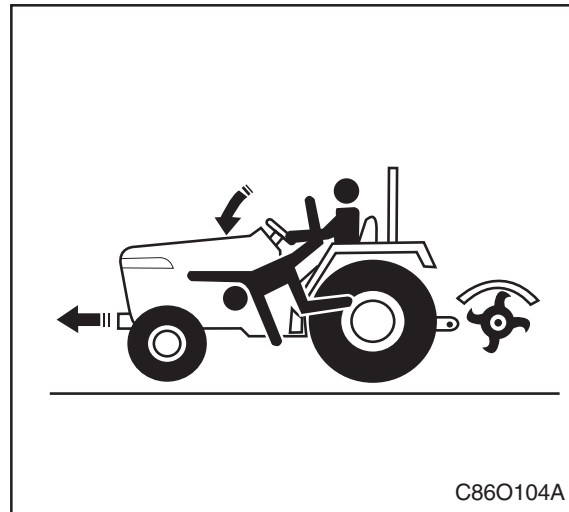
1. It is recommended that you read and understand this entire manual before operation of your new tractor. Failure to do so could result in accidents or injury.
2. Only persons who are properly trained should be allowed to operate the tractor.
3. Read and follow all warning labels and decals affixed to the tractor.
4. Replace any missing or damaged decals as soon as it is practical. A list of decals is shown on page 1-14~16.
5. Keep safety decals clean from dirt and debris.



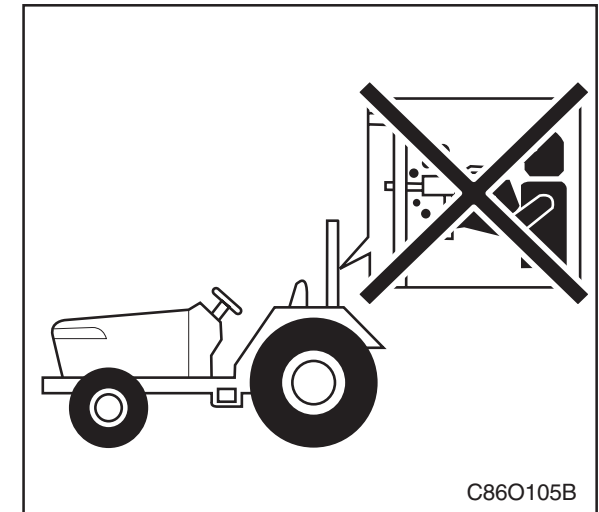
6. When getting on and off the tractor, handholds and step plates should always be used. This will help to prevent accidental slips, trips, and falls.
7. Be sure to scrape off mud or soil from your shoes before mounting the tractor.
8. Watch where you are going at all times so that you are able to avoid obstacles that can cause injury or damage to your tractor.
9. When starting the tractor, make sure your path is clear of people to avoid accidents caused by sudden movements.
10. Before making reverse movements with your tractor, you should always check to see that the path is clear.



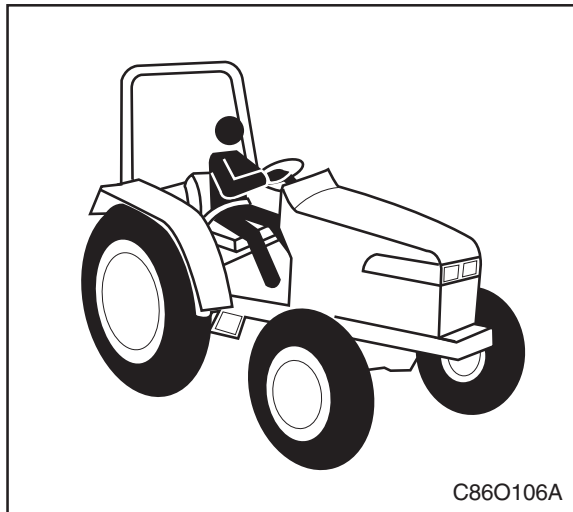
11. Never operate this tractor or any other agricultural equipment while under the influence of alcohol, drugs or while fatigued.
12. While working in cooperation with other tractors always communicate your intentions.
13. Do not start your tractor by shorting across the starter.



14. Never start the engine while standing on the ground.
15. Only the operator should ride on the tractor unless a passenger seat is installed. Keep bystanders away from the tractor while in operation.



16. All persons using the tractor should have knowledge of its proper operation and should read this manual carefully.
17. Never get off the tractor without setting the parking brake, lowering the implement to the ground and shutting off the tractor.
18. No alterations should be made to your **KIOTI** tractor without first consulting your **KIOTI** dealer.



19. Before starting your tractor you should depress the clutch, and make sure that all shift levers are in the neutral position.

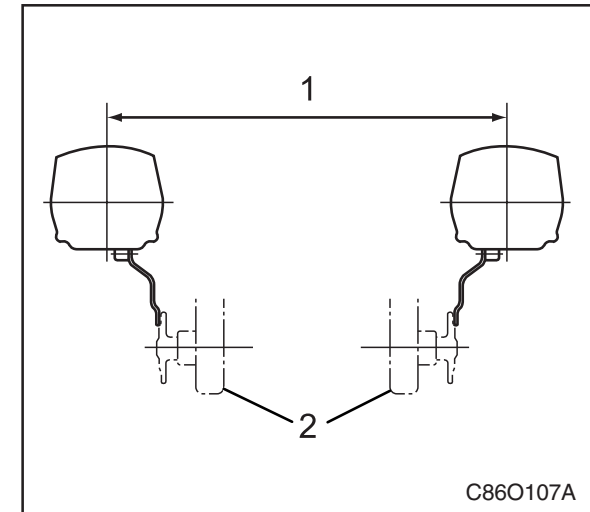
20. For your safety **ROPS** with a seat belt is recommended for most applications.

NOTE

- Always use seat belt when the tractor is equipped with a **ROPS**. Never use the seat belt when tractor is not equipped with a **ROPS**. (**ROPS**: Roll-Over Protective Structures)

A **ROPS** should never be modified by welding, grinding or cutting, as this can weaken the **ROPS** structure. If any components of the **ROPS** unit is damaged, it must be replaced.

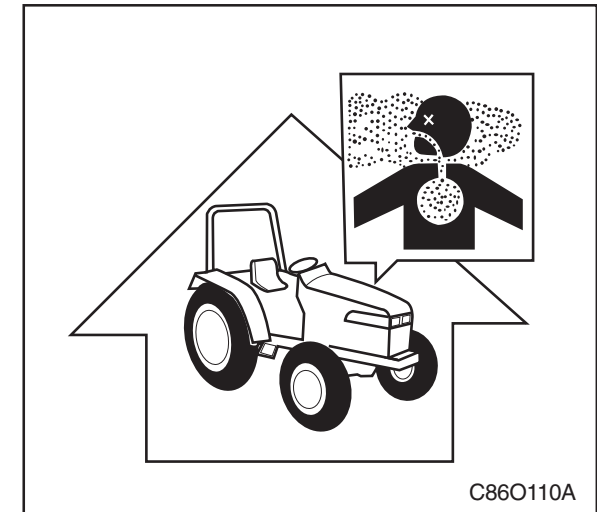
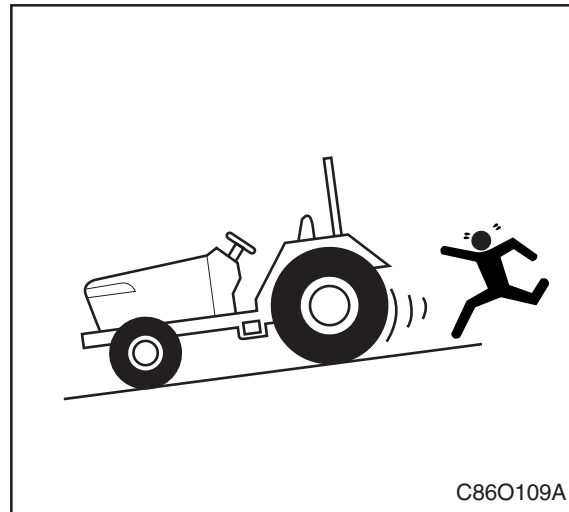
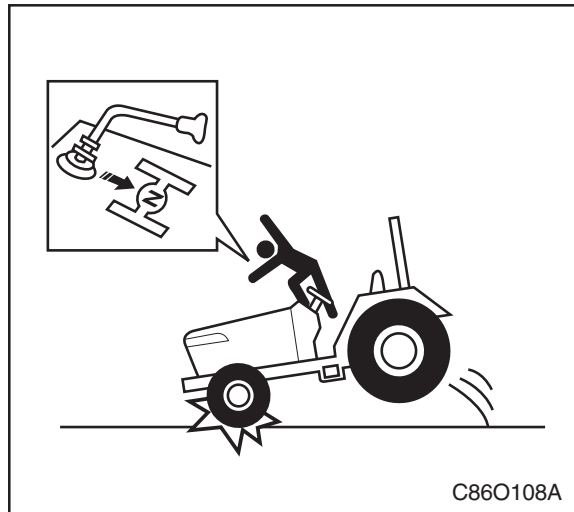
If the **ROPS** unit is removed or loosened for any reason, the parts should be fitted back to their original positions and all bolts should be properly torqued.



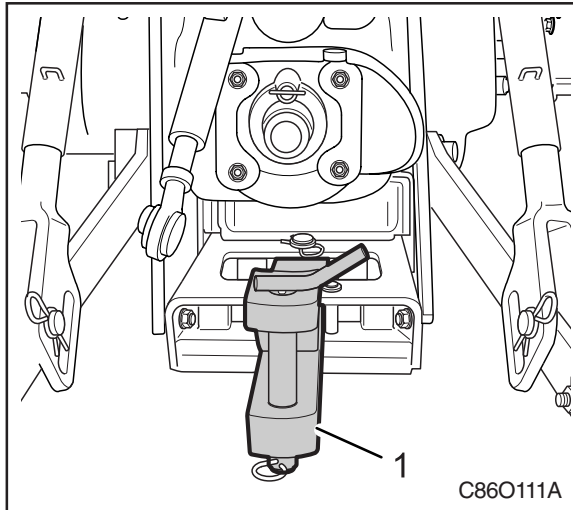
(1) Max. tread width (2) Rear wheels

21. Extra caution should be taken when driving tractors with narrow tread widths. For added stability you should adjust your rear wheel tread width, see page 5-23.

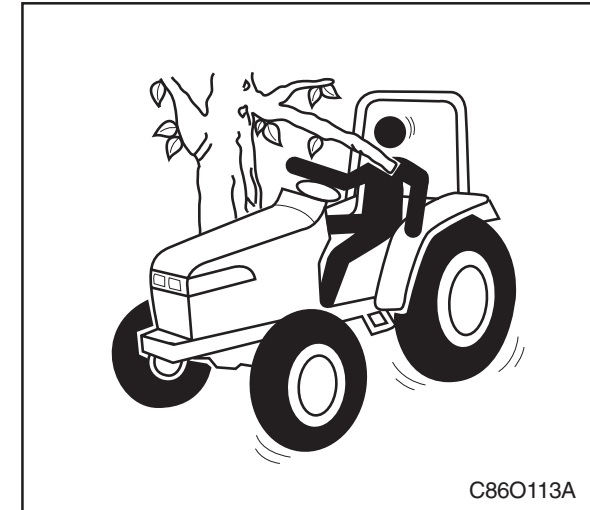
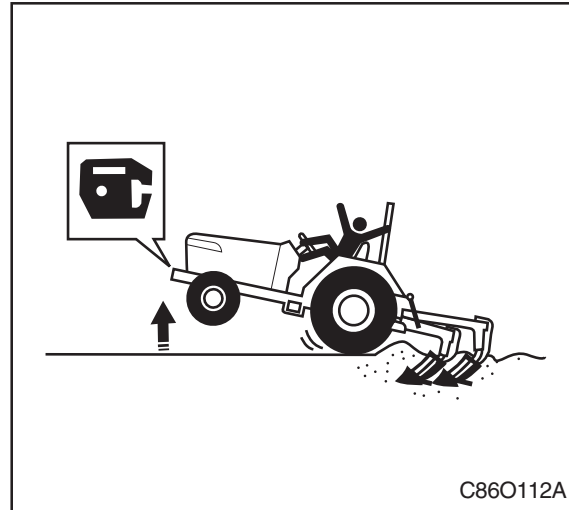
OPERATING THE TRACTOR



1. Avoid accidental contact with gear shift levers while the engine is running. Unexpected tractor movements can result in bodily injury.
2. Do not park your tractor on a steep incline, and remember to shut off the engine and P.T.O before dismounting the tractor.
3. Do not operate your tractor in an enclosed building without the proper ventilation. Exhaust fumes can cause serious injury or death.



(1) Drawbar

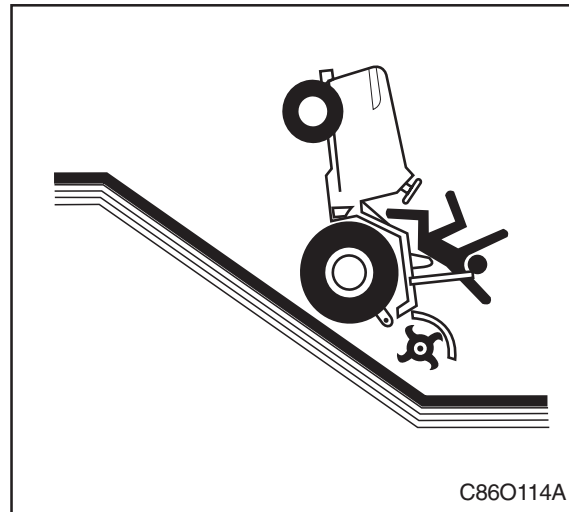


4. Make sure that all pressure lines are tight before starting the tractor.
5. Pull only from the drawbar. Never hitch anything to the axle housing or any other point except the drawbar. pulling from any other location only increase the risk of serious personal injury or death.

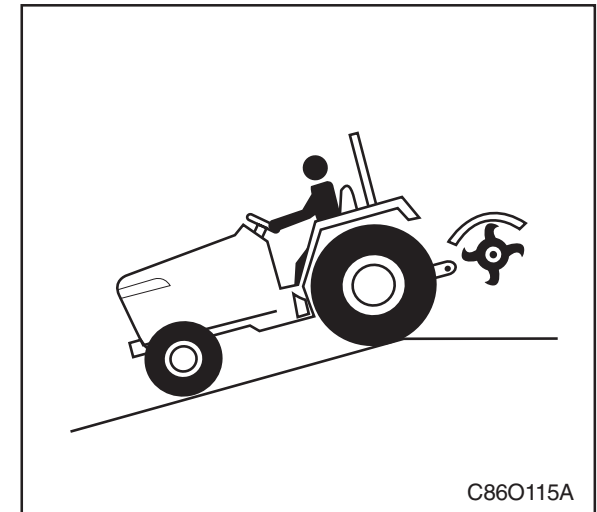
6. If The front of the tractor tends to rise up when heavy implements are attached to the three point hitch, the weights should be installed on the tractor. Do not operate the tractor with a light front end.

7. Do not leave equipment in the raised position when the vehicle is stopped or unattended.
8. When using implements or attachments with your tractor you should first read their respective owner's manual. You should always keep their safe operation procedures in mind.
9. You should be familiar with your equipment and its limitations.
10. Always use the proper ballast weight on your tractor when using rear implements.

11. Driving forward out of a ditch or steep inclines can cause the tractor to tip over backwards. To avoid this you should back out of these positions. Four wheel drive tractors can give you a false sense of security in the tractor's ability to maneuver out of these positions, so extra caution should be taken.
12. Watch front and rear for and avoid obstacles at row ends, near trees and around other obstructions.

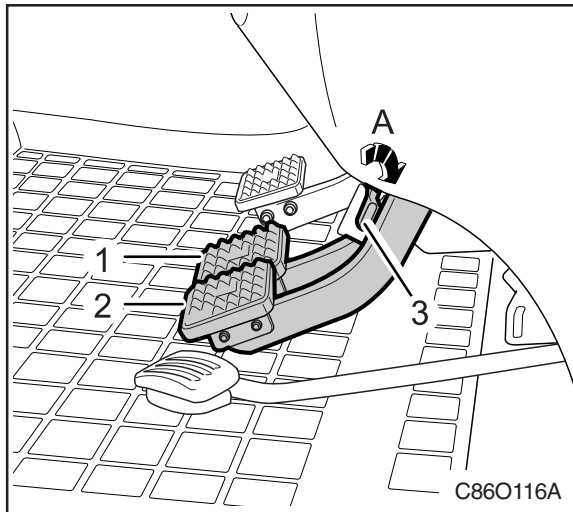


13. If abused or used incorrectly your tractor can become dangerous to you and bystanders. Overloading your tractor or using unsafe equipment can also be dangerous and should be avoided. Refer to the "Specifications of Implement Limitation", which outlines the maximum load for safe tractor operation.



14. Never try to get on or off a moving tractor.
15. When working in groups, always let the others know what you are going to do before you do it.
16. Never "freewheel". Disengaging the clutch or shifting into neutral while descending a slope as this could lead to a loss of control.
17. Do not operate near ditches, holes, embankments, or other terrain features which may collapse under the tractor's weight. The risk of tractor upset is even higher when the ground is loose or wet.

DRIVING THE TRACTOR

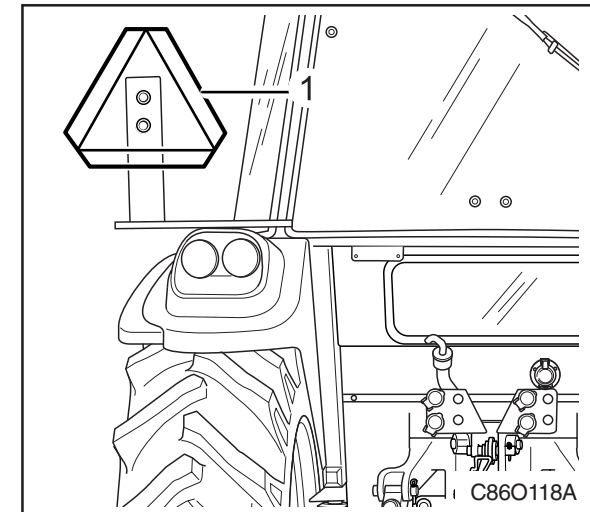


(1) Brake Pedal(LH) (3) Brake Pedal Lock
(2) Brake Pedal(RH)
(A) Whenever traveling on the road

1. Lock the brake pedals together when traveling at road speeds. Brake both wheels simultaneously when making an emergency stop. Uneven braking at road speeds could cause the tractor to tip over.



2. Always slow the tractor down before turning. Turning at high speed may tip the tractor over.

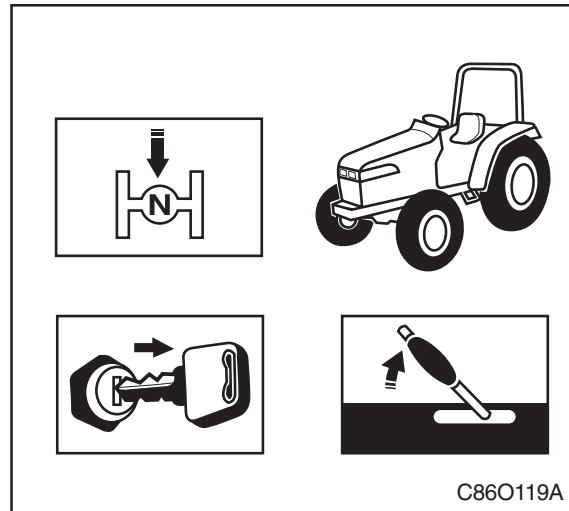


(1) SMV Emblem

3. Make sure that the Slow Moving Vehicle (SMV) sign is clean and visible. Use hazard lights as required.

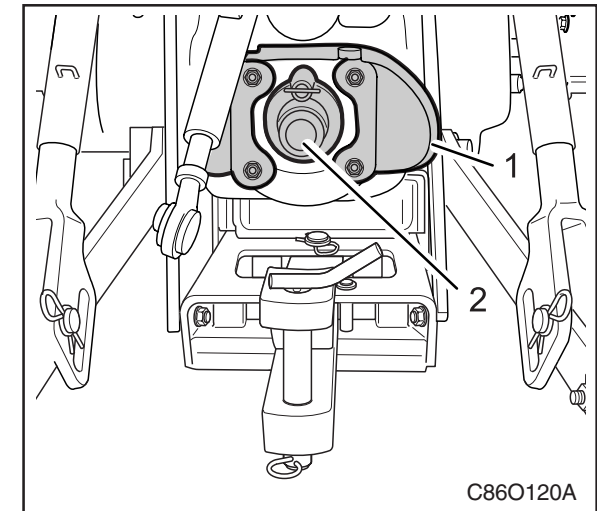
PARKING THE TRACTOR

4. Observe all local traffic and safety regulations.
5. Turn the headlights on. Dim them when meeting another vehicle.
6. Drive at speeds that allow you to maintain control at all times.
7. Do not apply the differential lock while traveling at road speeds. The tractor may run out of control.
8. Avoid sudden movements of the steering wheel as it can cause a loss of control of the tractor. This risk is especially great when traveling at road speeds.
9. Do not operate an implement while the tractor is on the road. Lock the three point hitch in the raised position.
10. When towing other equipment, use a safety chain and place an SMV emblem on it as well.



1. Disengage the P.T.O., lower all implements, place all control levers in the neutral position, set the parking brake, stop the engine and remove the key.

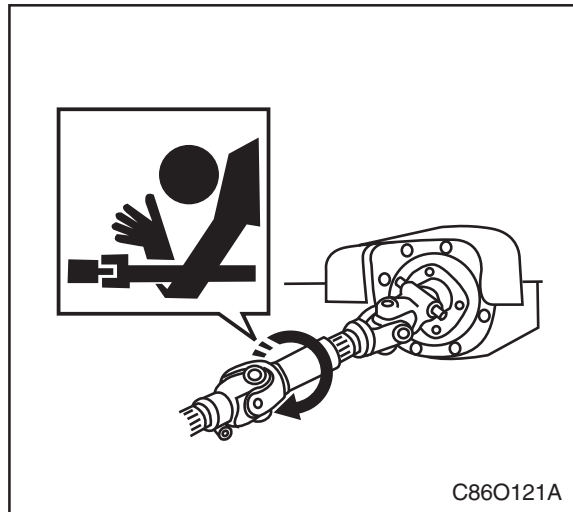
OPERATING THE P.T.O



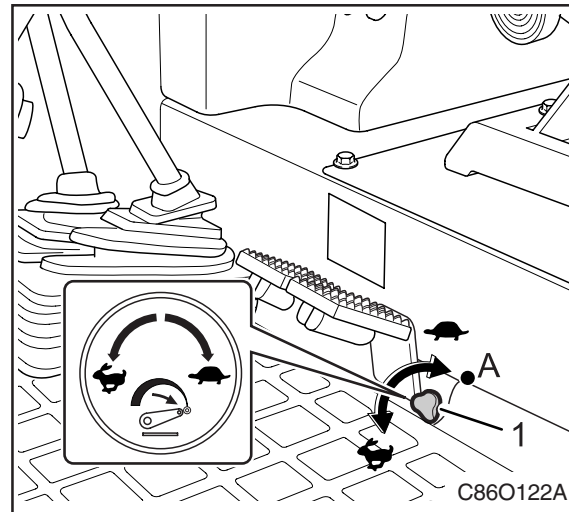
(1) P.T.O Shaft Cover (2) P.T.O Shaft Cap

1. Make sure the tractor is completely stopped, and all moving components have completely stopped before connecting, disconnecting, adjusting, cleaning or servicing any P.T.O driven equipment.
2. Keep the P.T.O shaft cover in place at all times. Replace the P.T.O shaft cap when the shaft is not in use.

USING 3-POINT HITCH



3. Before installing or using P.T.O driven equipment, read the manufacturer's manual and review the safety labels attached to the equipment.
4. When operating stationary P.T.O driven equipment, always apply the tractor parking brake and place chocks behind and in front of the rear wheels. Stay clear of all rotating parts.



(1) 3-point hitch lowering speed knob

(A) Lock (Horse) Fast (Turtle) Slow

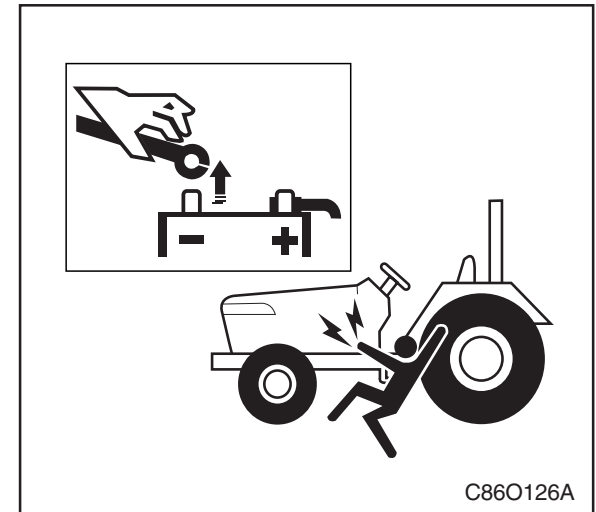
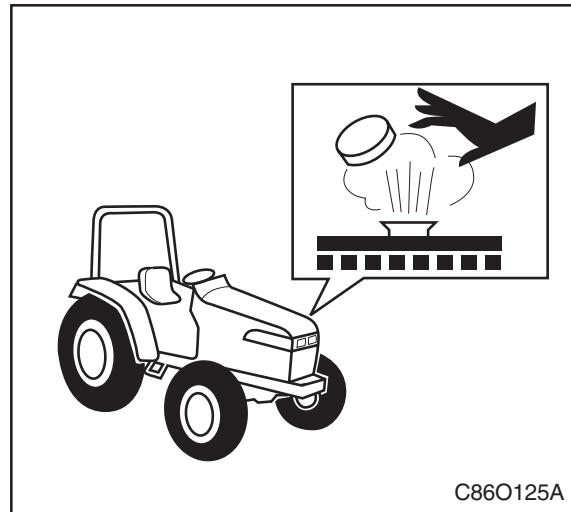
1. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
2. When using a 3-point hitch mounted implement, be sure to install the proper counterbalance weight on the front of the tractor.
3. When transporting on the road, set the implement lowering control in the "LOCK" position to hold the implement in the raised position.

SERVICING THE TRACTOR

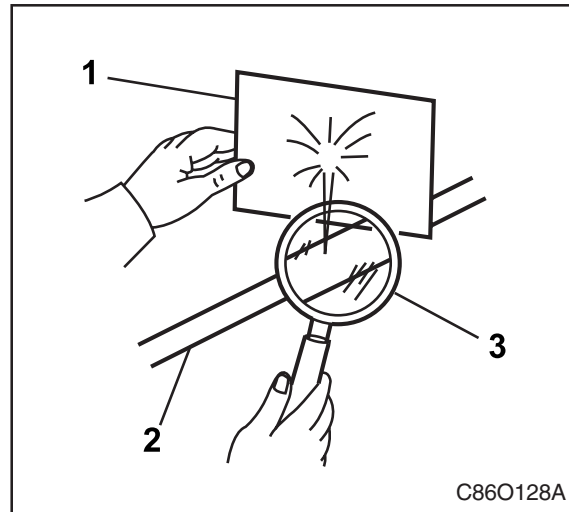


In order to service your tractor you must park it on a flat level surface, set the parking brake, place the gear shift lever in neutral and stop the engine.

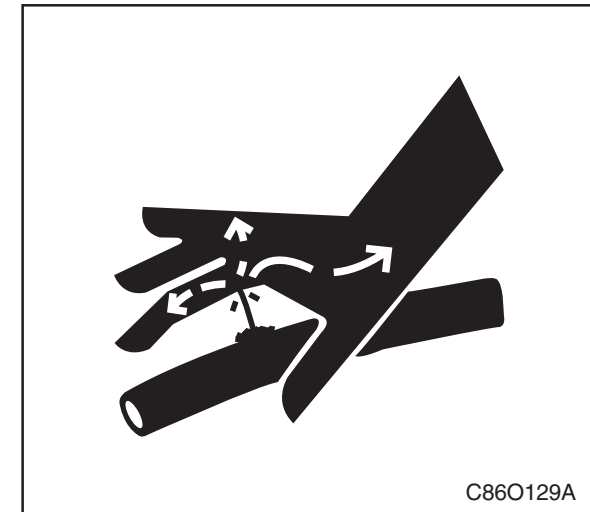
1. Allow the tractor time to cool off before servicing any part that may have become hot while the tractor was running.
2. You must always stop the engine before refueling the tractor. Avoid overfilling the tractor or spilling the fuel.
3. Do not smoke while working around the battery or when refueling your tractor. Keep all sparks and flames away from the battery and fuel tank. The battery presents an explosive hazard because it gives off hydrogen and oxygen... especially when recharging.



4. Before jump starting a dead battery, read and follow all of the instructions.
5. Keep a first aid kit and fire extinguisher handy at all times.
6. Do not remove the radiator cap while the coolant is hot. When cool, slowly rotate the cap to the first stop and allow sufficient time for excess pressure to escape. After all the pressure is released remove the cap completely. If your tractor is equipped with a coolant recovery tank, add coolant there instead of to the radiator.
7. When working with your tractors electrical components you must first disconnect the battery cables.
8. To ensure that there are no accidents from sparks you must first disconnect the negative battery cable.



(1) Cardboard (3) Magnifying Glass
(2) Hydraulic Line

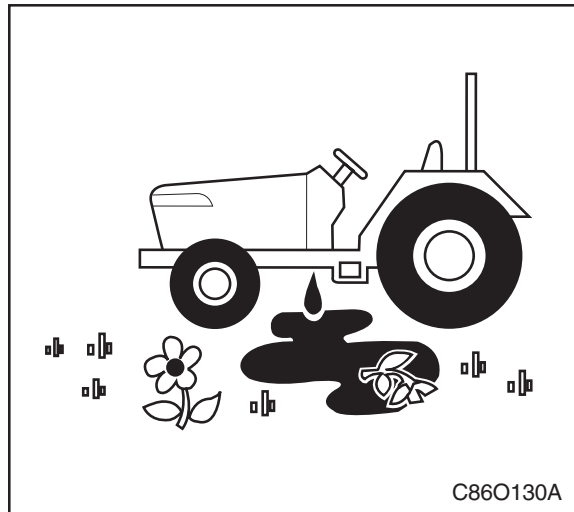


9. Tire mounting should be done by qualified professionals, with the proper equipment.
10. Maintaining correct tire pressure is important for the life of your tires. You should not inflate the tires above the recommended pressure specified in the owner's manual.

11. Securely support the tractor when changing wheels or the wheel tread width.
12. Make sure that wheel bolts have been tightened to the specified torque.
13. Escaping hydraulic fluid under pressure has sufficient force to penetrate skin, causing serious personal injury. Before disconnecting hydraulic lines, be sure to release all residual pressure. Before adding pressure to the hydraulic system, make sure that all connections are tight and that all line, pipes and hoses are free of damage.

14. Fluid escaping from pinholes may be invisible. Do not use hands to search for suspected leaks;

Use a piece of cardboard or wood, instead. Use of safety goggles or other eye protection is also highly recommended. If injured by escaping fluid, see a medical doctor at once. This fluid can produce gangrene or severe allergic reaction.

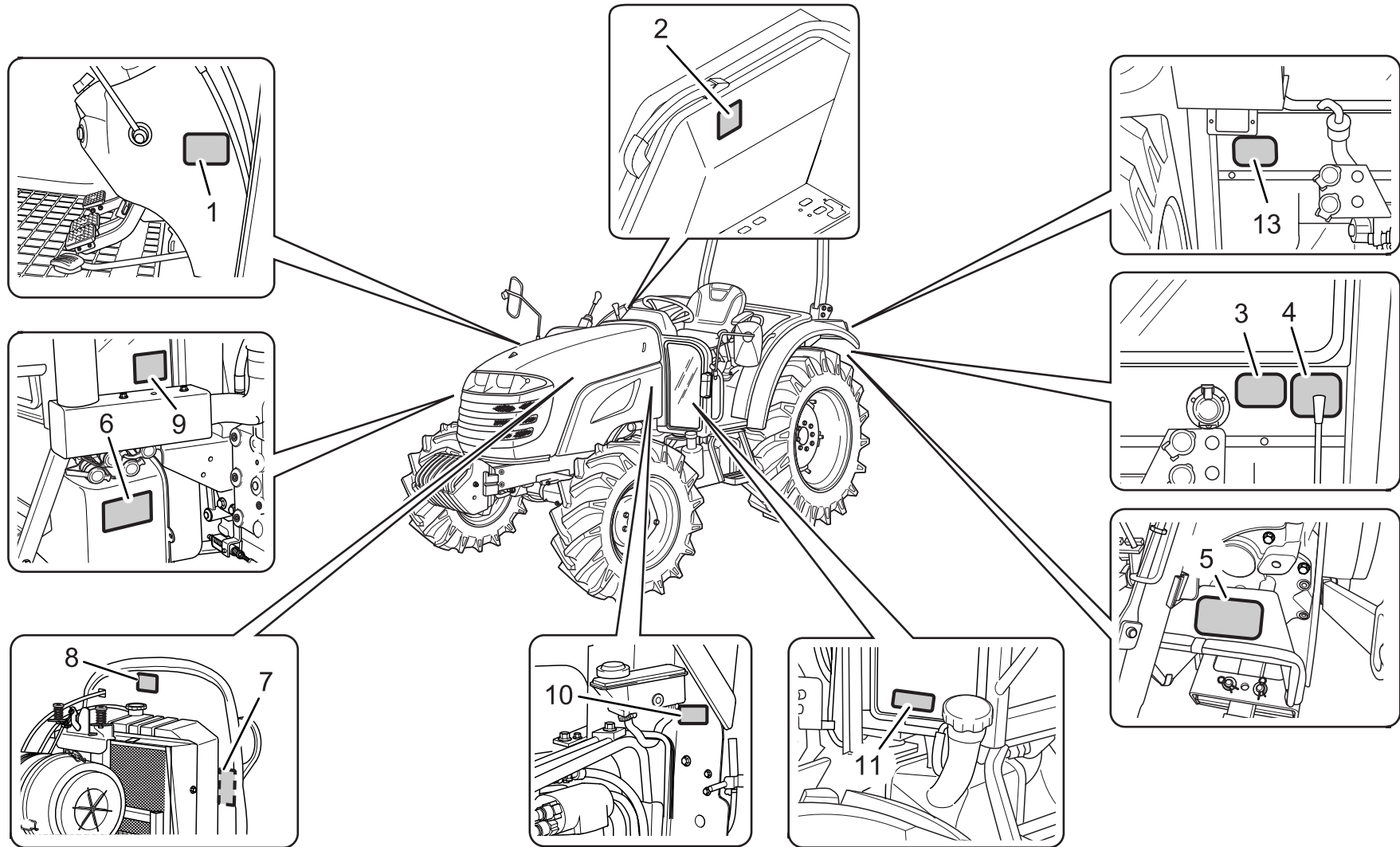


15. Keep the environmental pollution in mind. When replacing cooling water or oil, dispose it the right way.

Be sure to observe the relevant regulations when you dispose of the engine oil, transmission oil, fuel, coolant, filter and battery

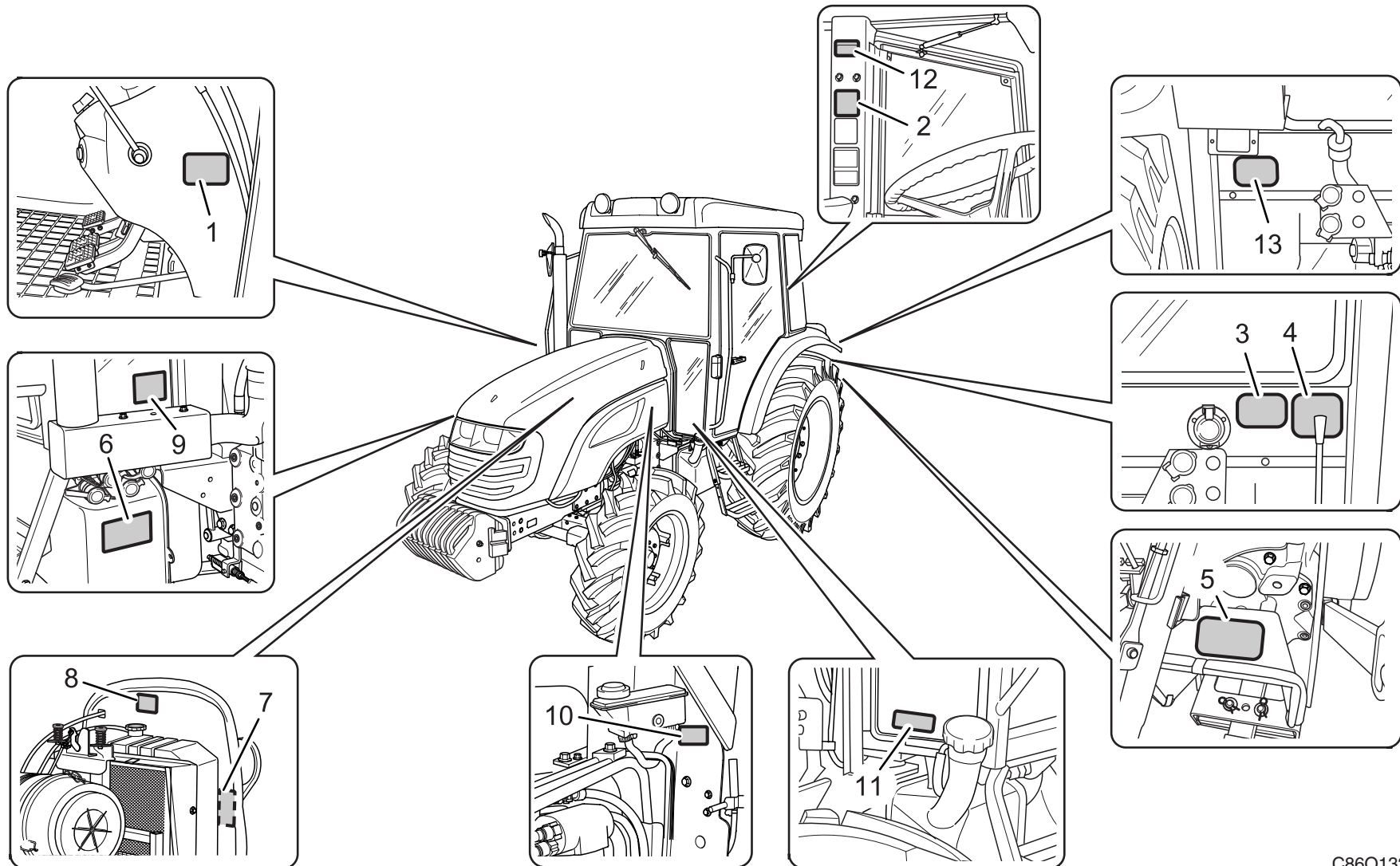
TRACTOR SAFETY LABELS

ROPS



C86O131A

CABIN



C86O132A

1. E6500-51101

⚠ CAUTION

To avoid the damage to the Turbo charger of this engine ;

1. Do not accelerate quickly right after engine start.
2. A minute of idling is recommended before getting into the work and also before the engine stop.

E6500-51101

3. T4628-52201

⚠ WARNING

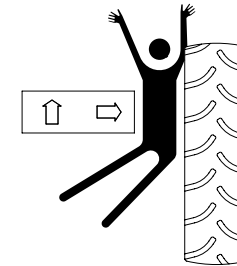
1. Be sure to check Transmission oil and fill to regular level before using the auxiliary equipment (Loader, Trailer etc).
2. Never use float function to lower the bucket from the raised position.
3. A, B ports have 'Float' function and are double acting ports. When using loader, they should be connected to the Loader Boom Cylinders.
4. C, D ports are only double acting ports. When using loader, they should be connected to the Loader Bucket Cylinders.
5. Never leave the bucket in the raised position,, otherwise it may cause an accident.



T4628-52201

4. T4817-52201

⚠ WARNING



Position lever



Precaution for position lever

- Don't operate except attaching and detaching of implement.
- Place gearshift lever in neutral position and must lock parking brake before operating at a flat.
- PTO switch must be located on the neutral position.
- When operate engine at the high speed, implement quickly move up and down. therefore operate to ensure sufficient safety distance at the low speed.

T4817-52201

2. T4837-51181



THE MAIN POINT OF SAFETY DRIVING

Keep list for using tractor safe.

- | | |
|-------------------|---|
| START | 1. Place gearshift lever in neutral position.
2. Lock parking brake. |
| DRIVE | 3. Must connect left, right brake pedals.
4. Don't rapidly start, brake, turn.
5. Never carry riders.
6. Don't use differential lock equipment on driving.
7. Don't operate the auxiliary equipment except working.
8. Slow down on turns, rough ground and slopes to avoid upset. |
| WORK | 9. Use a stepstone in case of entering a rice field.
10. Keep people off tractor. |
| STOP | 11. Stop engine and lock parking brake.
12. Use chock at slope.
13. Down the auxiliary equipment. |
| INSPECTION | 14. Stop engine.
15. Be sure to operate in flat and safe place. |

T4837-51181

5. T2325-50743

⚠ WARNING ⚠



TO AVOID INJURY FROM PTO:

1. Keep all shields in place.
2. keep hands, feet and clothing away.
3. Disengage PTO, stop the engine and set the brake before adjusting, repairing or servicing the tractor or implement.

TO AVOID PERSONAL INJURY:

1. Attached pulled or towed loads to the drawbar only.
2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.

T2325-50743

6. T4818-52142

⚠ WARNING

1. Be sure to check Transmission oil and fill to regular level before using the auxiliary equipment (Loader, Trailer etc).
2. Never use float function to lower the bucket from the raised position.
3. G, H ports have 'Float' function and are double acting ports. When using loader, they should be connected to the Loader Boom Cylinders.
4. E, F ports are only double acting ports. When using loader, they should be connected to the Loader Bucket Cylinders.
5. Never leave the bucket in the raised position,, otherwise it may cause an accident.



H



F



G



E

T4818-52142

8. T2615-53561

⚠ WARNING



Do not remove the radiator cap when the engine is running or while the engine is hot. If the radiator cap is removed, hot vapors or liquid may be violently released causing burns. Allow a sufficient amount of time for the engine to cool before removing the radiator cap.

T2615-53561

10. T4837-51191

⚠ CAUTION

1. Never use car's brake oil.
2. Be sure to use only a genuine OIL.
3. When use car's brake oil, occur deadly accident to be caused by fatal damage of all kind of seal.

T4837-51191

7. T4625-52351

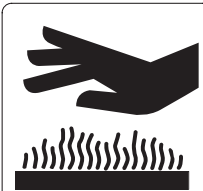


T4625-52351

9. T2615-55112

⚠ WARNING

- Do NOT run an engine in an enclosed area.
- Exhaust fumes caused sickness or possible death.
- Do NOT touch a muffler with bare hands.

T2625-55112

11. T2615-54112

⚠ WARNING

- Avoid flame and sparks.
- STOP engine while refueling.



ONLY use diesel.



T2615-54112

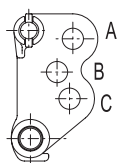
12. T4837-51093

! WARNING

1. To reduce the risk of carbon monoxide poisoning, open window to allow fresh air to enter cabin.
2. Never sleep in cabin. Sleeping in cabin may cause death.
3. To prevent compressor trouble and for better air-condition quality, close the heater valve in the engine compartment during the summer.

T4837-51093

13. T4837-52121

! CAUTION

1. The auxiliary equipment doesn't need to draft (rotary etc).

Position of the top link : ☐ DRIVING A
☐ WORKING A

2. The auxiliary equipment needs to draft (plow etc).

Position of the top link : ☐ DRIVING A
☐ WORKING B,C

* Be sure to fix on "A" position of the top link, while driving with the auxiliary equipment on common and farm load.

* Must keep because of draft control sense of trouble while drive to be stuck the top link to working position of draft control equipment (B, C).

T4837-52121

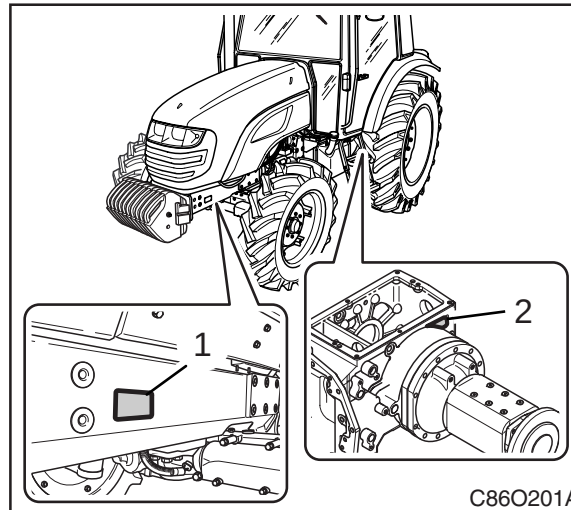
2

SERVICING THE TRACTOR

Your dealer is ready and willing to help you get the most value from your new tractor. However; after reading and understanding this manual, you may be able to perform some of the regular maintenance yourself.

When parts or major service are required, please contact your authorized **KIOTI** dealer. When contacting your dealer, always be prepared to provide the tractor model number, the tractor serial number, the engine serial number, and the transmission serial number.

The tractor serial number is located on the left side of the frame near the front axle. The engine serial number is located on the left side of the engine crankcase. The transmission serial number is located on the left side of the transmission housing. For future convenience, locate the serial numbers now and record them in the space provided.



- (1) Manufacture Plate
(2) Transmission Serial Number

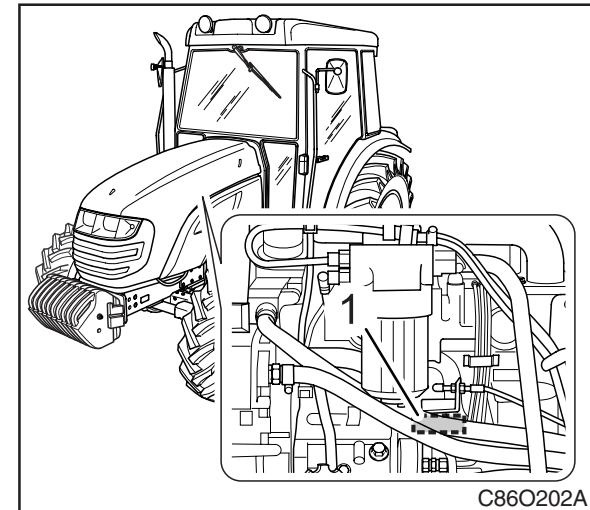
Tractor Serial No.

Engine Serial No.

Transmission Serial No.

Date of Purchase

(To be filled in by purchaser)



- (1) Engine Serial Number

WARNING

- **Do not make any modifications to the tractor. Modifications may cause a hazard. Modifying the tractor or opening sealed engine parts will void the warranty.**

3 SPECIFICATIONS

SPECIFICATIONS
TRAVELING SPEED

SPECIFICATIONS

MODEL		DK651	DK751	DK801	DK901
Engine	Model	1103C-33T	1104C-44	1104C-44T	←
	Type	3 cyl., Water Cooled, 4 Cycle, Turbo Diesel	4 cyl., Water Cooled, 4 Cycle, Diesel	4 cyl., Water Cooled, 4 Cycle, Turbo Diesel	←
	Engine gorss HP(kw)	64 (47.6)	72.4 (54.0)	80 (59.7)	90 (67.1)
	Displacement cc(cu.in)	3300 (201.5)	4400 (268.5)	←	←
	Bore and stroke mm(in)	105 x 127 (4.1 x 5)	←	←	←
	Rated revolution rpm min-1	2200	←	←	←
	Injection timing	BTDC 1°	←	←	←
	Injection order	1-2-3	1-2-3-4	←	←
	Compression ratio	18.25	19.3	18.2	←
	Lubricating system	Forced lubrication by trochoidal pump			
	Cooling system	Forced circulation with water pump/centrifugal gear driven			
	Starting system	12 Volt electric start			
	Weight (dry) kg(lbs)	276 (608)	295 (650)	305 (672)	←
Capacity	Fuel tank ℓ (U.S.gal.)	100 (26.4)	←	←	←
	Engine crankcase [included Filter] ℓ (U.S.gal.)	6.4 (1.7) [6.9 (1.8)]	9.0 (2.4) [10.5 (2.7)]	←	←
	Engine coolant ℓ (U.S.gal.)	9.08 (2.4)	18.5 (4.8)	←	←
	Transmission case ℓ (U.S.gal.)	60 (15.8)	←	←	←
	Support of front axle ℓ (U.S.gal.)	4.5 (1.2)	←	←	←
	Front axle case (L/R) ℓ (U.S.gal.)	Each 3.5 (0.9)	←	←	←

MODEL				DK651	DK751	DK801	DK901
Clutch	Type			Dry single plate-single stage type			
	Clutch size mm(in)			325 (13)			
Transmission	Type			Full synchromesh			
	Travel speeds km/h(mile/h)	Forward	1st	0.43 (0.27)	←	0.45 (0.28)	←
			12th	29.55 (18.36)	←	31.34 (19.47)	←
		Reverse	1st	0.42 (0.26)	←	0.44 (0.27)	←
			12th	28.93 (17.98)	←	30.68 (19.06)	←
	Differential lock (Rear, Front)			Standard			
P.T.O	Type			Independent			
	PTO revolution rpm			540/750 (Option 540/1000)			
	PTO shaft			SAE 1-3/8, 6 splines			
3-point hitch	Type			Category II			
	Lift Capacity at lift point kg(lbs)			max 2400 (5291)			
	Drawbar type			Drawbar			
Hydraulics	Pump Capacity ℓ /min(ft³/min)	1st		41.2 (1.455)	45.3 (1.599)	←	←
		2nd		31.7 (1.119)	31.7 (1.119)	←	←
	3-point. Hitch control			Position, Draft and mixed Control			
	No. of standard remote valves			2EA			
	Joy stick valve			Option (4port)			
	Steering			Hydraulic			

MODEL		DK651	DK751	DK801	DK901	
Brakes		Wet Disc (Hydraulic)				
Standard Tires		Front	11.2 - 20	11.2 - 24	12.4 - 24	←
		Rear	16.9 - 30	18.4 - 30	18.4 - 34	←
Dimensions	Length(with 3point & front weight)mm(in)		4,062 (160)	4,142 (163)	4,267 (168)	←
	Widthmm(in)		1,790 (70.4)	1,940 (76.3)	1,990 (78.3)	←
	Heightmm(in)	Cabin	2,650 (104.3)	2,142 (84.3)	←	←
		ROPS	2,823 (111.1)	2,876 (113.2)	2,927 (115.2)	←
	Wheelbasemm(in)		2,048 (80.6)	2,142 (84.3)	←	←
	Ground Clearancemm(in)		423 (16.6)	443 (17.4)	470 (18.5)	←
	Front Tread - Std. Tiresmm(in)		1,473 (57.9)	1,534 (60.3)	1,576 (62.0)	←
	Rear Tread - Std. Tiresmm(in)	Min	1,406 (55.3)	1,534 (60.3)	←	←
		Max	1,802 (70.9)	1,934 (76.1)	←	←
Turning radius (with brake)mm(in)		3,095 (121.8)	3,480 (137)	3,590 (141.3)	3,610 (142.1)	
Weight Cabin (without front weight)kg(lbs)		3,093 (6,819)	3,331 (7,344)	3,421 (7,542)	3,557 (7,842)	

TRAVELING SPEED

* At rated engine speed(2200rpm)

km/h (mile/h)

LEVER SELECTIONS			MODEL			
Shuttle	Hi-Low	Main	DK651	DK751	DK801	DK901
Tir size (Rear wheel)			16.9-30	18.4-30	18.4-34	18.4-34
O.D			1485mm (58.46 in)	1533mm (60.35 in)	1635mm (64.37 in)	1635mm (64.37 in)
Forward	Creep	1	0.43 (0.27)	0.44 (0.27)	0.47 (0.29)	0.47 (0.29)
		2	0.62 (0.38)	0.64 (0.39)	0.69 (0.43)	0.69 (0.43)
		3	0.84 (0.52)	0.87 (0.54)	0.93 (0.57)	0.93 (0.57)
		4	1.33 (0.82)	1.38 (0.85)	1.47 (0.91)	1.47 (0.91)
	Low	1	2.07 (1.28)	2.14 (1.33)	2.28 (1.41)	2.28 (1.41)
		2	3.02 (1.87)	3.11 (1.93)	3.32 (2.06)	3.32 (2.06)
		3	4.08 (2.53)	4.21 (2.61)	4.49 (2.79)	4.49 (2.79)
		4	6.49 (4.03)	6.70 (4.16)	7.14 (4.43)	7.14 (4.43)
	High	1	9.47 (5.88)	9.78 (6.07)	10.43 (6.48)	10.43 (6.48)
		2	13.79 (8.56)	14.24 (8.84)	15.18 (9.43)	15.18 (9.43)
		3	18.63 (11.57)	19.23 (11.95)	20.51 (12.74)	20.51 (12.74)
		4	29.55 (18.36)	30.51 (18.96)	32.54 (20.22)	32.54 (20.22)

km/h (mile/h)

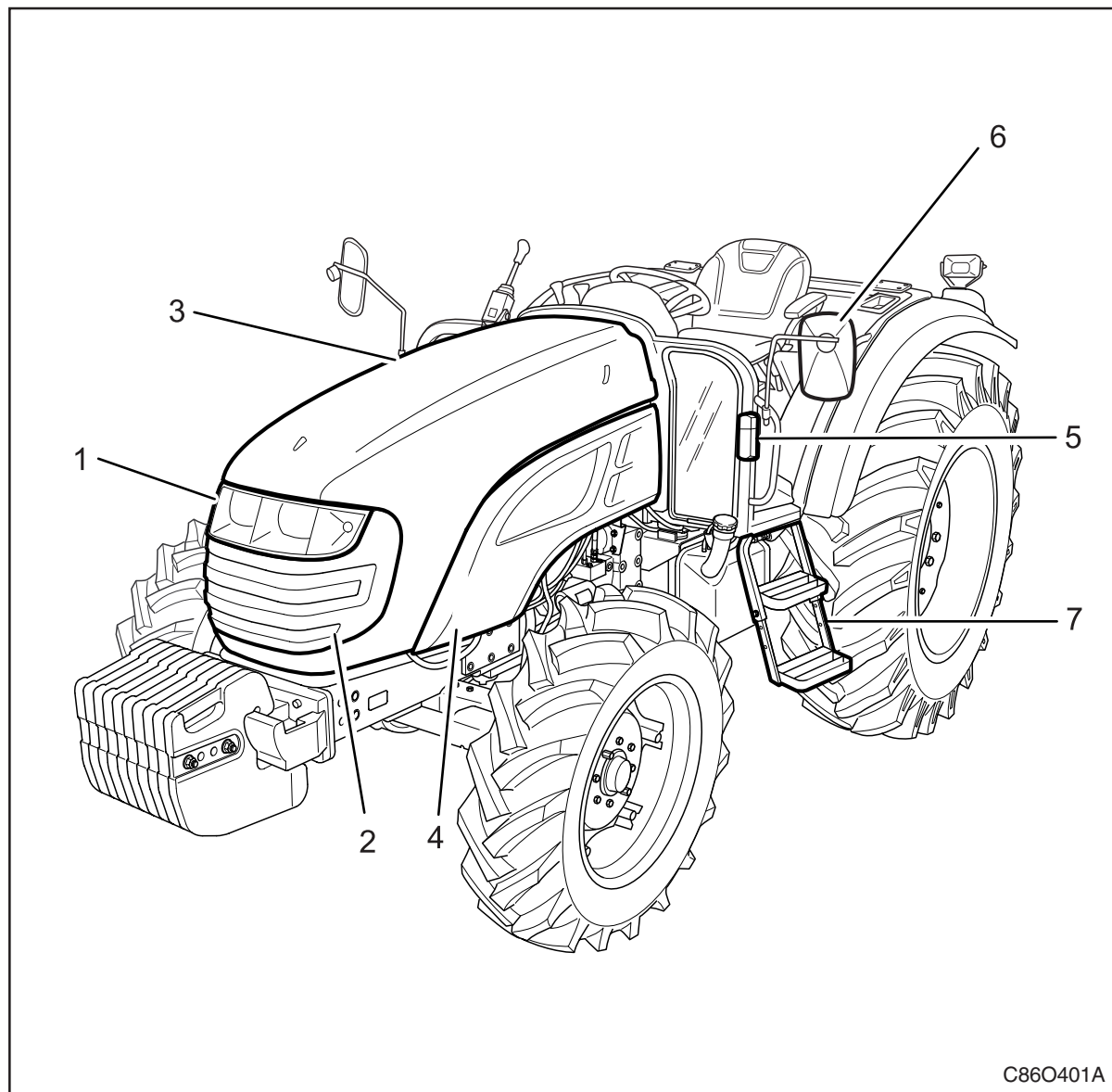
LEVER SELECTIONS			MODEL			
Shuttle	Hi-Low	Main	DK651	DK751	DK801	DK901
Tir size (Rear wheel)			16.9-30	18.4-30	18.4-34	18.4-34
O.D			1485mm (58.46 in)	1533mm (60.35 in)	1635mm (64.37 in)	1635mm (64.37 in)
Reverse	Creep	1	0.42 (0.26)	0.43 (0.27)	0.46 (0.28)	0.46 (0.28)
		2	0.61 (0.38)	0.63 (0.39)	0.67 (0.41)	0.67 (0.41)
		3	0.82 (0.50)	0.85 (0.53)	0.91 (0.56)	0.91 (0.56)
		4	1.31 (0.81)	1.35 (0.84)	1.44 (0.89)	1.44 (0.89)
	Low	1	2.03 (1.26)	2.09 (1.29)	2.23 (1.38)	2.23 (1.38)
		2	2.95 (1.83)	3.05 (1.89)	3.25 (2.02)	3.25 (2.02)
		3	3.99 (2.48)	4.12 (2.56)	4.39 (2.72)	4.39 (2.72)
		4	6.35 (3.94)	6.56 (4.07)	6.99 (4.34)	6.99 (4.34)
	High	1	9.27 (5.76)	9.57 (5.94)	10.21 (6.34)	10.21 (6.34)
		2	13.50 (8.39)	13.94 (8.66)	14.86 (9.23)	14.86 (9.23)
		3	18.24 (11.33)	18.82 (11.69)	20.08 (12.47)	20.08 (12.47)
		4	28.93 (17.98)	29.87 (18.56)	31.85 (19.79)	31.85 (19.79)

4 DESCRIPTION OF OPERATING SYSTEM

**EXTERIOR VIEW AND APPELLATION
INSTRUMENTS PANEL AND SWITCHES
OPERATING THE CONTROLS
DESCRIPTION OF CAB OPERATING SYSTEM(OPTION)**

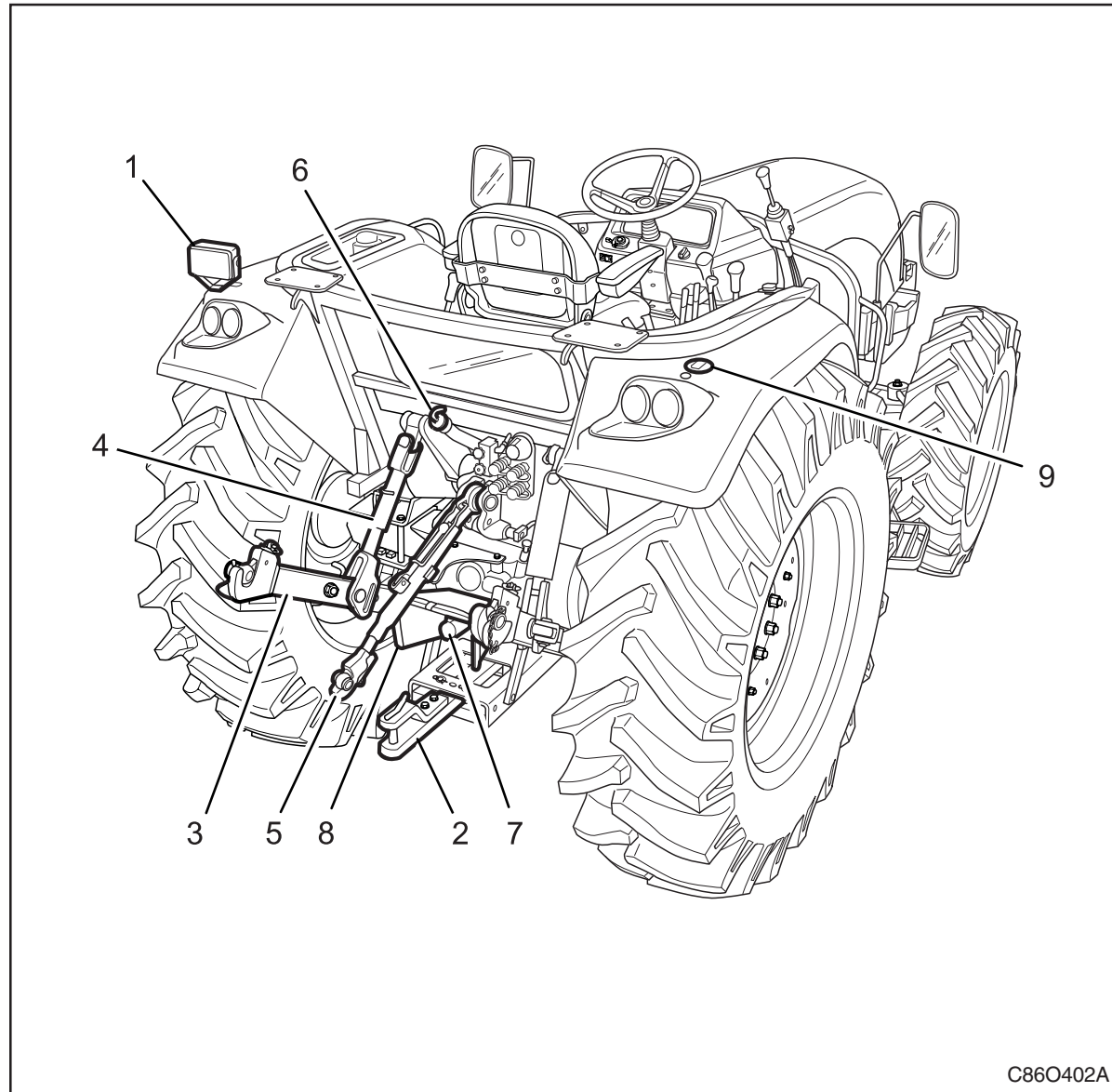
EXTERIOR VIEW AND APPELLATION

DK651/751/801/901



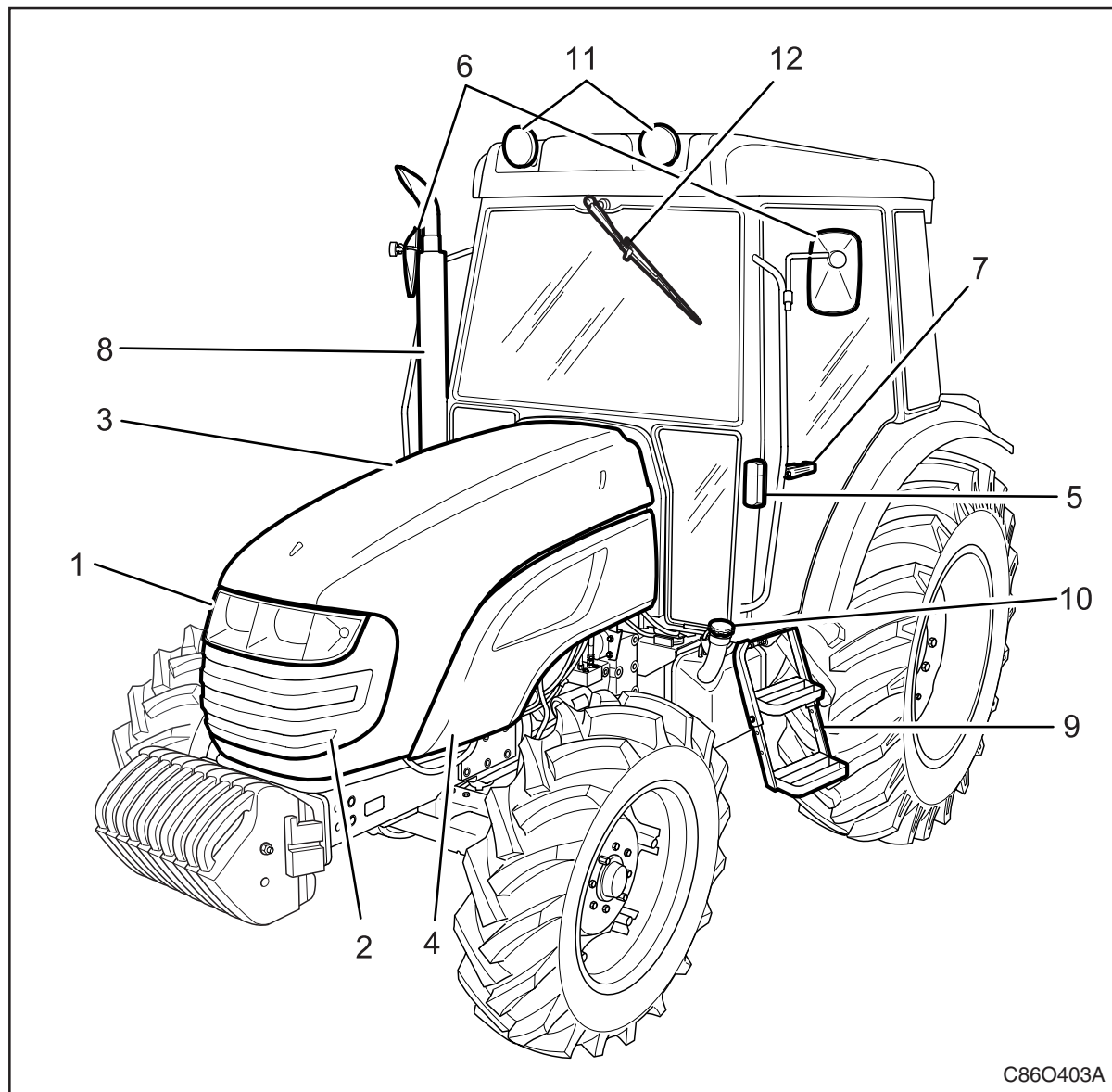
- (1) Headlight
- (2) Front Grill
- (3) Bonnet, Hood
- (4) Side Cover, Hood
- (5) Turn Signal (LH)
- (6) Rear view Mirror
- (7) Step (LH)

C86O401A



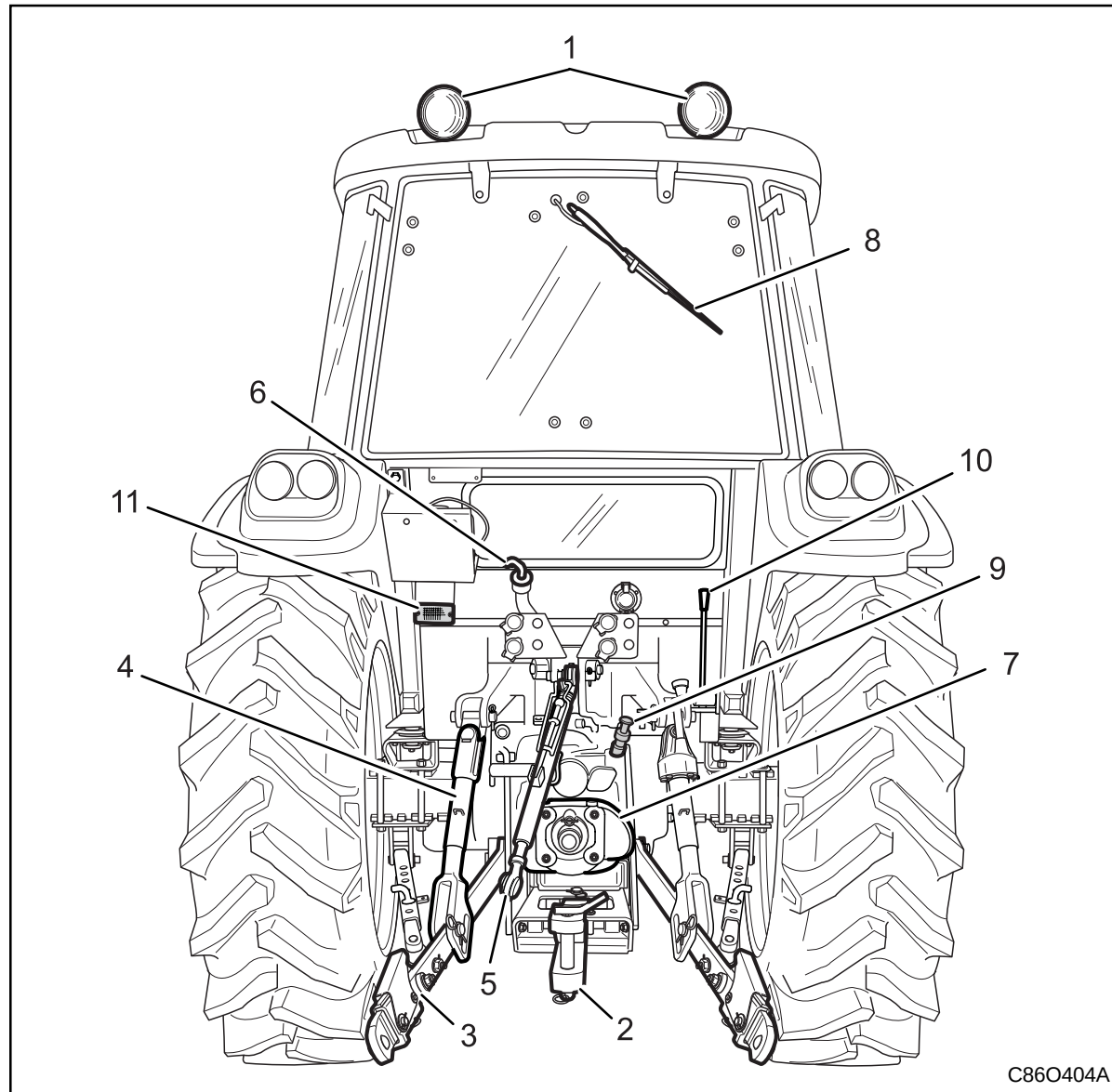
- (1) *Work Lamp*
- (2) *Drawbar Hitch*
- (3) *Lower Link*
- (4) *Lift Linkage*
- (5) *Top Link*
- (6) *Tranmission Oil Filler Plug*
- (7) *PTO*
- (8) *PTO Cover*
- (9) *Lift Control Switch*

DK651/751/801/901(C)



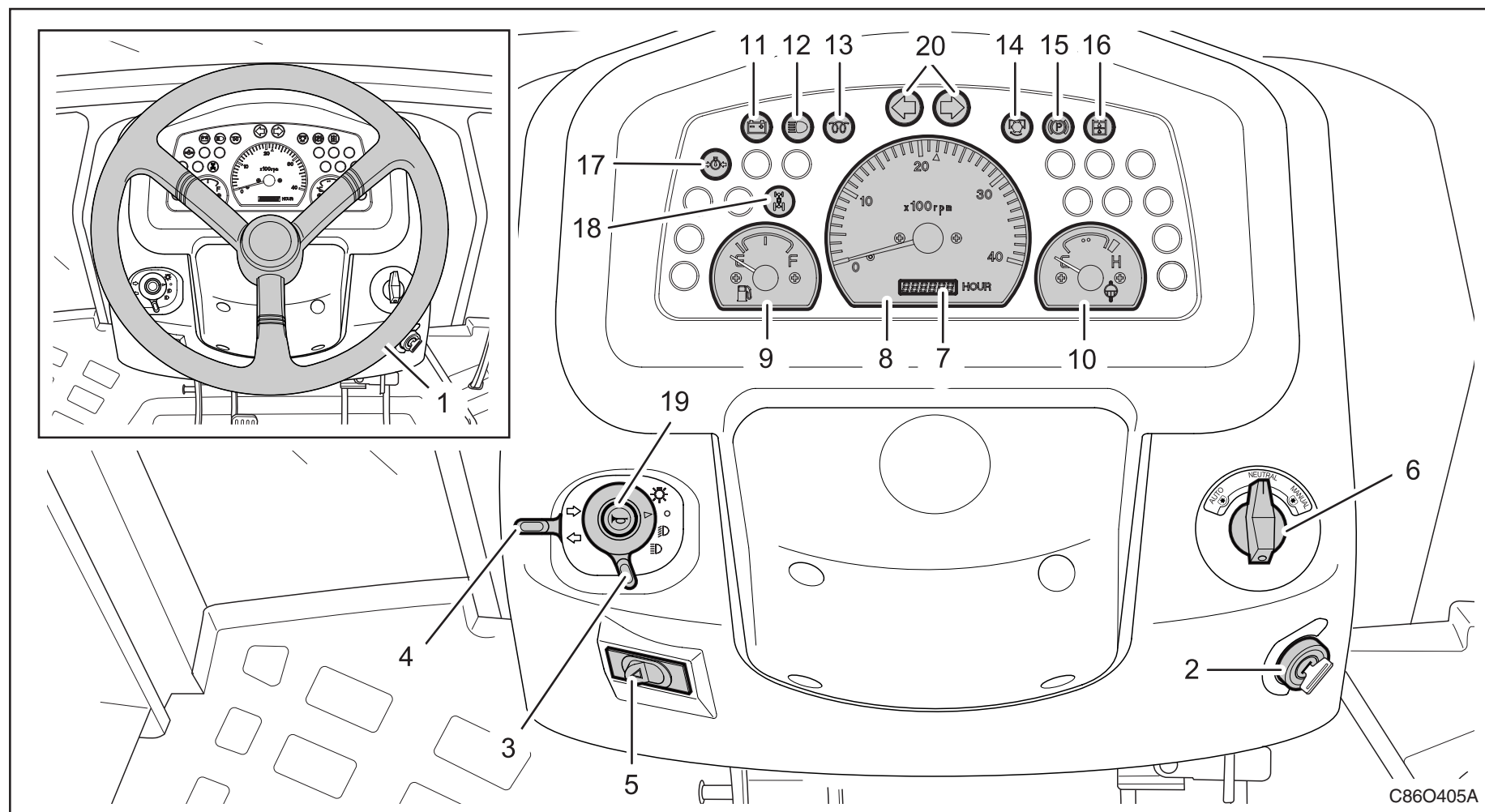
- (1) Headlight
- (2) Front Grill
- (3) Bonnet, Hood
- (4) Side Cover, Hood
- (5) Turn Signal (LH)
- (6) Rear view Mirror
- (7) Door Handle
- (8) Muffler
- (9) Step (LH)
- (10) Fuel Fill
- (11) Work Lamp
- (12) Wipe

C86O403A



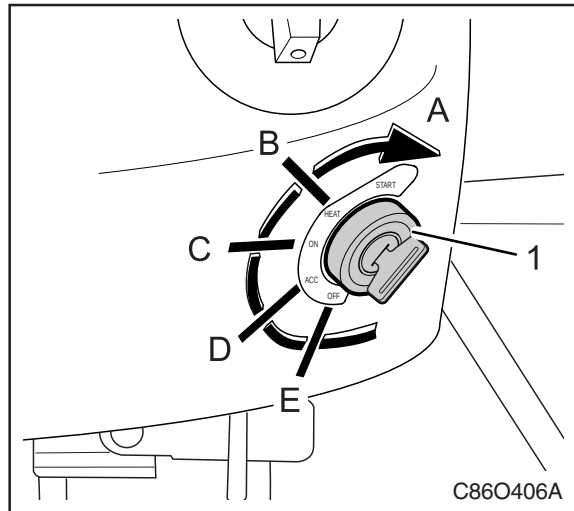
- (1) *Work Lamp*
- (2) *Drawbar Hitch*
- (3) *Lower Link*
- (4) *Lift Linkage*
- (5) *Top Link*
- (6) *Tranmission Oil Fill*
- (7) *PTO Cover*
- (8) *Wipe*
- (9) *Oil Gauge*
- (10) *External Position Control Lever*
- (11) *Back Lamp*

INSTRUMENTS PANEL AND SWITCHES



- | | | | |
|------------------------|------------------------|----------------------------------|---------------------------------------|
| (1) Steering Wheel | (6) PTO Switch | (11) Battery Charge Warning Lamp | (16) Hydraulic System Warning Lamp |
| (2) Start Switch | (7) Hour Meter | (12) High Beam Indicator | (17) Engine Oil Pressure Warning Lamp |
| (3) Headlight Switch | (8) Tachometer | (13) Preheater Indicator | (18) 4WD Operation Indicator |
| (4) Turn Signal Switch | (9) Fuel Gauge | (14) PTO ON Indicator | (19) Horn |
| (5) Hazard Lamp Switch | (10) Temperature Gauge | (15) Parking Brake Indicator | (20) Turning Signal Indicator |

KEY SWITCH



- (1) Key Switch (A) Start (B) Heat
(C) On (D) Acc (E) Off

OFF

Key position to shut down all systems. Position for key removal.

ACC

Key position for operating accessory functions with engine off.

ON / HEAT

Key position for engine operation. Position also used for preheat when starting a cold engine.

ST

Key position for operating the starter motor.

STARTING INSTRUCTIONS

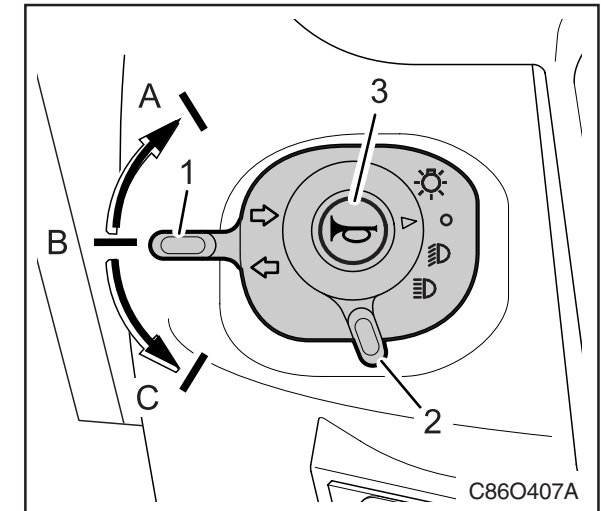
Inserting the key and turning it one click to the right energizes the electrical system and lights up the engine oil pressure lamp (RED). Electrical accessories can be operated in this position.

Depress the clutch pedal to disengage the clutch. Next, turning the key to the next position activates the glow plugs which preheat the combustion chamber when the engine is cold. After the glow plug lamp has turned red and the engine has been preheated, turn the key switch to the right again to activate the starter which will start the engine. Release the key switch and it will return to the ON position. Glow plugs will turn off automatically. The preheat step is not necessary for a warm engine.

NOTE

- As a safety feature, the engine will not start unless the clutch pedal is depressed.

TURN SIGNAL/ HEADLIGHT/HORN SWITCH



- (1) Turn Signal Light Switch (2) Head light Switch (3) Horn
(A) Right (B) N (C) Left

Turning the headlight switch one click clockwise illuminates the low beam headlights and taillights. Turning it one more click illuminates the high beam headlights.

OFF

Headlight is turned OFF



Low beam headlight is turned ON

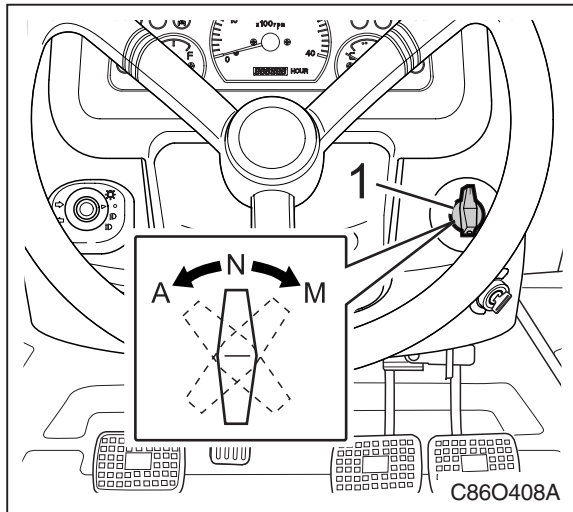


High beam headlight is turned ON



Turn signal lamp is turned ON.

PTO CLUTCH SWITCH (MANUAL/AUTOMATIC)



(1) PTO Clutch Switch
(N) Neutral
(A) Automatic
(M) Manual

Neutral

PTO is off.

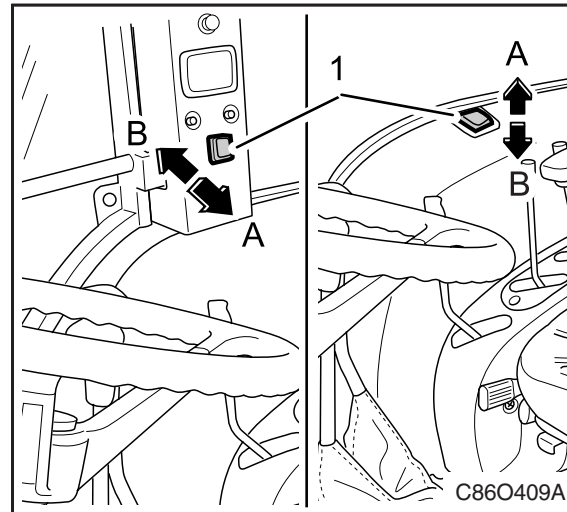
Manual

PTO is on continuously.

Automatic

PTO is turned on when implement is lowered; PTO is turned off when implement is raised.

PTO SWITCH(ON/OFF)



(1) PTO Switch
(A) - OFF (B) - ON

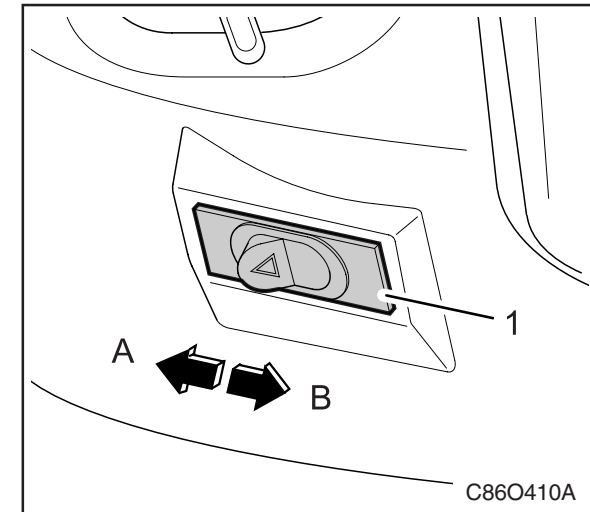
NOTE

- As a safety feature, the engine will not start unless the PTO switch is turned "OFF".

⊕ IMPORTANT

- Always turn the key switch to the "OFF" position when the tractor is shut down to avoid damage to the electrical system.

HAZARD LAMP SWITCH



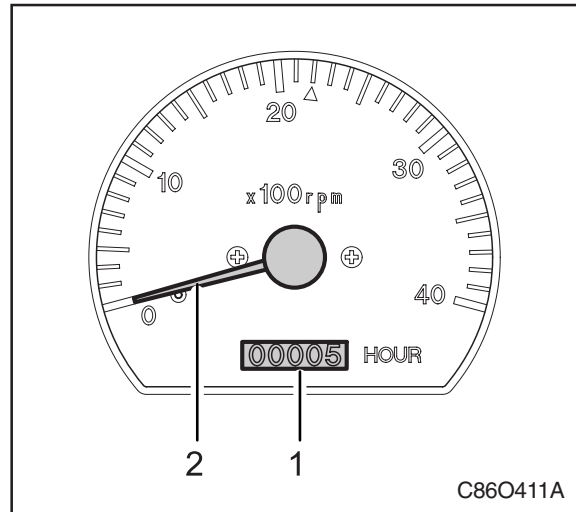
(1) Hazard Lamp Switch
(A) Hazard Lights OFF (B) Hazard Lights ON

When the hazard lamp switch is pulled to the ON position, the hazard lamps blink.

⚠ CAUTION

- Prolonged use of the hazard lamps without the engine running will drain the battery. Use only in case of emergency.

TACHOMETER/HOUR METER

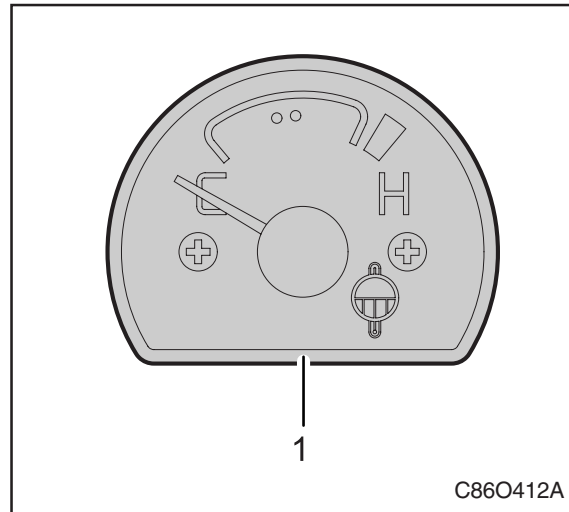


- (1) Hour Meter
(2) Engine Revolution Meter

The hour meter shows the number of hours the tractor has been operated at rated engine rpm. The last digit (white background) indicates 1/10 of an hour.

The tachometer indicates engine speed in revolutions per minute (RPM).

TEMPERATURE GAUGE



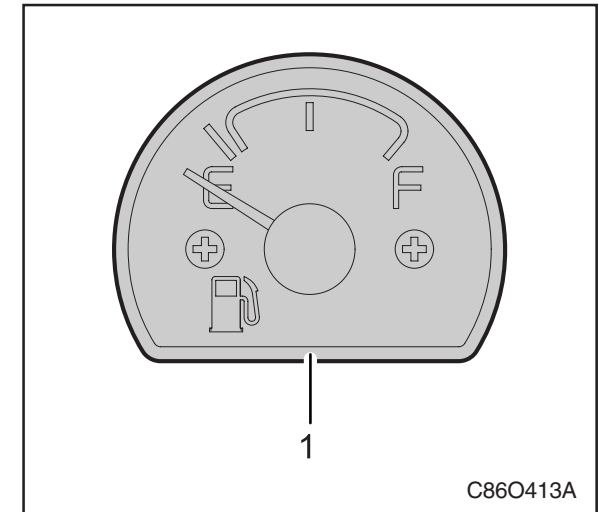
- (1) Temperature Gauge

Always check the engine coolant level before starting the tractor.

The temperature gauge indicates the engine coolant temperature. Always allow the tractor to reach its normal operating temperature before doing work.

Immediate action is required if the temperature exceeds the normal range. Do not operate the tractor if the temperature gauge reaches the red section of the range.

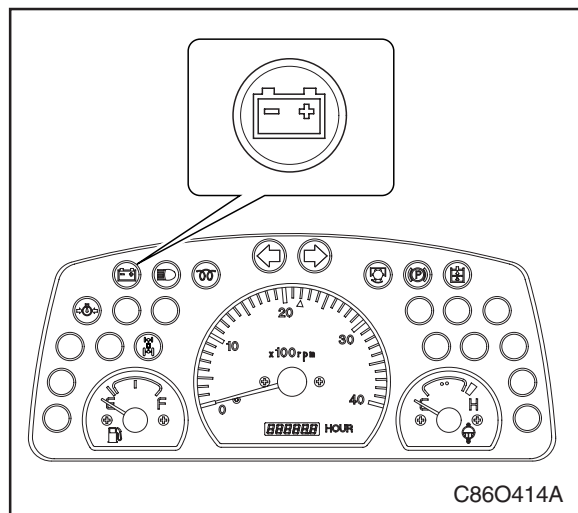
FUEL GAUGE



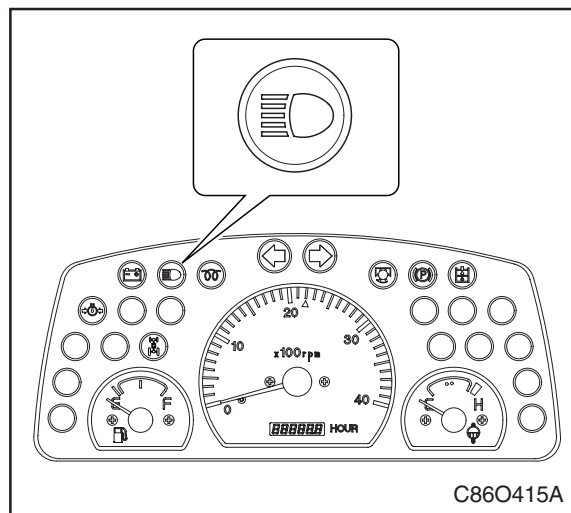
- (1) Fuel Gauge

Fuel gauge indicates the amount of fuel.

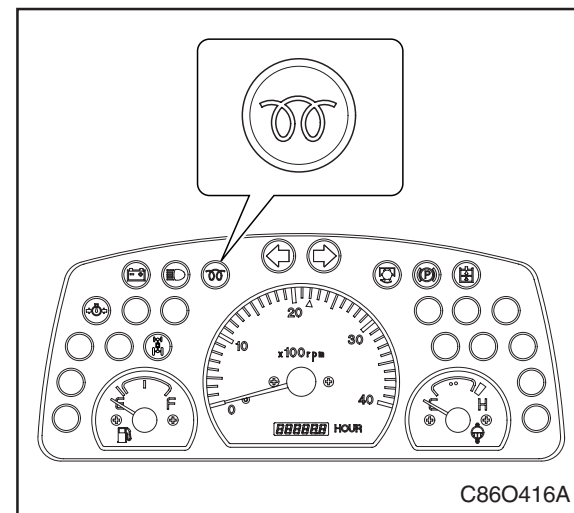
Be careful to refill the fuel tank before it becomes empty. Once the fuel tank becomes empty, it will be necessary to bleed the fuel system before the engine will restart.

BATTERY CHARGE WARNING LAMP

C86O414A

HIGH-BEAM INDICATOR

C86O415A

PREHEATER INDICATOR

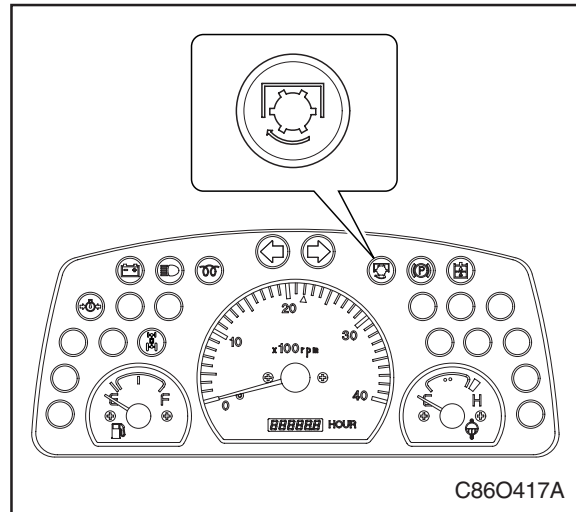
C86O416A

If the alternator is not charging the battery, the warning lamp in the Easy Checker will come on.

If this should happen during operation, check the electrical charging system or consult your local **KIOTI** dealer.

This indicator lights up blue when the headlamp switch is in the high-beam position.

PTO LAMP

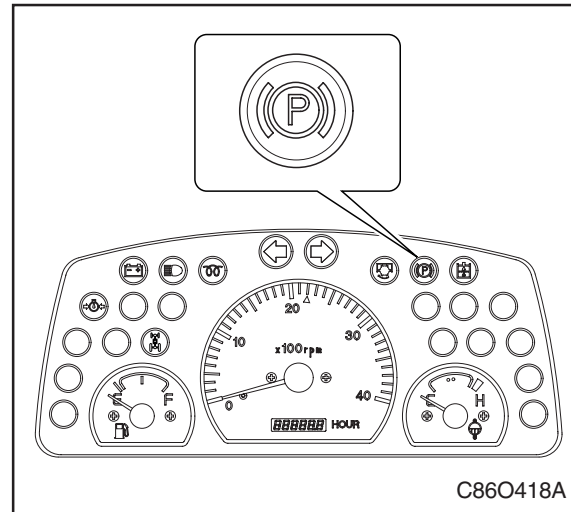


This lamp lights up red when the PTO is on.

CAUTION

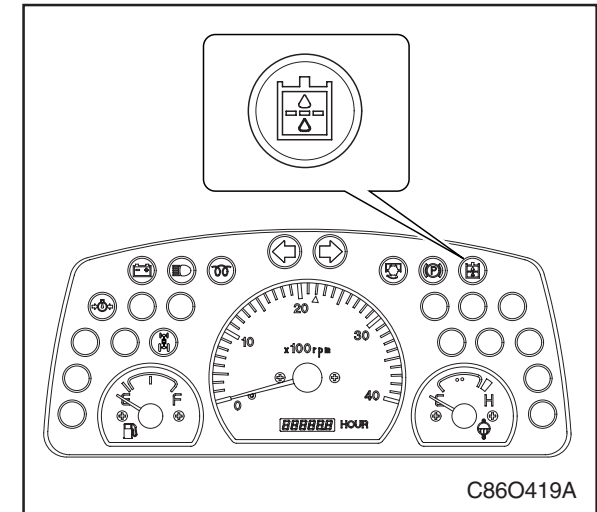
- As a safety feature, the engine will not start when the PTO light is on.

PARKING BRAKE INDICATOR



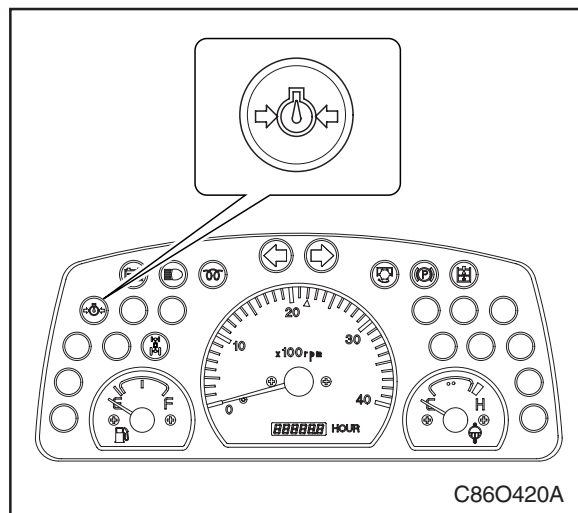
This lamp lights up red when the parking brake is on. Do not drive the tractor with the parking brake on.

HYDRAULIC SYSTEM WARNING LAMP



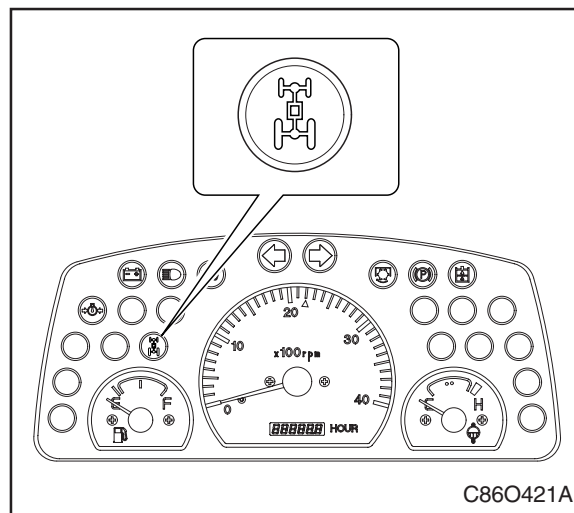
A yellow light indicates possible problems with the hydraulic system. The light comes on when hydraulic pressure drops below a specified level. Possible causes are overheating, clogged filter, low oil level, fluid leak or improperly attached equipment.

ENGINE OIL PRESSURE WARNING LAMP



The oil pressure lamp glows red when the key switch is turned on; indicating that the system is functioning properly. The light should go out after engine starts. If the light remains on, stop the engine and determine the cause.

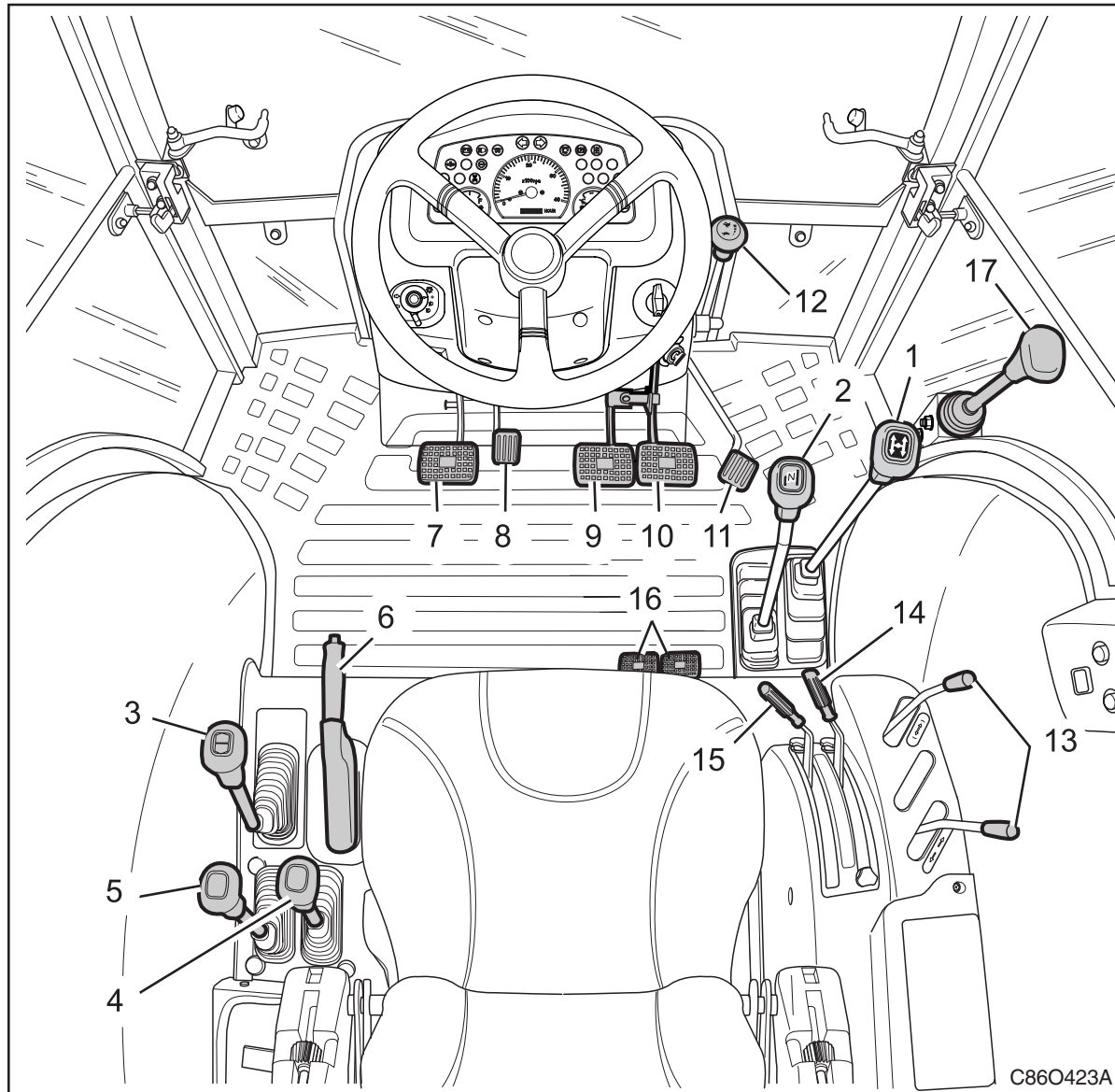
4WD OPERATION INDICATOR



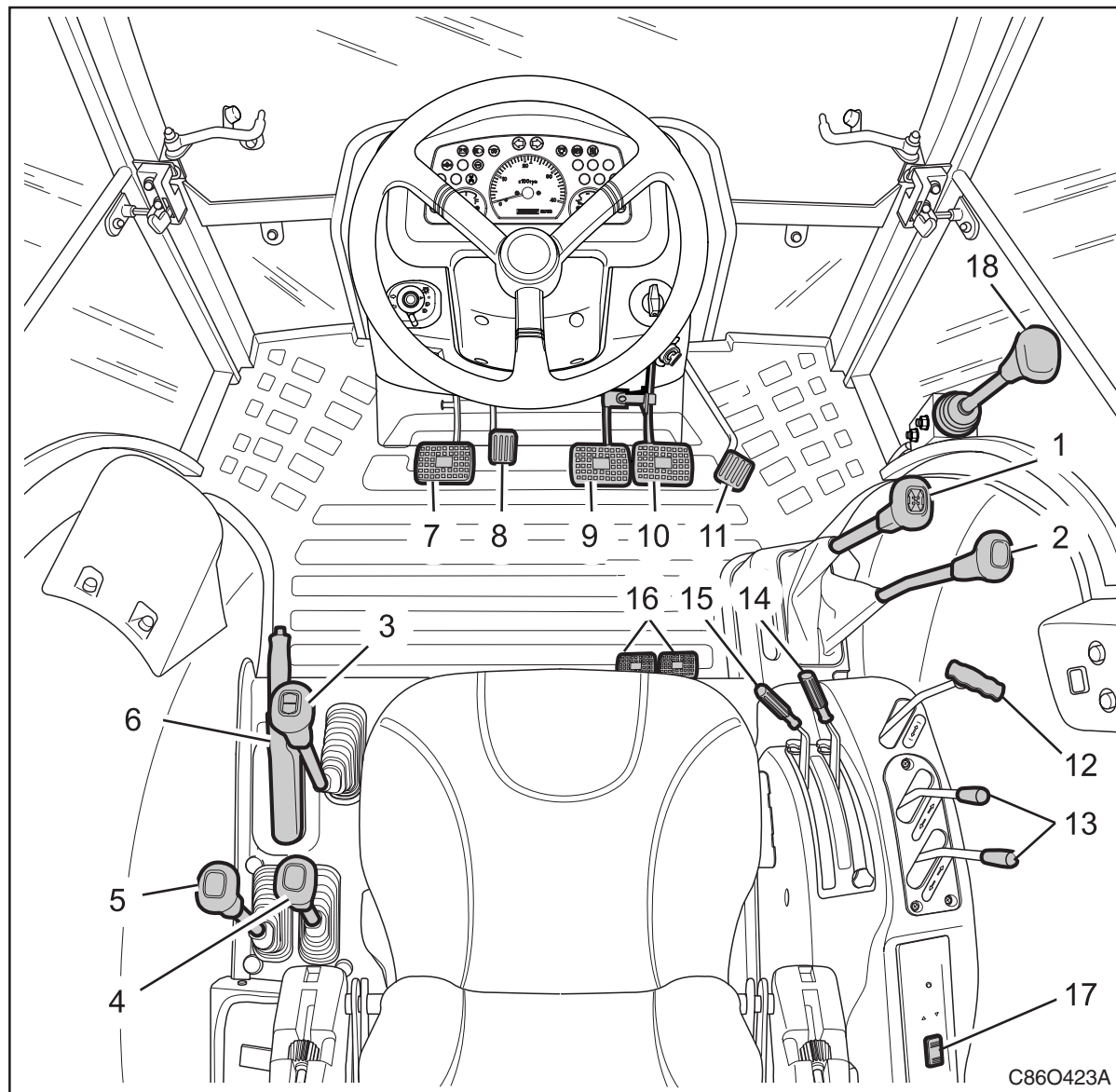
This lamp lights up yellow when the 4WD switch is "4WD" position, indicating the tractor is in the 4WD mode.

OPERATING THE CONTROLS

DK651

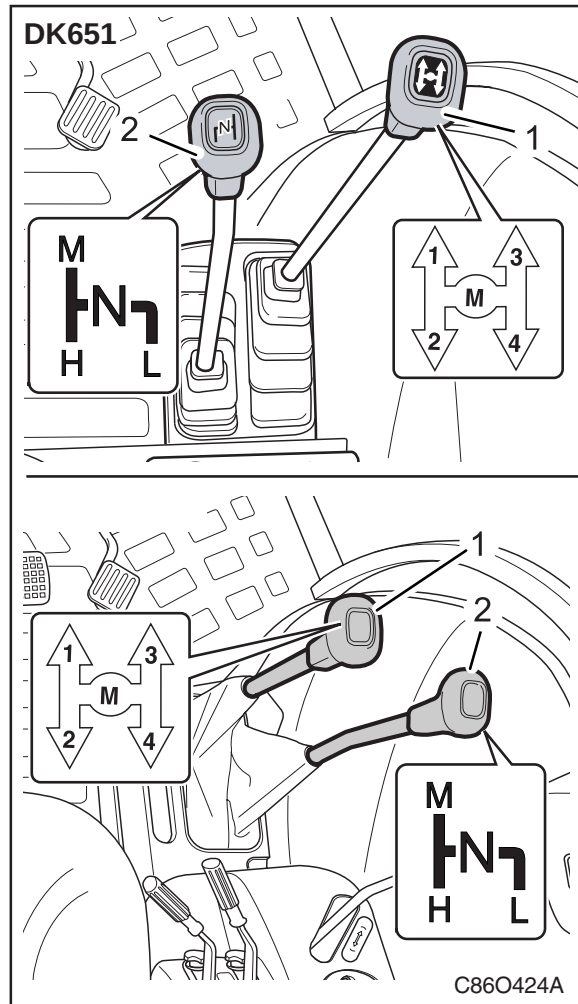


- (1) Main Shift Lever
- (2) Hi-Lo Shift Lever
- (3) Shuttle Shift Lever
- (4) Front Wheel Drive Lever
- (5) PTO Speed Change Lever
- (6) Parking Brake Lever
- (7) Clutch Pedal
- (8) Steering Wheel Tilt Lever
- (9) Brake Pedal(LH)
- (10) Brake Pedal(RH)
- (11) Foot Throttle
- (12) Hand Torottle
- (13) Hydraulic Accessory Controls
- (14) Lift Position Control Lever
- (15) Draft Control Lever
- (16) Differential lock pedal
- (17) Joystick Control - Hydraulics

DK751/801/901

- (1) Main Shift Lever
- (2) Hi-Lo Shift Lever
- (3) Shuttle Shift Lever
- (4) Front Wheel Drive Lever
- (5) PTO Speed Change Lever
- (6) Parking Brake Lever
- (7) Clutch Pedal
- (8) Steering Wheel Tilt Lever
- (9) Brake Pedal(LH)
- (10) Brake Pedal(RH)
- (11) Foot Throttle
- (12) Hand Throttle Lever
- (13) Hydraulic Accessory Controls
- (14) Lift Position Control Lever
- (15) Draft Control Lever
- (16) Differential lock pedal
- (17) Lift Control Switch
- (18) Joystick Control - Hydraulics

MAIN SHIFT LEVER & HI-LO SHIFT LEVER



- (1) Main Shift Lever
(2) Hi-Lo Shift Lever

The main shift lever pattern is in the form of an “H”. The range lever is used to select three stages, “High”, “Middle” and “Low (Creep)”.

Using the Hi-Lo shift lever in combination with the Main shift lever, it is possible to obtain four speeds forward and four speeds in reverse in each of the three speed ranges; for a total of 12 forward and 12 reverse speeds.

CAUTION

- Depress the clutch pedal completely before making speed changes.

USING CREEP SPEED OPTION

1. RECOMMENDED USES

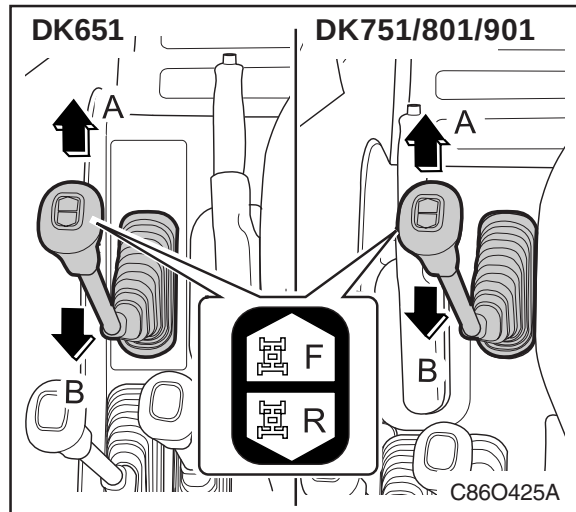
- Rotary tilling
- Transplanting
- Loading, unloading
- Trenching

2. NOT RECOMMENDED

- Operation in mud
- Pulling a trailer or other load
- Front-end loader operations
- Working in or near road traffic
- Snow removal

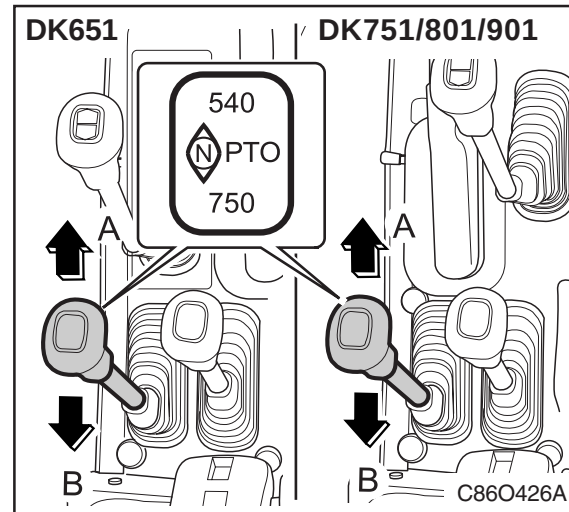
CAUTION

- The shuttle shift lever may be shifted while the tractor is moving slowly and the clutch is depressed. Sudden gear shift changes may cause transmission damage.

SHUTTLE SHIFT LEVER

(A) Forward (B) reverse

Push forward or pull backward to select forward or reverse. The direction of travel can be changed without changing the speed range.

PTO SPEED CHANGE LEVER

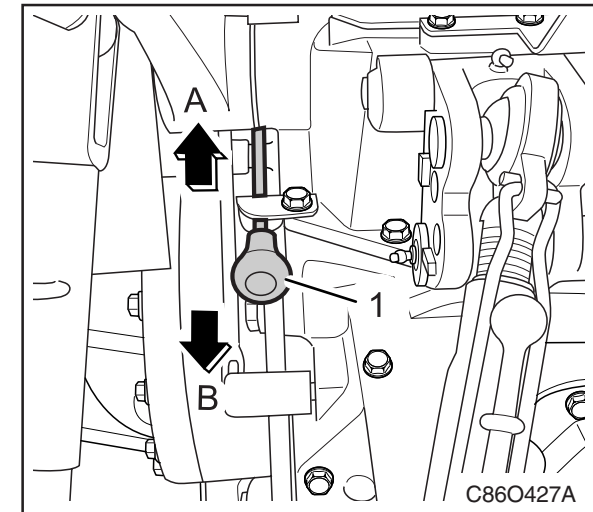
(1) PTO Change Lever
(A) 540rpm (B) 750rpm

Two PTO speeds can be obtained by shifting the PTO speed lever from the operator's seat.

CAUTION

To avoid personal injury:

- **Disengage the PTO, stop engine, and allow all rotating components to come to a complete stop before connecting, disconnecting, adjusting, or cleaning any PTO driven equipment.**

PTO SELECTION LEVER

(1) PTO Selection Lever
(A) Independent PTO
(B) Ground Speed PTO

You can select independent PTO operation or ground speed (by transmission speed ratio) PTO.

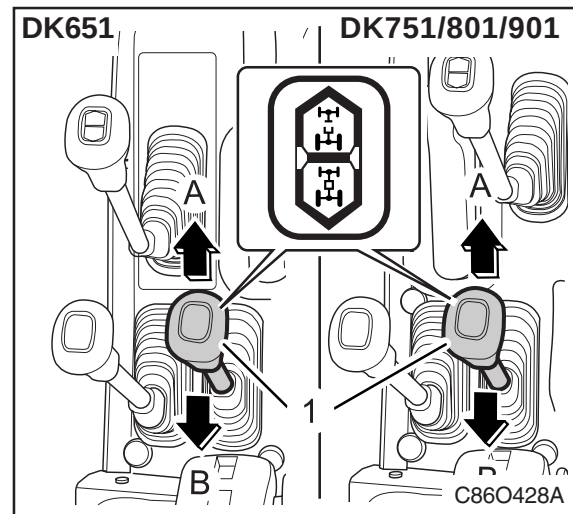
To select an operating mode; stop the tractor completely, reduce the engine speed to idle, turn PTO clutch switch to neutral position, depress the clutch pedal and now select the PTO operating mode.

INDEPENDENT PTO

The independent PTO mode is used for normal PTO operations. It operates continuously at a constant speed, independent of the transmission speed selections. The PTO shaft turns in a clockwise direction (as viewed from the rear of the tractor).

GROUND SPEED PTO

The PTO speed will be proportional to the tractor speed. The PTO shaft will stop when the tractor is stopped. It is important to note the PTO shaft will rotate in the opposite direction when the tractor is in reverse.

FRONT WHEEL DRIVE LEVER

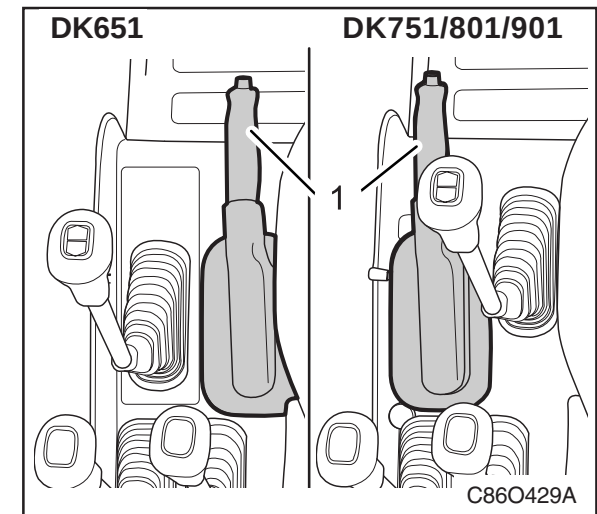
(1) Front Wheel Drive Lever

(A) Disengagement (B) Engagement

Move the front wheel drive lever rearward (B) to engage the front wheel drive mechanism. For ordinary farming work, keep the lever in the forward position (A) to operate in the 2WD mode.

FRONT WHEEL DRIVE IS EFFECTIVE FOR THE FOLLOWING JOBS:

1. When greater pulling force is needed, such as working in a wet field, when pulling a trailer or when working with front-end loader.
2. When working in sandy soil.
3. When working on a hard soil where a rotary tiller might push the tractor forward.

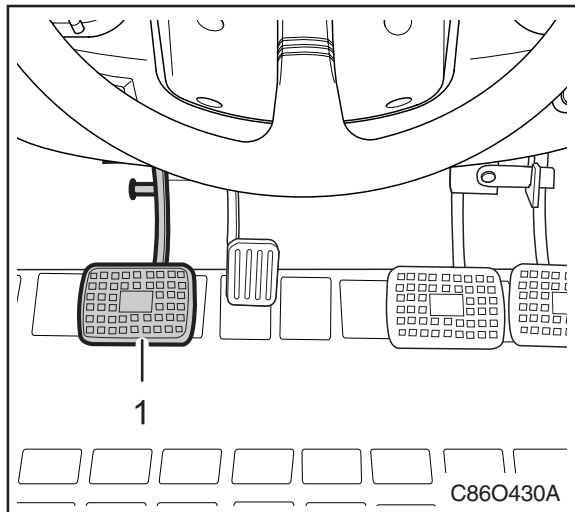
PARKING BRAKE LEVER

(1) Parking Brake Lever

When parking, be sure to set the parking brake.

To set the parking brake;

- 1) Interlock the brake pedals.
- 2) Depress the brake pedals.
- 3) latch the brake pedals with the parking brake lever.

CLUTCH PEDAL

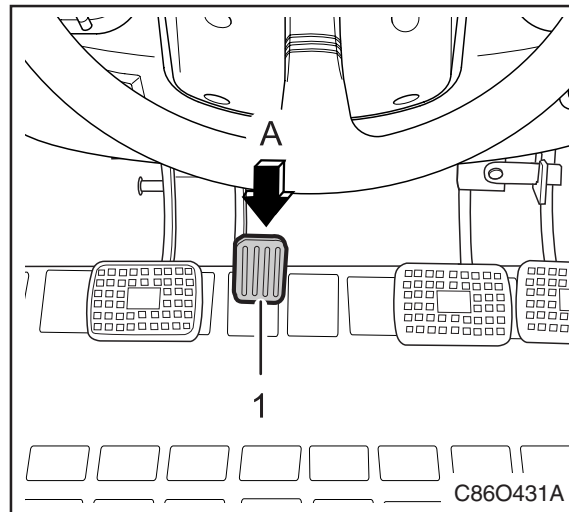
(1) Clutch Pedal

When the clutch pedal is fully depressed, the clutch is disengaged. Shift the main shift lever to the desired speed and gradually release the clutch pedal to engage the clutch.

The clutch should be disengaged by depressing the pedal quickly; and engaged by slowly releasing the pedal. Rapid engagement will shorten clutch life.

⊕ IMPORTANT

- The clutch pedal must be depressed quickly and released slowly.
- Never operate the tractor with your foot resting on the clutch pedal. Doing so will cause premature clutch wear.

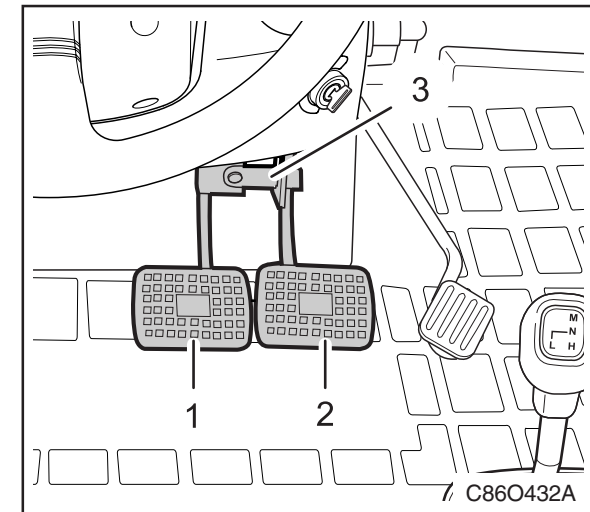
STEERING WHEEL ADJUSTMENT (TILTING PEDAL)

(1) Tilting Pedal (A) Pull

The steering wheel can be adjusted to maximize operator comfort. Depress the tilt pedal and move the steering wheel to the desired position.

⚠ WARNING

- **DO NOT adjust the steering wheel while driving.**

BRAKE PEDAL(RIGHT AND LEFT)

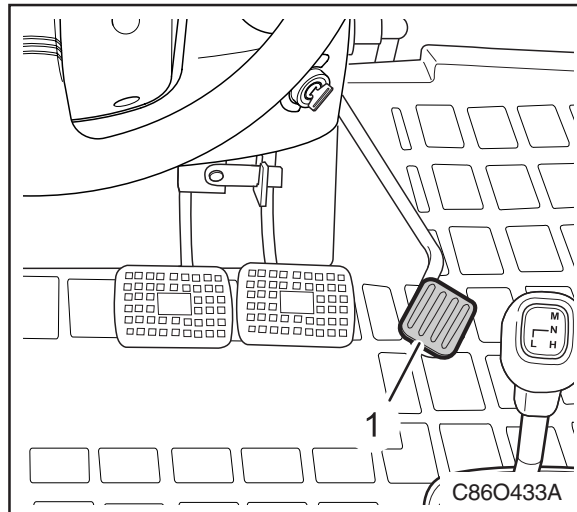
(1) Brake Pedal (R) (2) Brake Pedal (L) (3) Brake Lock

1. Before operating the tractor on the road or before applying the parking brake, be sure to interlock the right and left pedals as illustrated.
2. Use individual brakes to assist in making sharp turns at slow speeds (Field Operation Only).
Disengage the brake pedal lock and depress only one brake pedal.
3. Be sure brake pedals have equal adjustment when using locked together.

⚠ WARNING

- **Using only one brake or braking unevenly at high speeds may cause loss of control resulting in an accident.**

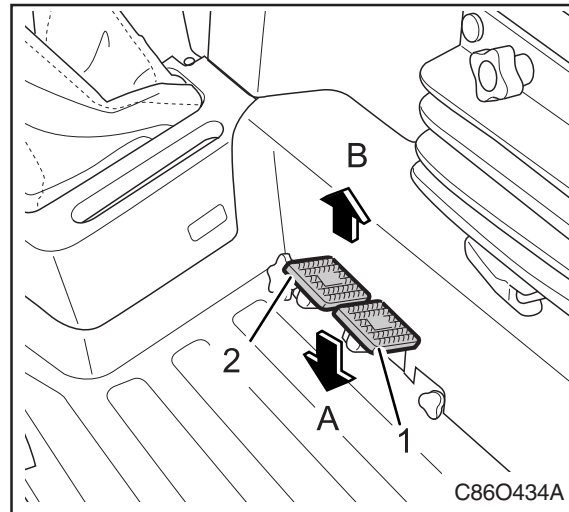
FOOT THROTTLE



(1) Foot Throttle

The foot throttle is interlocked with the hand throttle. Depressing the foot throttle increases engine speed. Full engine speed can be obtained with the foot throttle if the hand throttle is in full rearward position. The foot throttle may also be used to temporarily increase engine speed above the hand throttle setting.

DIFFERENTIAL LOCK PEDAL



(1) Front Differential Lock Pedal
(2) Rear Differential Lock Pedal
(A) Press to "ENGAGE"
(B) Release to "DISENGAGE"

! WARNING

To avoid personal injury due to loss of steering control.

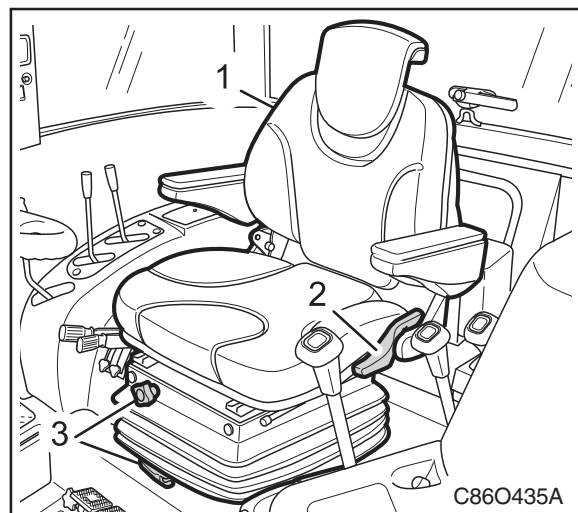
- *Do not operate the tractor at high speeds with the differential lock engaged.*
- *Do not attempt to turn with the differential lock engaged.*

If one of the rear wheels should slip, use the differential lock. This will cause both wheels to turn together. The differential lock is engaged only when the pedal is depressed.

+ IMPORTANT

- **When using the differential lock, always slow the engine and press the differential lock down.**
- **If the differential lock cannot be released in the above manner, step lightly on the brake pedals alternately.**

SEAT



(1) Seat (3) Seat Adjusting Lever
(2) Seat Reclining Lever

SEAT SLIDING ADJUSTMENT

Pull the lever located under the front of the seat and slide the seat to the desired position. After adjustment, gently rock in the seat to make sure it is securely locked.

SEATBACK RECLINING ADJUSTMENT

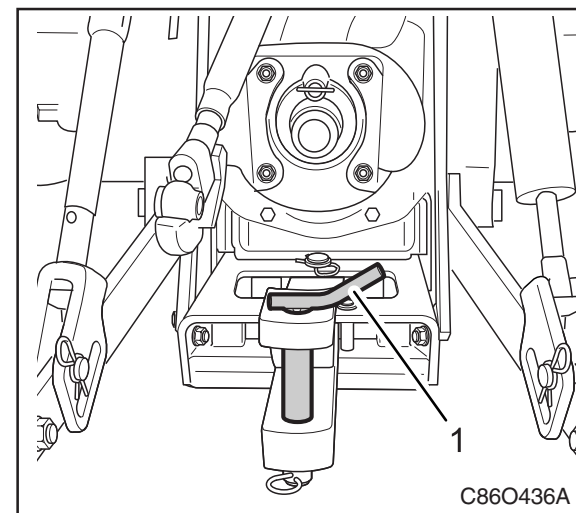
To adjust the seatback reclining angle, lean forward and pull the lever upwards. Adjust the seatback angle then release the lever.

After adjustment, ensure that the seatback is locked firmly in position.

SEAT BELT ADJUSTMENT

1. Ensure that seat belt is not twisted. Insert the latch plate into the buckle until it clicks.
2. Position the lap belt portion as low as possible across your hips, not across your abdomen. Pull the loose end of the belt until the seat belt is snug, but comfortable.
3. Press the button on the buckle to release the seat belt.

DRAWBAR HITCH



(1) Drawbar Hitch

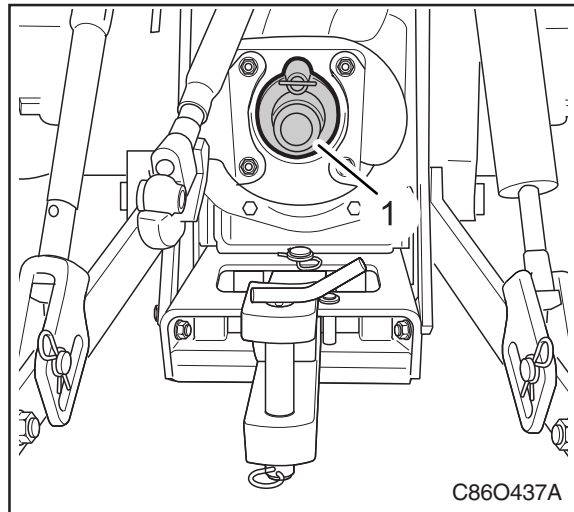
The drawbar should be used only for implements suitable for this tractor.

WARNING

- ***When towing, always connect the load to the drawbar hitch. Towing or pulling from any other point on the tractor may cause the tractor to overturn.***

DESCRIPTION OF CAB OPERATING SYSTEM(OPTION)

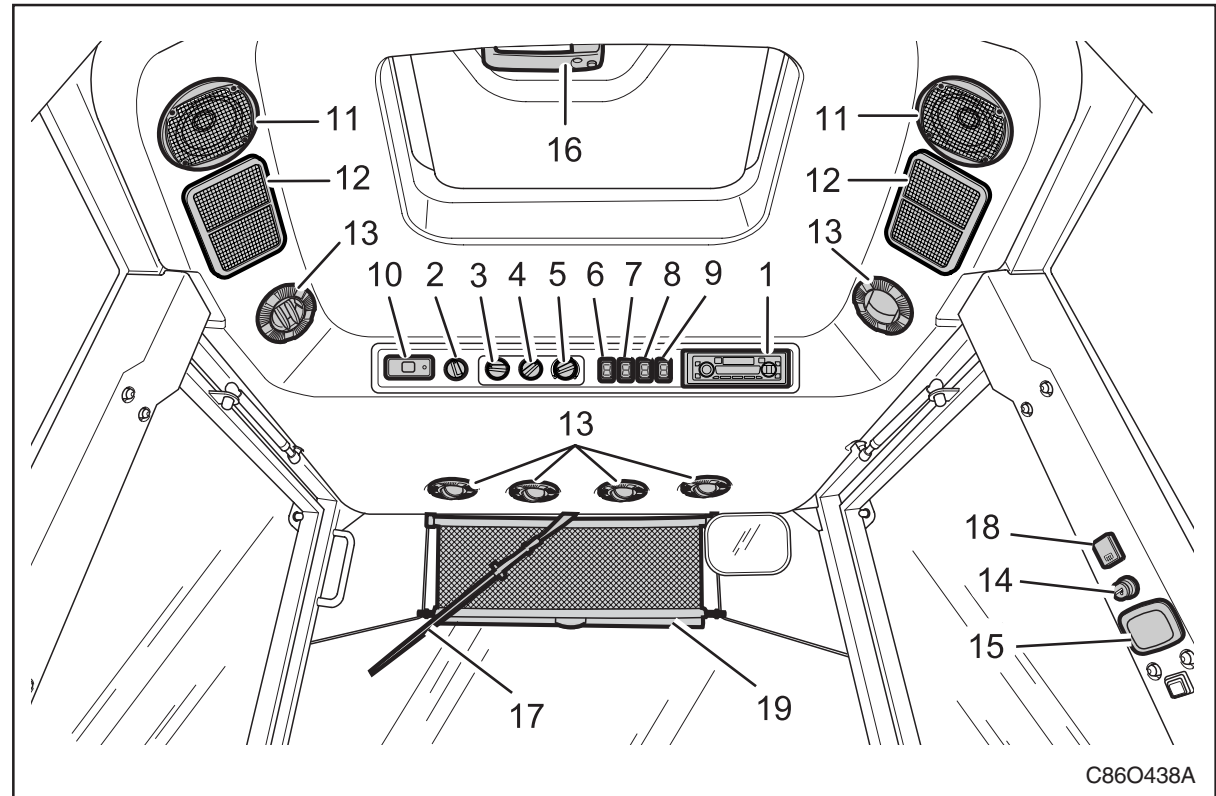
P.T.O SHAFT COVER



(1) P.T.O Shaft Cover

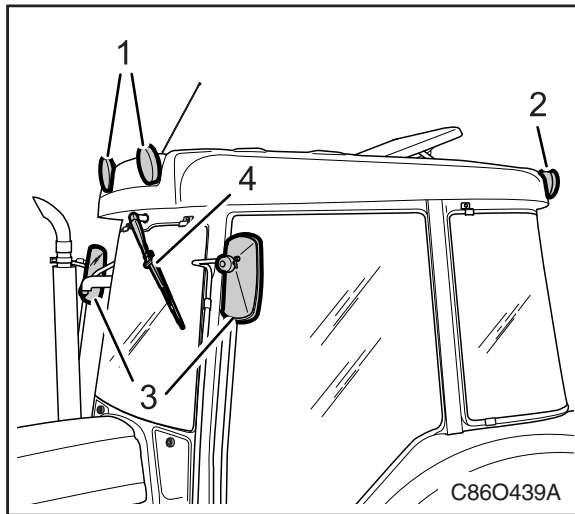
WARNING

- To avoid injury, always keep the PTO shaft covered when not in use.
- Apply a light coating of grease to the shaft before installing the cover.



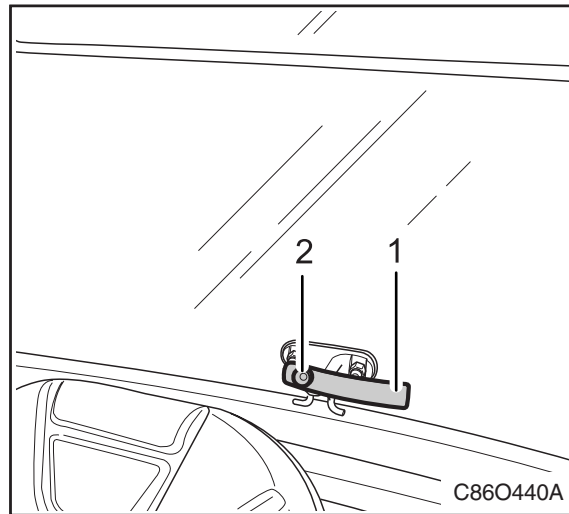
- (1) Cassette Tape Recorder
- (2) Air Intake Control Switch
- (3) Fan Speed Control Switch
- (4) Air Conditioning Switch
- (5) Temperature Control Switch
- (6) Work Light Switch (Front)
- (7) Work Light Switch (Rear)
- (8) Front Wiper Switch
- (9) Rear Wiper Switch
- (10) Interior Cab Light

- (11) Speaker
- (12) Inlet Air Circulation Device
- (13) Air Conditioner Ventilation Device
- (14) Cigarette Lighter
- (15) Ashtray
- (16) Sunroof Latch
- (17) Wiper
- (18) Rear Window Heater Switch (Option)
- (19) Sun Visor

CAB - EXTERNAL PARTS

- (1) Work Lamp(Front) (3) Rear View Mirror
 (2) Work Lamp(Rear) (4) Wiper

1. The cab is constructed using a steel frame, and it is designed for operator comfort and convenience.
2. The field of vision is maximized using a wide-angle window with external rear view mirrors on both sides; and front and rear wipers.
3. Air conditioning and heating systems provide maximum comfort and reduce operator fatigue.
4. With doors on both sides, the cab can be entered from either side.

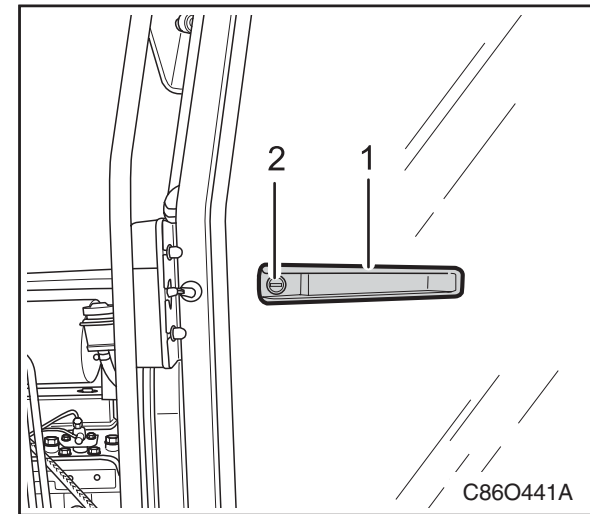
REAR WINDOW

- (1) Rear Window Latch
 (2) Button

If you lightly push the rear window while depressing the button on the handle, the rear window will automatically open.

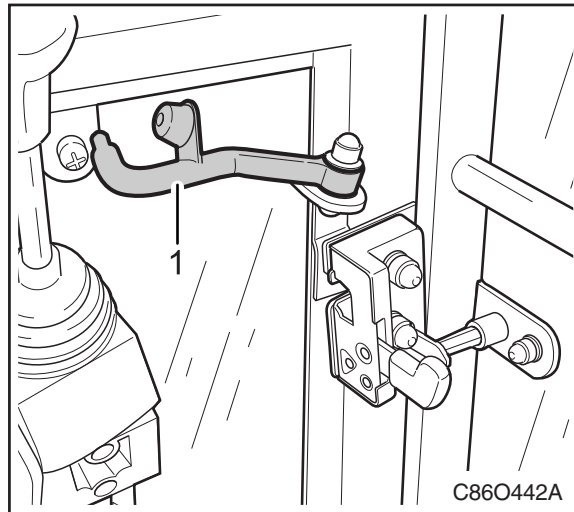
 WARNING

- **Tractor attachments may sometimes interfere with windows. Always check for clearance before opening windows.**
- **Driving at full speed or making sudden turns with the windows open may damage the windows.**

ENTRANCE ON EITHER SIDE

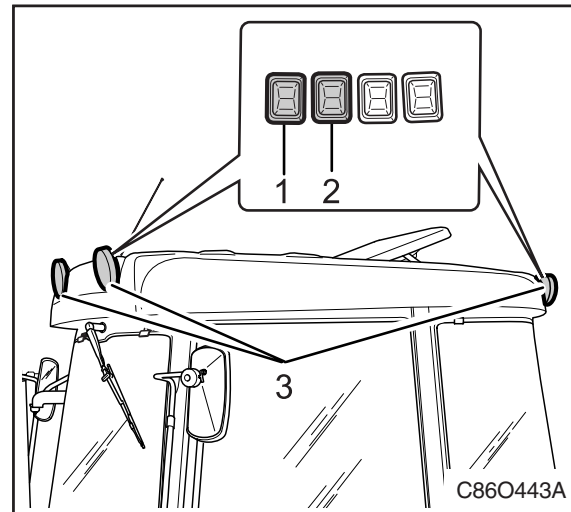
- (1) Door Handle
 (2) Button

Pressing the button on the handle will open the door. The door can be latched in the open position. The cab doors can be locked and unlocked by inserting the key into the lock and turning.

WORK LIGHT (FRONT/REAR)

(1) Door Prop(LH,RH)

When operating the tractor with the doors open, use the door prop to secure the door. Do not leave the doors fully open while driving the tractor.

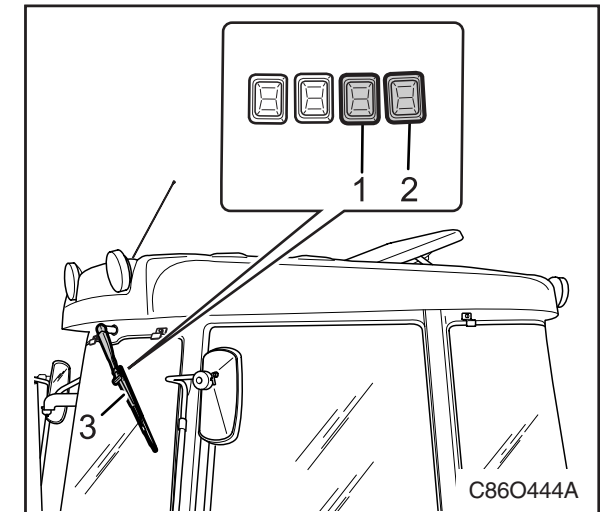


(1) Work Light (Front) Switch
 (2) Work Light (Rear) Switch
 (3) Work Lamp

To turn on, choose the switch marked “front” or “rear” and move to the “ON” position.

⚠ WARNING

- ***Do not drive on the road with the rear work lights turned on. It creates a hazard for other drivers and may be illegal in some areas. Use the hazard lights for road travel.***

WIPER

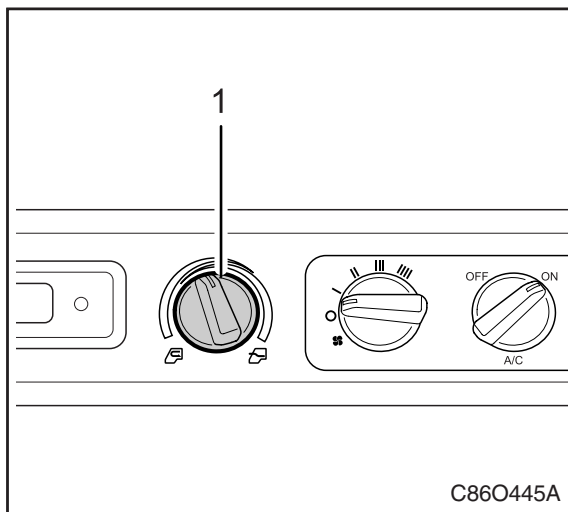
(1) Wiper Switch (Front)
 (2) Wiper Switch (Rear)
 (3) Wiper, Front

1. To turn on, position the switch marked (wiper) to the “ON” position.
2. Pressing the “ON” switch further will momentarily activate the windshield washer.
3. The tank for the washer fluid is located on the left side behind the seat.

WARNING

- *An automotive washer fluid is highly recommended. Plain water will freeze and damage the system.*
- *To avoid damage, do not operate the windshield washer without fluid.*
- *Do not operate the washer if there is mud or significant debris on the windshield. Do not operate the washer if the windshield is inclined to freeze. Either will obscure vision causing a hazard.*
- *Do not operate the wiper if it is frozen to the windshield. System damage may result.*

IN LET/OUT LET CIRCULATION SWITCH

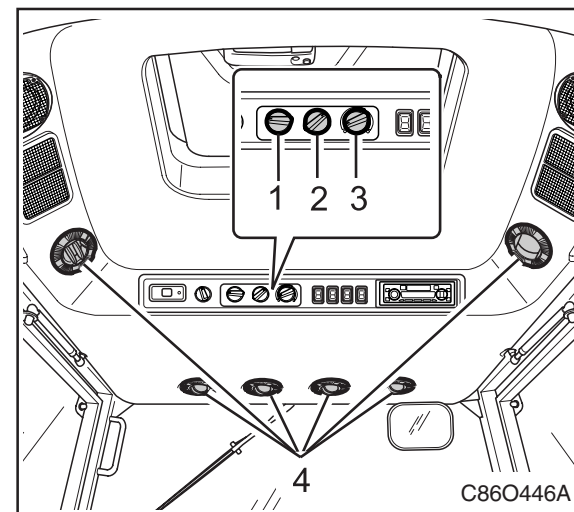


(1) In let/Out let Circulation Switch

ADJUSTING AIRFLOW DIRECTION

The vents can be turned to direct airflow according to personal preference.

HEATER & AIR CONDITIONER

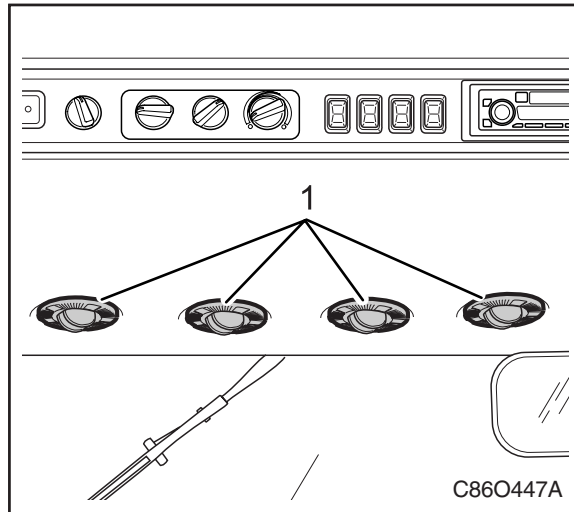


- (1) Fan Speed Control Switch
 (2) Air Conditioning Switch
 (3) Temperature Control Switch
 (4) Ventilator

Four fan speeds are provided; 1st~4th Switch. Turning the temperature control adjusts the cab temperature.

HINTS FOR HEATER USE

1. Please use antifreezing solution suitable for the external temperature in winter.
2. Check the heater hose before using.



(1) Ventilator

HINTS FOR AIR CONDITIONER USE

1. The air conditioning system uses the new refrigerant HFC-134a. Using any other type of refrigerant will cause system failure
2. System failure will occur if the refrigerant is contaminated with moisture. Repair leaks promptly and follow proper AC service procedures.
3. Low oil will result in compressor failure. Excessive oil will cause improper cooling.

4. Compressor oil should always be changed or refilled in proportion to the prescribed amount of refrigerant whenever the system is serviced or repaired.
5. When working for prolonged periods, allow fresh air into the cab.

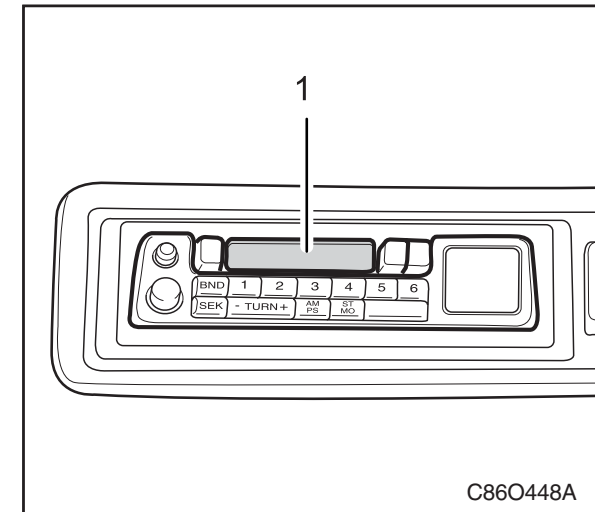
* A/C SYSTEM CAPACITY

Refrigerant	Compressor oil
HFC-134a	VCON 488
0.75kg (1.65 lb.)	265ml (8.96 fl. oz.)

WARNING

- ***Never sleep in the cab with the engine running to avoid risk of serious injury or death.***

CASSETTE TAPE RECORDER



(1) Cassette

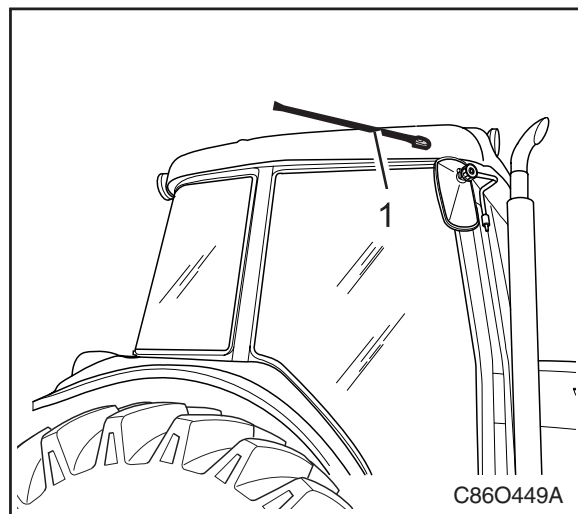
POWER SUPPLY

Turn the knob clockwise to turn the power ON and to increase volume.

Turning the switch counterclockwise reduces the volume and turns the power OFF.

WARNING

- ***Adjust the volume so that you can still hear the sounds from outside while driving.***

INTERIOR CAB LIGHT

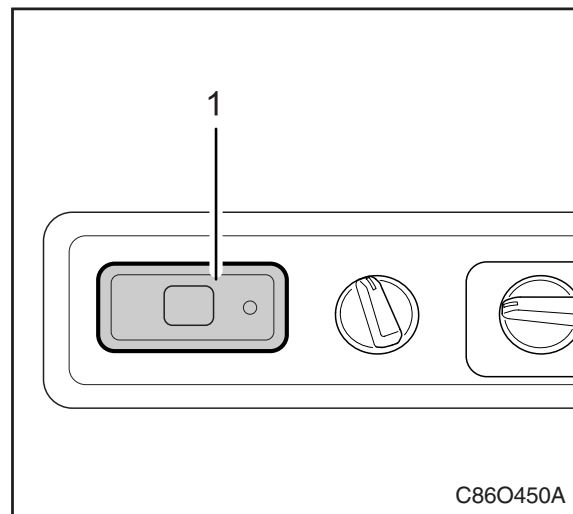
(1) Antenna

INSERTING A CASSETTE TAPE

Turn the power ON and insert the cassette tape with the tape side to the right. It will play automatically. For more information, please see the manual for the cassette tape deck.

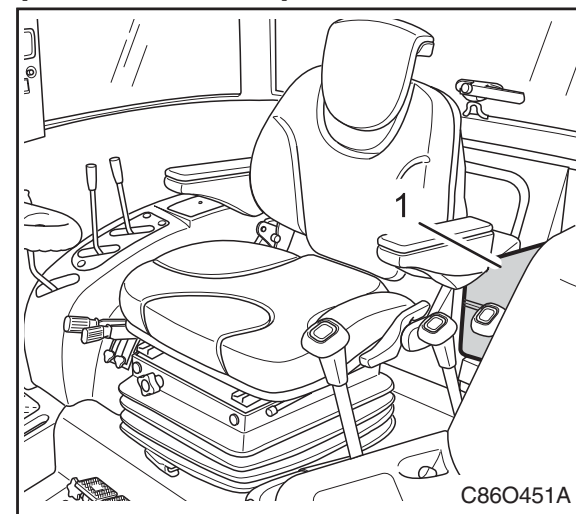
RADIO ANTENNA

You can adjust the antenna about 100° in the forward and backward direction of the tractor.



(1) Interior Cab Light

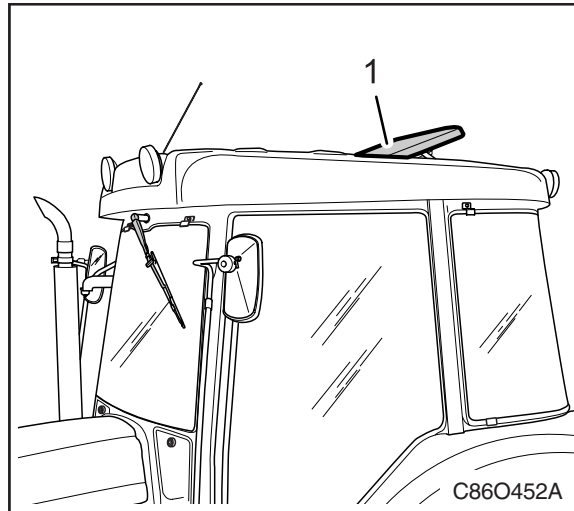
Use the switch in the light assembly to turn the light ON and OFF.

**COLD OR HOT STORAGE
(DK751/801/901)**

(1) Cold/hot Storage Compartment

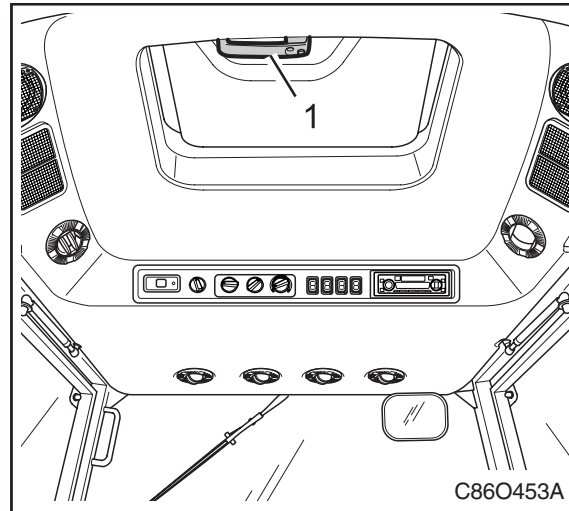
1. You can choose either the refrigerating or heating function. This optional compartment can be used for storing cold or hot items.
2. You can select either refrigerating or the heating function with the selector switch. For more information, please see the manual provided with this optional equipment.

ROOF VENT



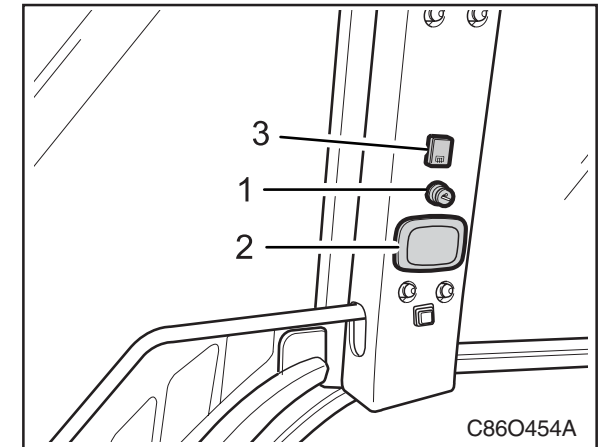
(1) Roof Vent

1. Use the roof vent to allow fresh air into the cab.
2. To open, press the button on the handle. The gas spring will open it smoothly.
3. To close, pull the handle gently until the latch catches.
4. Do not apply excessive force when opening and closing.



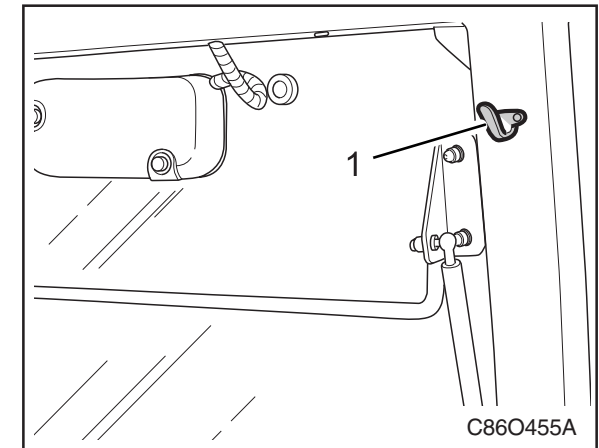
(1) Roof Vent Latch

ACCESSORIES



(1) Cigar Jack

(2) Ashtray



(1) Hanger

For added convenience; the tractor cab is equipped with a cigarette lighter, ashtray, mirror and clothes hanger.

5 OPERATION

**OPERATING A NEW TRACTOR
PRE-OPERATION CHECK
OPERATING THE ENGINE
OPERATING THE TRACTOR**

OPERATING NEW TRACTOR

How a new tractor is handled and maintained determines the life of the tractor.

A new tractor just off the factory production line has been, of course, well fitted and tested, but the various parts are not accustomed to severe types of work, so care should be taken to operate the tractor for the first 100 hours at a slower speed and avoid excessive work or operation until the various parts become well “broken-in.” The manner in which the tractor is handled during the “break-in.” period greatly affects the life of your tractor. Therefore, to obtain the maximum performance and the longest life of the tractor, it is very important to properly break-in your tractor.

In handling a new tractor, the following precautions should be observed.

- You should not operate your tractor at full speed for the first fifty hours of use.
- Avoid sudden starts and stops.
- In cold climates, allow your tractor plenty of time to warm up.
- Do not run the engine at speeds faster than necessary.
- Use due caution when operating your tractor on rough roads or terrain.

The above precautions are not limited to new tractors only, but are a good practice for tractors regardless of their age.

CHANGING LUBRICATING OIL FOR NEW TRACTOR

Special attention should be given to new tractors lubrication oil. New parts are not accustomed to each other and are not broken in properly. Small metal grit can develop in the lubricating system as metal parts begin to “break in” and continuous use of the contaminated oil can cause damage and failure. Therefore you should change the tractor’s oil after the break-in period.

For further details of the oil change and service schedule, see “maintenance” section.

PRE-OPERATION CHECK

It is a good practice to know the condition of your tractor before you start it. You should do routine check before each use.

CAUTION

To avoid personal injury:

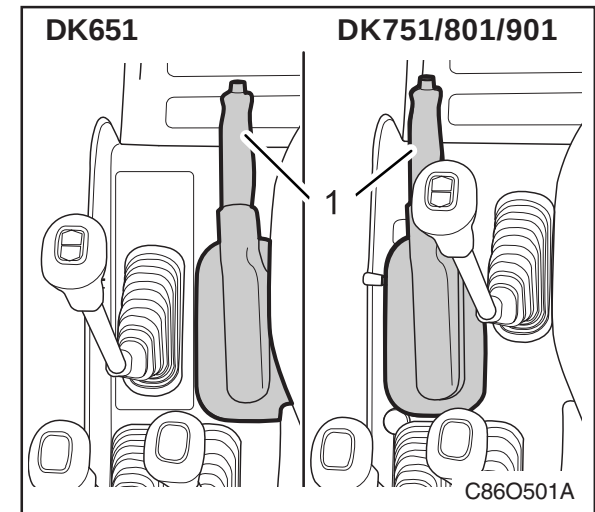
- Be sure to check and service the tractor on a level surface with the engine shut off and the parking brake “ENGAGED”.

OPERATING THE ENGINE

STARTING THE ENGINE

WARNING

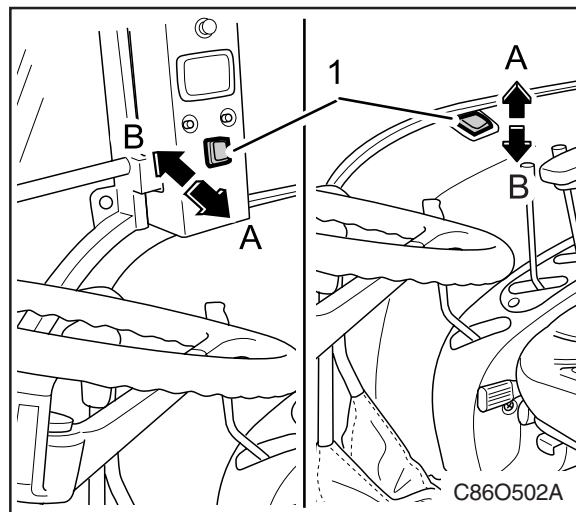
- *Carefully read and understand the instructions in this entire manual; especially the “Safe Operation” chapter; as well as all decals and nameplates attached to the tractor.*
- *Avoid starting the engine in an enclosed space. It may cause death. Always run the engine in a well ventilated area.*
- *Before starting the engine; apply the parking brake, shift the main shift lever to neutral and turn the PTO switch to OFF.*
- *To avoid serious injury, do not start the engine unless properly seated at the operator’s station.*



(1) Parking Brake Lever

1. Applying the parking brake.

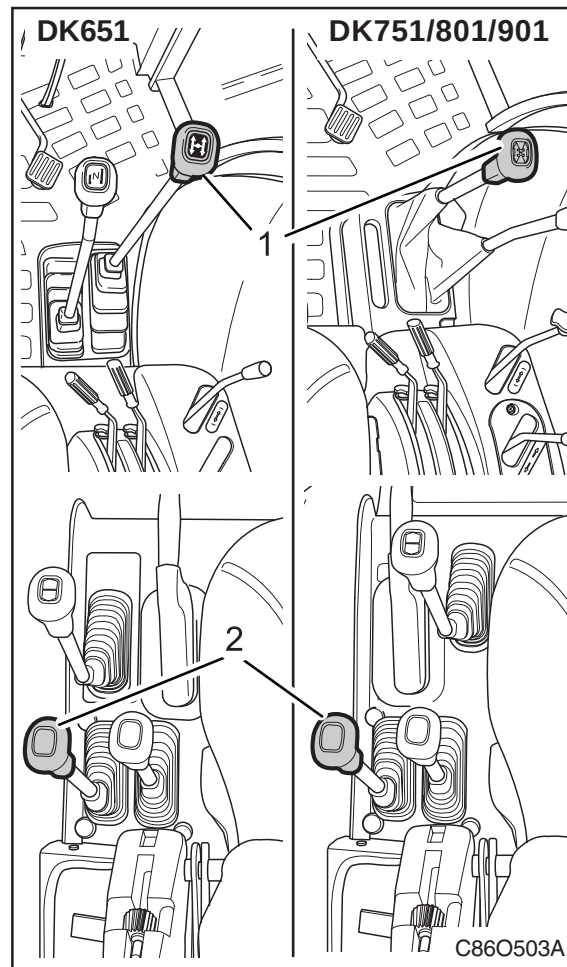
Pull the parking brake lever while fully depressing the brake pedals. (The left and right pedals should already be latched together for this procedure). The “P” lamp in the instrument panel will turn on when the key switch is turned on; indicating that the parking brake is ON.



(1) PTO Switch

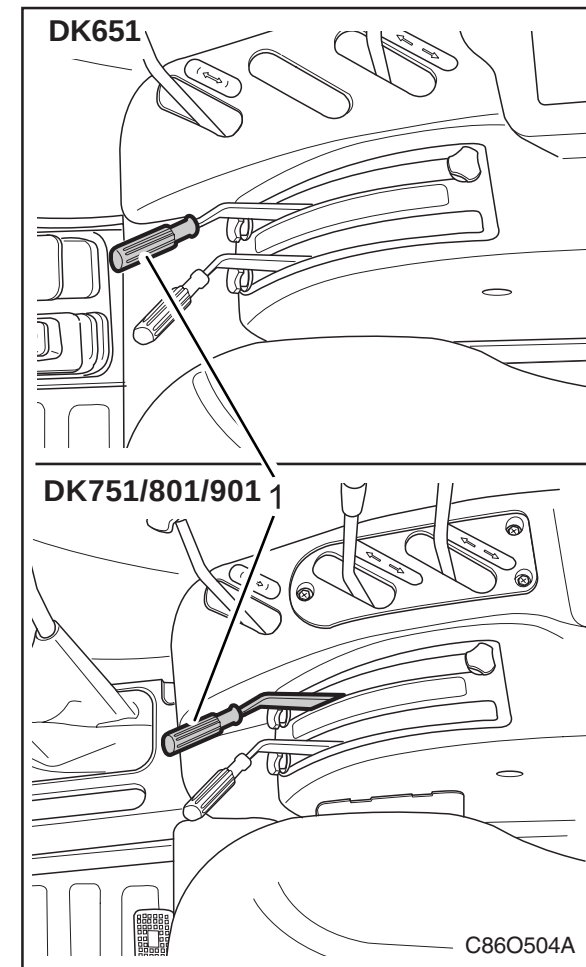
(A) - OFF (B) - ON

2. Push the PTO switch to the off position.



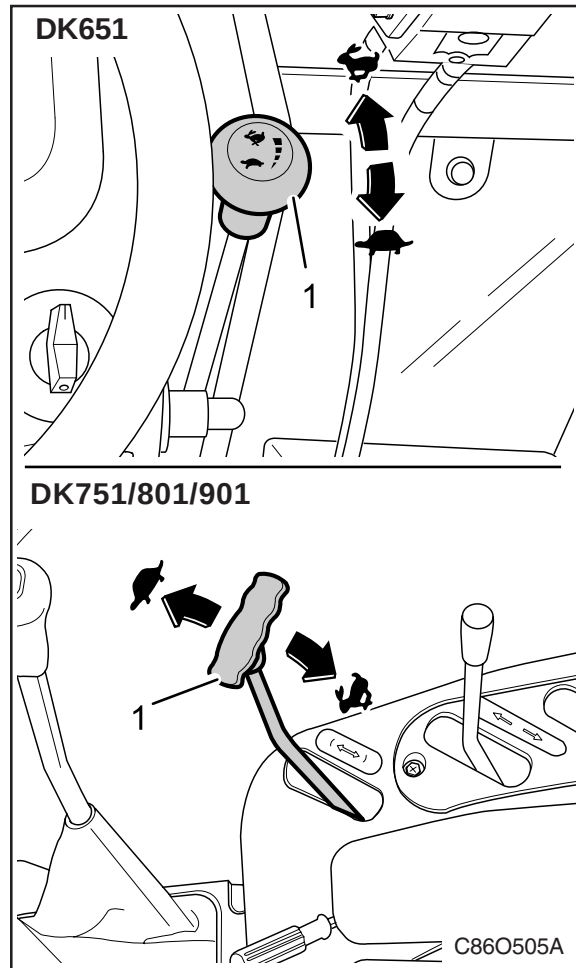
(1) Main Shift Lever (2) P.T.O Change Lever

3. Place the main shift lever and the P.T. O clutch lever in the neutral position.



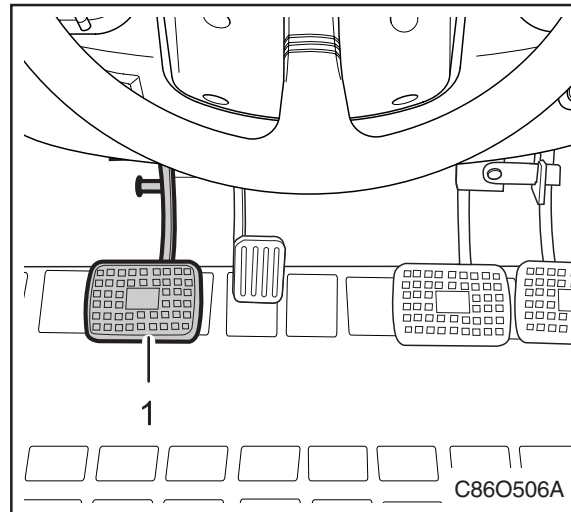
(1) Position Control Lever

4. Lower the implement if attached by pushing the position control lever forward.



(1) Hand Accelerator Lever

5. Set the hand throttle at about half throttle.



(1) Clutch Pedal

6. Fully depress the clutch pedal.

! WARNING

- *As a safety feature, the engine will not start unless the clutch pedal is fully depressed.*

7. Turn the switch key to "Start" position.

! WARNING

- *Do not operate the starter motor continuously for more than 10 seconds.*
- *If the engine does not start; turn the switch to "OFF", wait 30 seconds, and repeat the starting procedure.*
- *Never engage the starter motor before the engine stops turning.*

8. Release the key as soon as the engine starts. It will return to the ON position.

9. It is normal for the preheat (glow plug) indicator to come on after operating the starter motor for more than 8 seconds.

! WARNING

- *Do not turn the key switch to the START position while the engine is running.*

10. Allow the engine to reach its normal operating temperature before starting work.

HOW TO START IN WINTER

1. Turn the start switch to the "ON" position. Wait until the preheat (glow plug) indicator light goes off (about 20 seconds).
2. Depress the clutch and continue the normal starting procedure.
3. If the engine does not run smoothly, shut down the engine and repeat the preheat procedure.
4. Allow the engine to reach its normal operating temperature before starting work.

STOPPING THE ENGINE

1. Reduce the engine speed, depress the clutch pedal and apply even pressure to both brake pedals.
2. Shift the transmission into neutral and turn off the PTO.
3. Lower any attached implements.
4. Allow the engine to idle for a short time before turning it off. Stopping a hot engine under load or at high speed may damage the engine.
5. Set parking brake.
6. Turn the key switch to the OFF position and remove the key.

IMPORTANT

- **Always remove the key when leaving tractor. It prevents unauthorized use and ensures that all electrical systems are turned off.**

WARNING

- ***Touching the muffler, heat shield or exhaust after running the engine will cause serious burns.***

CAUTION

To avoid turbo charger damage:

- **Do not accelerate quickly right after engine start.**
- **Allow engine to idle before starting work and before shutdown.**

WARMING UP

WARM-UP AND TRANSMISSION OIL IN THE LOW TEMPERATURE RANGE

- Hydraulic oil serves as transmission fluid. In cold weather, the oil may be cold with increased viscosity. This can cause delayed oil circulation or abnormally low hydraulic pressure for some time after engine start-up. This in turn can result in trouble in the hydraulic system. To prevent the above, observe the following instructions:
- Warm up the engine at about 50 % of rated rpm according to the table below:

Ambient temperature	Warm-up time requirement
Above 0 °C (32 °F)	At least 5 minutes
0 ~ -10 °C (32 ~ 14 °F)	5 ~ 10 minutes
-10 ~ -20 °C (14 ~ -4 °F)	10 ~ 20 minutes
Below -20 °C (-4 °F)	More than 20 minutes

IMPORTANT

- **Do not operate the tractor under full load condition until it is sufficiently warmed up.**

JUMP STARTING

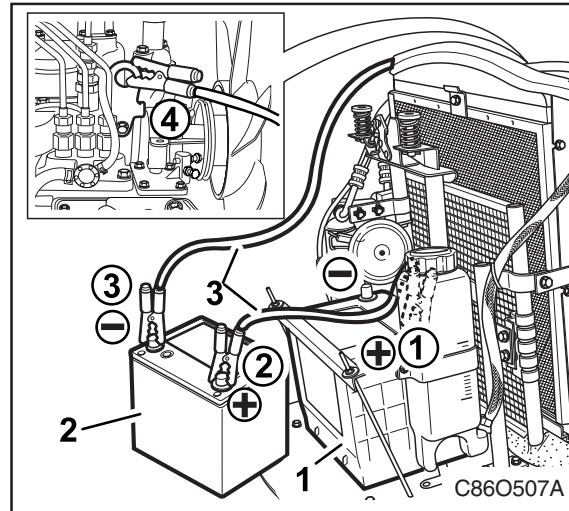
TRANSMISSION OILWARM UP

The hydraulic oil also serves as the transmission fluid. In cold weather, high oil viscosity may cause low oil pressure and poor circulation until the system warms up. To prevent damage or malfunction, allow the system to warm up at 50% of rated engine speed according to the following table.

AMBIENT TEMPERATURE	REQUIRED WARM UP TIME
Above 0 °C (32 °F)	At least 5 minutes
-10 °C ~ 0 °C (14 ~ 32 °F)	5 ~ 10 minutes
-20 ~ -10 °C (-4 ~ 14 °F)	10 ~ 15 minutes
Below -20 °C (-4 °F)	15 minutes +

IMPORTANT

- Do not operate the tractor under load until it is sufficiently warmed up.



- (1) Dead Battery
(2) Lay a Damp Rag Over the Vent Caps
(3) Jumper Cables (4) Helper Battery

When jump starting the engine, follow the instructions below to safely start the engine.

1. Use a battery of the same voltage as the disabled tractor to jump start the tractor. Locate the good battery in a safe place where the jumper cables will reach.
2. Set the parking brake and turn the key switch to OFF.
3. Put on safety goggles and rubber gloves.

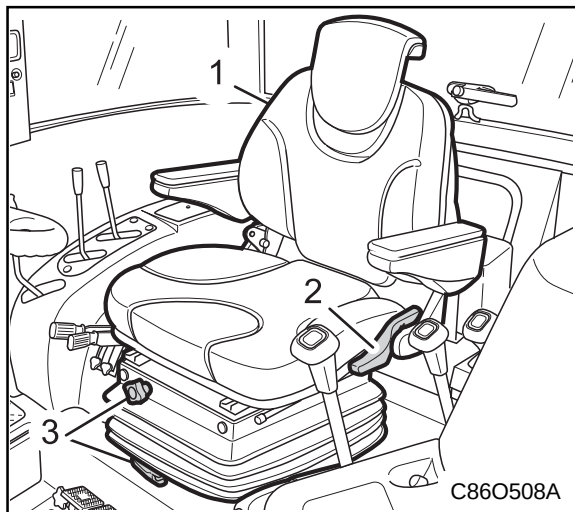
4. Attach the red clamp to the positive terminal of the dead battery, and attach the other end to the positive terminal of the helper battery.
5. Clamp the black cable to the negative terminal of the Engine hooks, and attach the other end to the negative cable of the helper battery.
6. If the helper battery is in another vehicle, do not allow the tractor and the other vehicle to touch. Start the vehicle's engine after connecting the cables and let it run for a few moments. Turn off all accessories on both vehicles. Then start the disabled tractor.
7. Disconnect the battery cables in the exact opposite order as they were attached.

WARNING

- Keep sparks, open flames and smoking materials away from batteries at all times. Gases emitted from batteries are explosive.

OPERATING THE TRACTOR

STARTING THE TRACTOR



- (1) Seat (3) Seat Adjusting Lever
(2) Seat Reclining Lever

1. Adjust the seat and fasten the seat belt.

SEAT ADJUSTMENT

Adjust the seat for easy access to the pedals and steering wheel.

WARNING

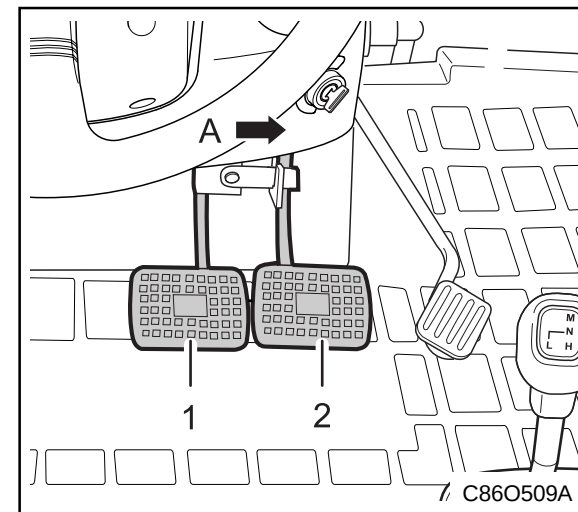
- **Ensure that the seat is securely locked after any seat adjustment.**
- **Do not adjust the seat while driving. The seat may move suddenly causing loss of control of the tractor.**

WEARING THE SEATBELT

For the safety reasons, always wear the seatbelt properly.

WARNING

- **Always wear the seatbelt when a cab or ROPS is installed.**
- **Do not use the seatbelt when there is no cab or ROPS installed, or when the ROPS is folded.**
- **The seatbelt should always be worn as low as possible, across the pelvis, to avoid abdominal injury.**



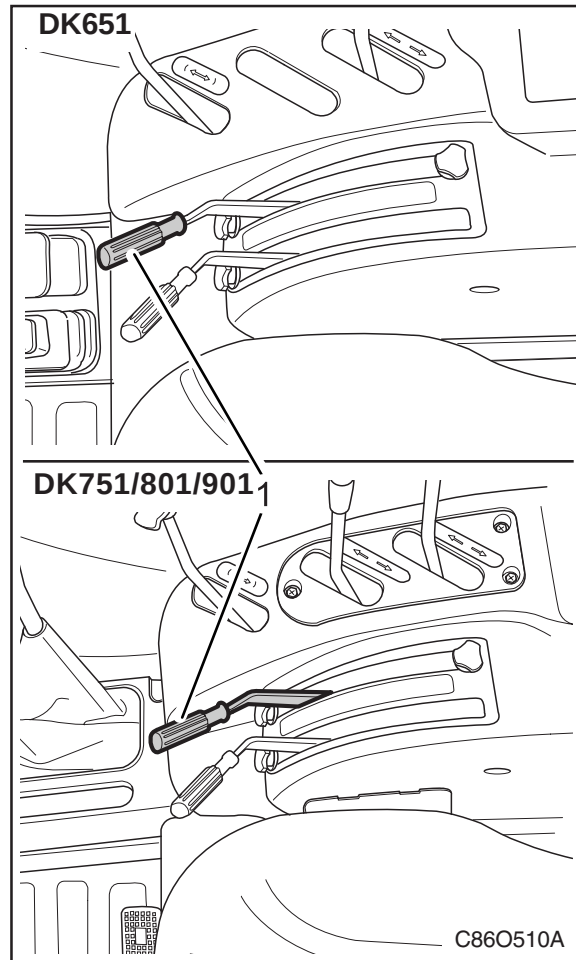
- (1) Brake Pedal (LH)
(2) Brake Pedal (RH)

2. Adjust the steering wheel for operator comfort.

WARNING

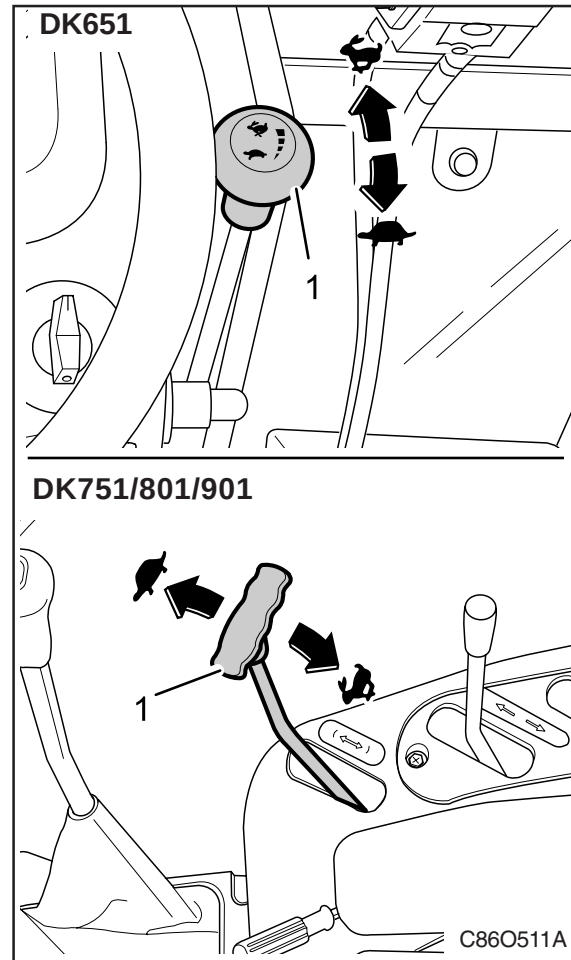
- **Do not adjust the steering wheel while driving. You could lose the control of your tractor, causing an accident.**

3. Make sure both the left and right brake pedals are engaged before preparing to move.



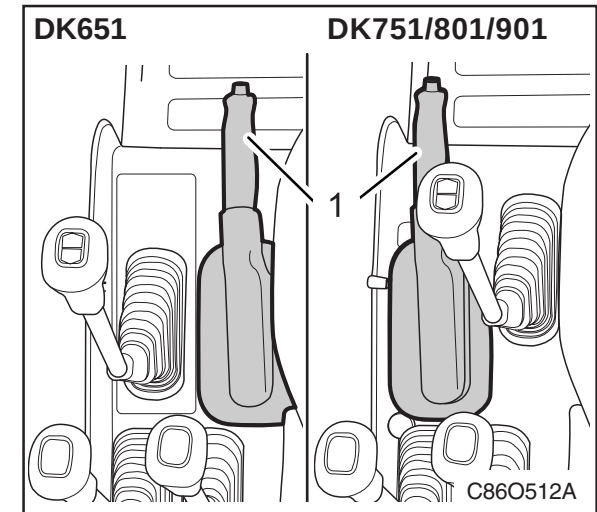
(1) Position Control Lever

4. Pull the position control lever backward to raise the implement, if attached.



(1) Hand Accelerator Lever

5. Increase the engine speed slowly from idle speed to about half throttle.
6. Fully depress the clutch



(1) Parking Brake Lever

7. Release the parking brake.
8. Using the main shift lever, the Hi-Lo shifter, and the forward/reverse shuttle lever; select the desired direction of travel and the speed range.
9. Release the clutch slowly until the tractor begins to move.

**CAUTION**

- Interlock the right and left brake pedals before starting. Uneven braking may result in loss of control or rollover.
- Do not allow any person other than the driver to ride on the tractor.

⚠ CAUTION

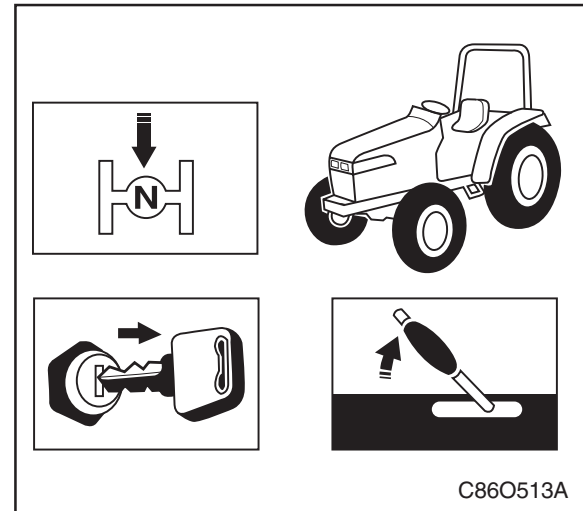
- Do not drive the tractor close to the edges of ditches or banks which may break under the weight of the tractor; especially when the ground is loose or wet.
- Slow down to a safe speed before turning.
- Turn off and secure any implements or attachments before driving on the road.
- Always release the differential lock as soon as it is no longer needed.
- Always attach the SMV emblem for road travel.
- Do not rest your foot on the clutch while driving. Doing so causes premature clutch wear.
- Always depress the clutch quickly and release it slowly.
- Avoid sudden speed changes for safety.
- Look in all directions before moving the tractor. Carelessness causes accidents and injuries.

⚠ CAUTION

- Always select a low speed setting before driving in potentially hazardous conditions, such as:
 - Steep slopes
 - Loading and unloading
 - Entering or exiting a field
 - Uneven terrain
- Changing gears after entering a situation where there is potential instability can be dangerous.

+ IMPORTANT

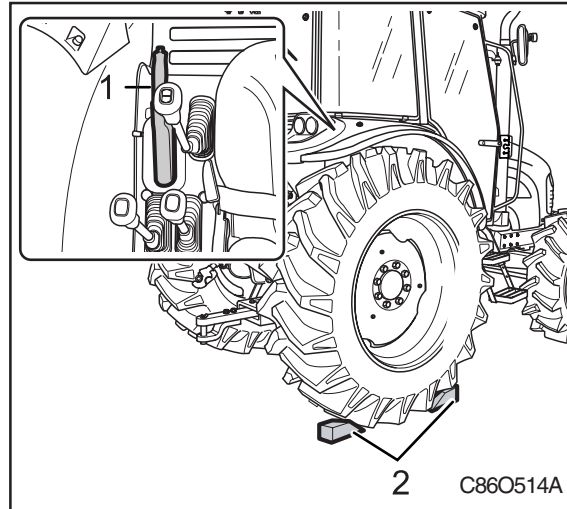
- Do not move the tractor with the parking brake on.
- To avoid premature wear, do not use the clutch pedal as a foot rest.
- Hi-Lo shift levers cannot be shifted while the tractor is moving. The main gear shift lever can be shifted by depressing the clutch and selecting speed.
- When descending a steep slope, engage a low gear and descend with the clutch fully engaged.
- Always be sure to interlock the brake pedals when operating the tractor on roads.

STOPPING THE TRACTOR

1. Slow the engine speed to the idle speed.
2. Fully depress the clutch and brake pedals.
3. After coming to a complete stop, put the shift lever in the neutral position.
4. Turn off the PTO clutch switch and put the PTO shift lever in the neutral position.
5. Slowly pull the position lever forward to lower the attachment.
6. Set the parking brake.
7. Turn the start switch to the "OFF" position to stop the engine.

⊕ IMPORTANT

- Always set the parking brake when stopping the tractor. **DO not** depend on the engine to keep the tractor from moving.
NOTE: If the Hi-Lo shifter is left in the “LOW” position, it is possible and normal that the tractor might still roll without the brake applied.
- Do not leave the tractor until it has come to a complete stop and the parking brake has been set.
- If parking on a slope is necessary, always set the brake and chock the wheels.
- To avoid fire, do not park a hot tractor on or near combustible materials such as straw or dry grass.

**PARKING
PARKING BRAKE LEVER**

(1) Parking Brake Lever
(2) Chocks

When parking or stopping the tractor, secure it by applying the brake pedal.

With the brake pedals depressed, pull the parking brake lever up to apply the parking brake. In order to release the parking brake, push in the button and release the lever.

⚠ WARNING

- Driving without releasing the parking brake will cause the brake disc to wear out quickly.
- Apply the parking brake and place the chocks at the rear wheels when parking.
- When parking the vehicle on a hill, position the shift lever at low forward (1st gear) for uphill and low reverse (1st gear) for downhill. Set the parking brake and chock the wheels.
- Do not park on steep hills. The vehicle may roll down and cause an accident.

HOW TO TURN

Approach all turns slowly. Always reduce speed before turning.



WARNING

- ***Turning at high speed can cause rollover. Drive slowly and avoid turns when using the differential lock to avoid loss of control and possible injury.***

HOW TO DRIVE ON A SLOPE

1. Always drive slowly on slopes. Do not drive on steep slopes with the engine heavily loaded.
2. On an uphill slope, change the main shift lever into a lower gear so that the engine will not stop.
3. On a downhill slope, drive at low speed without depressing the clutch.



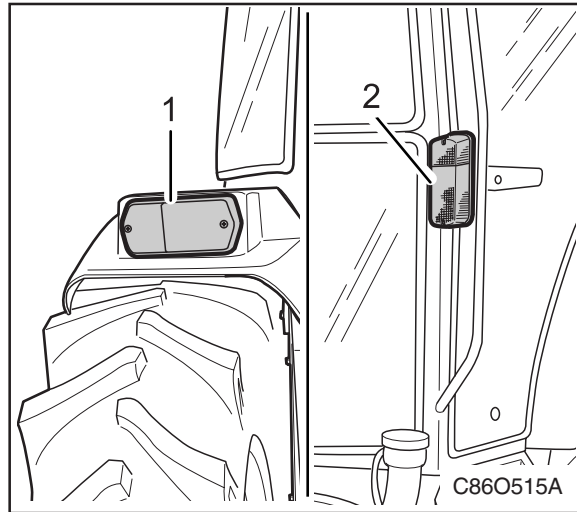
WARNING

- ***Make sure that brake pedals are latched together and that the differential lock pedal is released before driving on a steep slope.***
- ***On the slope, do not shift into neutral or depress the clutch.***
- ***On a downhill slope, allow the engine to assist with braking. Avoid loss of control by using a low gear and do not depress the clutch.***

PRECAUTIONS WHEN ENTERING OR LEAVING A PAVED ROAD

1. Make sure that the left and right brake pedals are connected.
2. If the difference in height between the road and cultivated ground is very large, use a ramp.
3. Go in and out of the cultivated land at a right angle.
4. When going up onto a road, lower the implement to avoid front wheel rise. Raise the implement as soon as the front and rear wheels are on the road.
5. When using 4WD, climbing ability and tractor stability are improved when driving in reverse.

PRECAUTIONS WHILE DRIVING ON THE ROAD



(1) Direction Indicator (rear)

(2) Direction Indicator (front)

1. Use turn signals to advise other drivers of your intention to change direction.
2. Switch headlights to low beam at night when approaching another vehicle.
3. Connect the left and right brake pedals for road travel.

WARNING

- ***Always connect the left and right brake pedals before driving on the road. Uneven braking can cause loss of control or rollover.***
- ***Obey all traffic laws and regulations when driving on the road. Always drive safely and defensively to avoid accidents.***
- ***Do not carry passengers. Riders can be seriously injured.***
- ***Be alert and stay clear of ditches, embankments, trees and other obstacles on the sides of the road.***
- ***Slow down and exercise extra caution when transporting an implement on the road. The front of the tractor becomes lighter and steering control is adversely affected.***

LOADING AND UNLOADING THE TRACTOR

1. When loading the tractor on a truck or trailer, do it by driving backward.
2. If the engine stalls during loading, apply the brake and allow the tractor to roll slowly back to the ground. Restart the engine and proceed with loading.

POWER STEERING PRECAUTIONS

1. Power steering functions only when the engine is running. Steering may be slightly harder at low engine speed.
2. Turning the steering wheel will be more difficult when the tractor is not moving; and it will increase tire wear.
3. The use of front mounted equipment such as a loader will affect steering effort. When using front mounted equipment, adjust the front tire pressure and install the appropriate counterweight per instructions in this manual. Steering while the tractor is in motion is recommended.
4. Avoid turning the steering wheel to its extreme position. The noise that occurs is the relief valve which is designed to prevent damage to the hydraulic system. Other hydraulic functions can be adversely affected by continuously holding the steering wheel in the extreme position.
5. In cold weather, allow the system to warm up so that the steering functions properly.
6. When servicing or repairing the steering system, take precautions to avoid oil contamination.
7. Power steering makes the steering wheel very easy to turn. Be careful at all times, especially at higher speeds.
8. When adding or changing the oil, use only the prescribed oil.

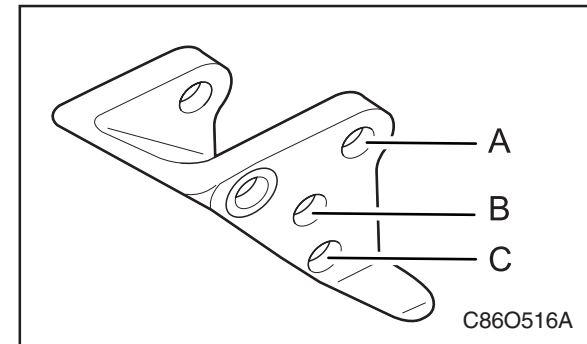
USING IMPLEMENTS SAFELY

1. Do not allow anyone to stand near the tractor, or between the tractor and implement, when attaching or removing implements.
2. Remove and attach implements on a firm, level surface. Use proper lighting at night.
3. Use appropriate balance weights when mounting heavy implements.
4. Before making any adjustments to an implement; turn off the PTO, stop the engine, and apply the parking brake. Ensure that all moving parts have stopped.
5. Always use the drawbar for pulling and towing. Attaching a load or implement to any other part of the tractor may cause damage or upset.
6. When working on slopes, increase the tread width (open wheels) to improve stability.
7. The tractor is longer with implements attached. Use extra care when turning and be alert for bystanders and obstacles.
8. Use only approved counterweights to achieve a safe balance. Never use people or other objects.
9. When using a front loader, maintain stability by adding a rear counterweight or a rear-mounted implement.

WARNING

- ***Read and understand both the tractor and implement manuals before using. Use implements only for their intended purpose to avoid equipment damage and personal injury.***

ATTACHING AN IMPLEMENT



CAUTION

- **A label with attachment instructions can be found on implements manufactured by DAE-DONG.**
- **When attaching an implement that does not require high traction (such as a mower), connect the top link to position A.**
- **When attaching an implement that requires high traction (such as a plow), connect the top link to position B or C. Position C is used for implements where greater sensitivity and response are required (plow, box blade).**
- **Always use position A when transporting any implement. Failure to do so may result in unexpected movement of the implement.**

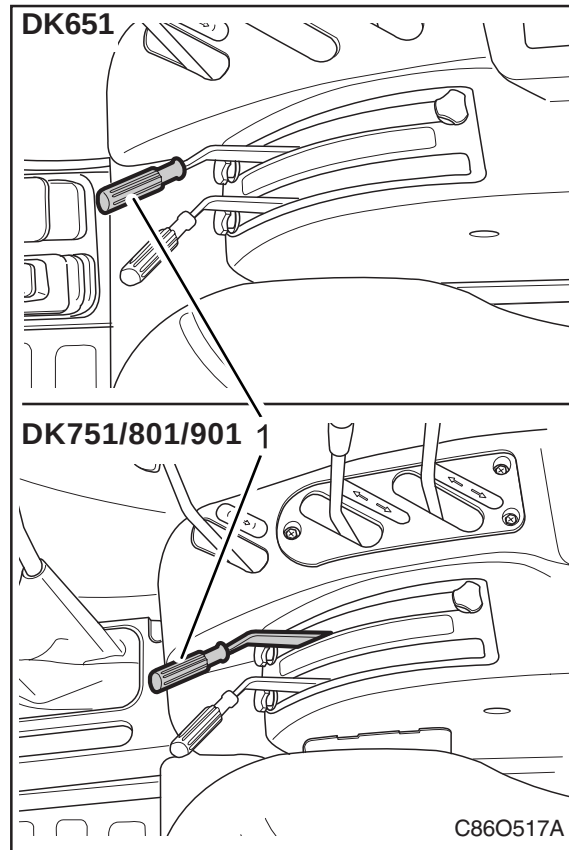
LIFTING DEVICES FOR AN ATTACHMENT

The hydraulic lift will raise and lower implements attached to the 3-point hitch. It can be operated anytime that the engine is running; whether or not the clutch is engaged.

WARNING

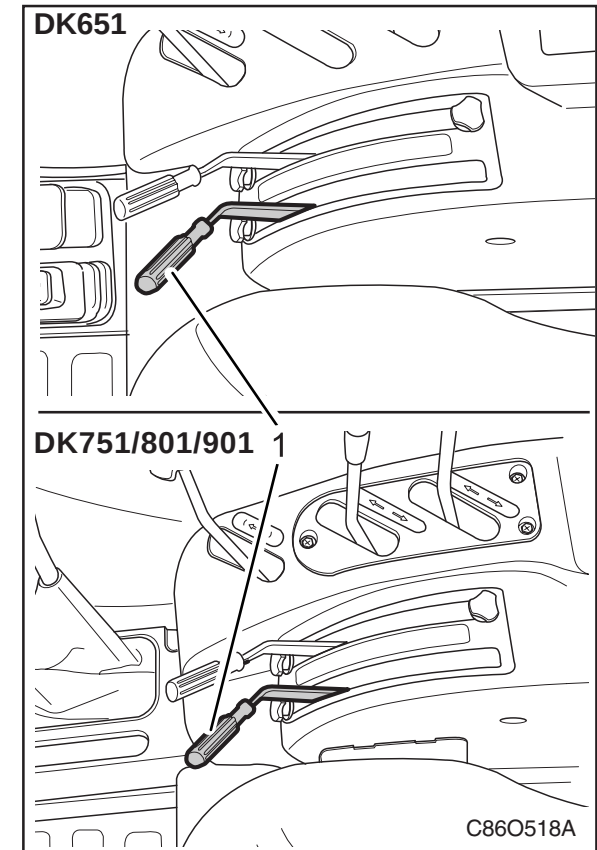
- *The implement can be lowered even with the engine off. Take special care not to do this inadvertently. Never leave an implement in the raised position.*

POSITION CONTROL



(1) Position Control Lever

DRAFT CONTROL



(1) Draft control Lever

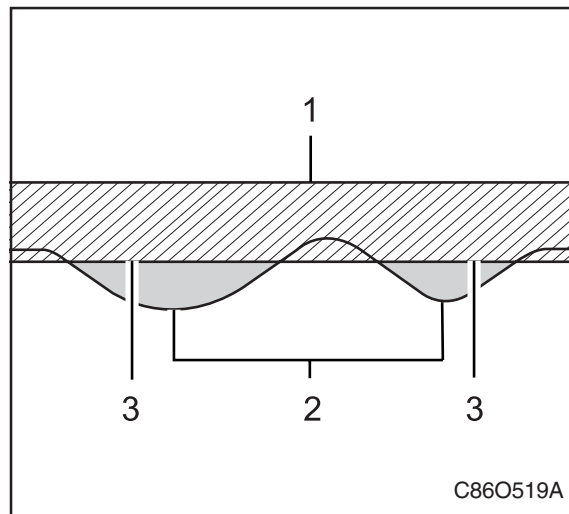
Operating the position control lever actuates the hydraulic lift arm. This controls the elevation of the 3-point hitch mounted implement.

Place the position control lever in a suitable position and set the implement pull with the draft control.

This will control the pull of the 3-point implement. As the load on the 3-point hitch changes due to various soil conditions, the draft control system automatically responds to these changes by either raising or lowering the implement slightly to maintain a constant pull.

Place the position control lever in the lowest position and set the implement pull with the draft control lever.

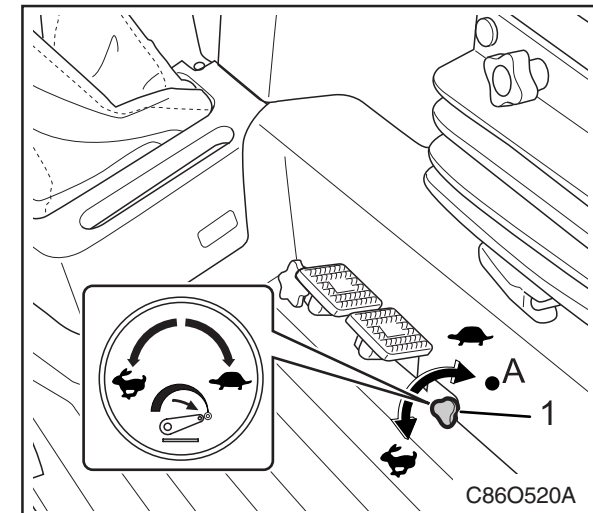
MIXED CONTROL



- (1) Ground Surface (2) Soft Soil
(3) Implement Penetration Limit

In the draft control mode; when draft decreases, the implement automatically lowers to increase draft. To avoid having the implement lowered too far, set the position control lever at the lowest working depth desired. Move the draft control lever to the point where the implement is at the desired depth. This prevents the implement from going too deep and causing loss of traction and ground speed.

3-POINT HITCH LOWERING SPEED



- (1) 3-point hitch lowering speed knob
(A) Lock (Fast) (Slow)

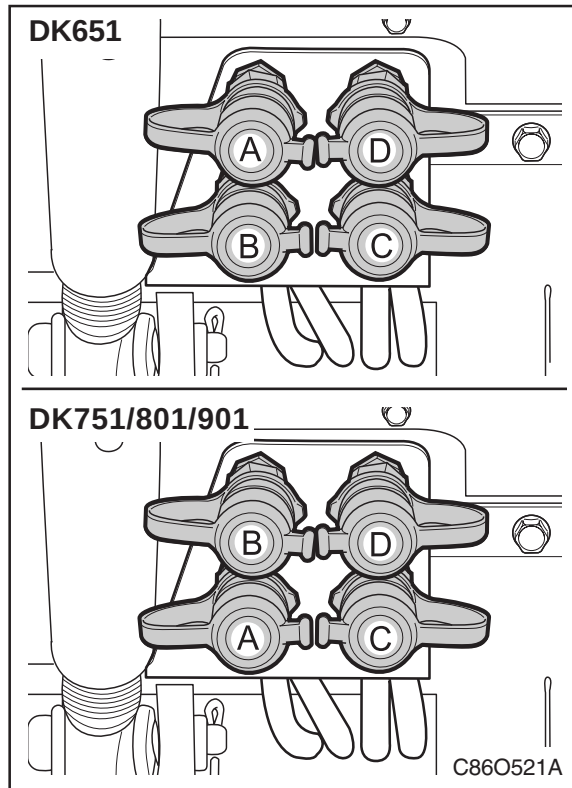
The lowering speed of the 3-point hitch can be controlled by adjusting the 3-point lowering speed knob.

CAUTION

To avoid personal injury:

- Fast lowering speed may cause damage or injury. Lowering speed of implement should be adjusted to two or more seconds.

CONNECTING HYDRAULIC ACCESSORIES - DOUBLE ACTING VALVE (IF EQUIPPED)



⚠ CAUTION

To avoid personal injury:

- Stop the engine and relieve pressure before connecting or disconnecting lines.
- Do not use your hand to check for leaks.

CONNECTING

1. Clean both couplers.
2. Remove dust plugs.
3. Insert the implement coupler to the tractor hydraulic coupler.
4. Pull the implement coupler slightly to make sure couplers are firmly connected.

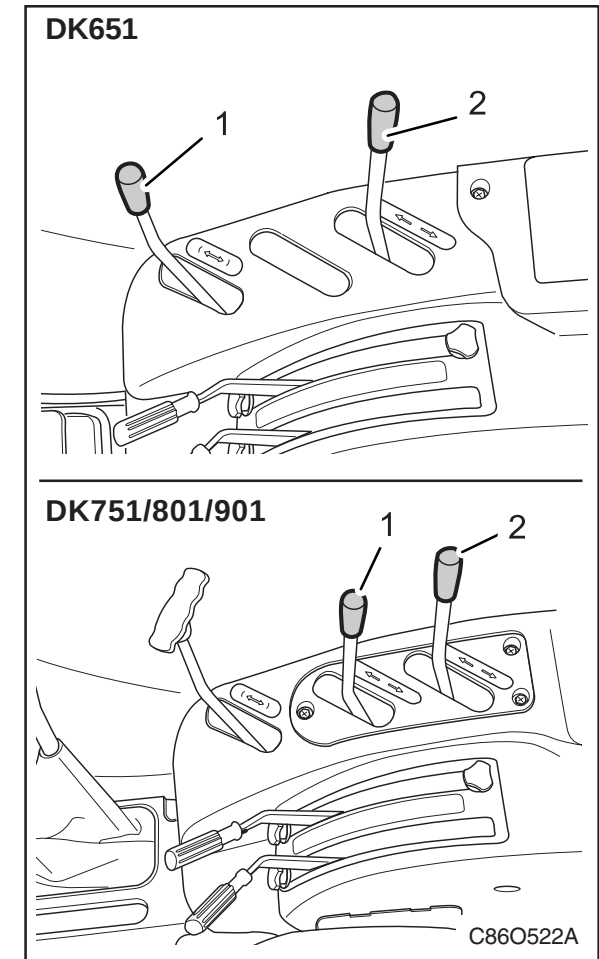
DISCONNECTING

1. Clean the couplers.
2. Relieve pressure by moving hydraulic control levers with engine shut off. Pull the hose straight from the hydraulic coupler to release it.
3. Clean oil and dust from the coupler, then replace the dust plugs.

NOTE

- Your local **KIOTI** Dealer can supply parts to adapt couplers to hydraulic hoses.

OPERATION OF DOUBLE ACTING HYDRAULIC CONTROL VALVE



(1) Lever1

(2) Lever2

Push or pull the appropriate lever to activate the desired function (see chart below). If the accessory reaches its limit and the relief valve opens, release the lever and it will return to its neutral position. Continuous operation of the relief valve serves no purpose and will cause overheating.

1,2 Remote control valve lever

		Pressure $\Rightarrow$		Returning $\Leftarrow$	
LEVER 1		Push		Pull	
Port	A	In $\Leftarrow$		Out $\Rightarrow$	
	B	Out $\Rightarrow$		In $\Leftarrow$	
LEVER 2		Push		Pull	
Port	C	In $\Leftarrow$		Out $\Rightarrow$	
	D	Out $\Rightarrow$		In $\Leftarrow$	

		COUPLER SIZE
Port A B		PT 1 / 2
Port C D		

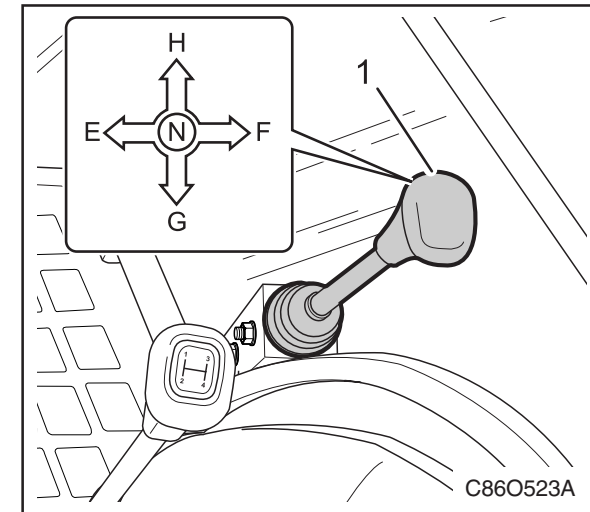
HOW TO USE AN IMPLEMENT WITH A DOUBLE ACTING CYLINDER

1. Connect the two hoses from the cylinder by inserting the male couplers into the ports marked A and B.
2. Start the tractor and operate the implement.

CAUTION

- Moving the control lever to the A position will pressurize the A port. Moving the control lever to the B position will pressurize the B port.
- Connect the couplers to achieve the desired operating direction when the A and B ports are pressurized.

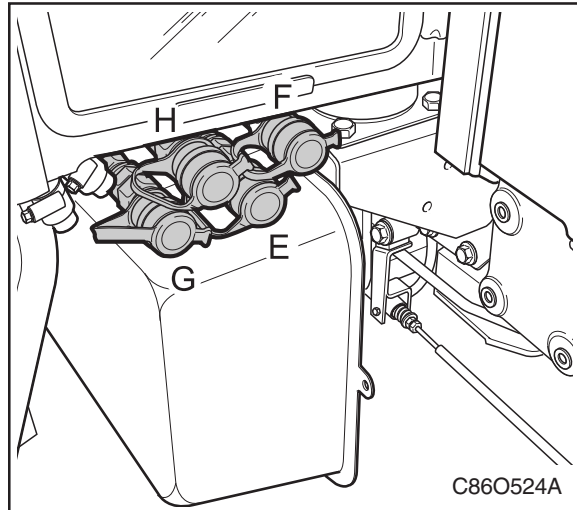
ATTACHING A LOADER



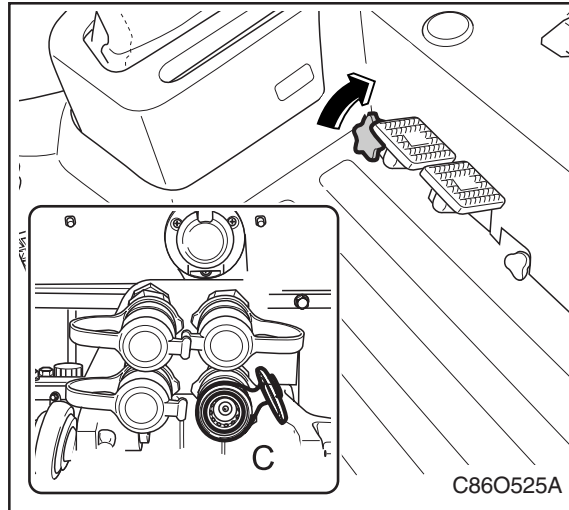
(1) Joy Stick Lever

The joy stick control, located to the right of the instrument panel, is all that is needed to install and operate a front-end loader.

1. Connect two male couplers from the boom cylinder to the ports G,H (front right of the tractor cab).
 - G : Boom Cylinder Up
 - H : Boom Cylinder Down
2. Connect two male couplers from the bucket cylinder to the ports E,F (front right of the tractor cab).
 - E : Bucket Cylinder Up
 - F : Bucket Cylinder Down



HOW TO USE ATTACHMENTS WITH A SINGLE ACTING CYLINDER (IF EQUIPPED)



! CAUTION

- Moving the joystick forward and backward will energize ports H and G respectively. Moving the joystick to the left and to the right will energize ports E and F respectively.
- Be sure to connect the couplers accordingly and verify that the implement moves in the desired direction.
- The hoses must be connected correctly so that the boom cylinder and bucket cylinder operate independently.

Attachments with a single acting cylinder (such as a dump trailer) can be attached and used as follows.

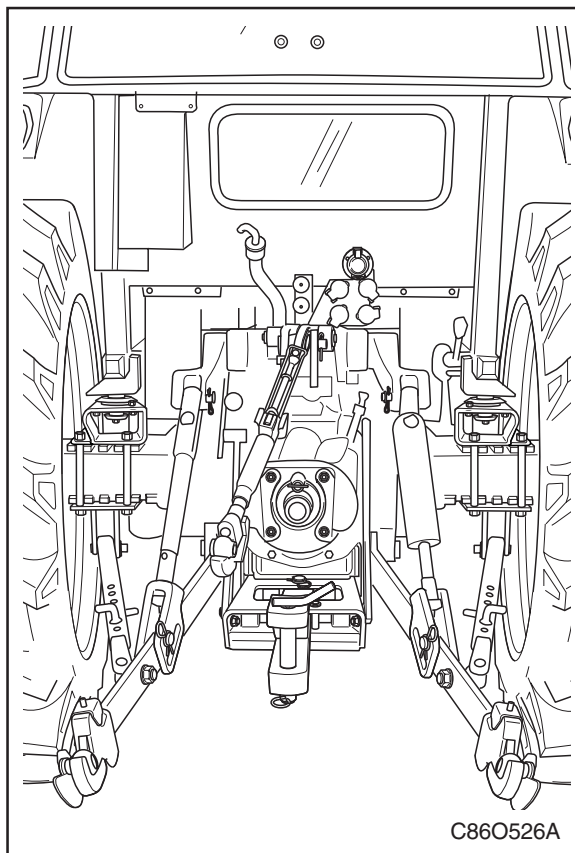
1. Lock the changeover handle for single/double acting valve to the right completely.
2. Insert the male coupler of the dump trailer into the female coupler C.
3. When you move the control lever of the single/double acting valve to the C position, hydraulic pressure is applied so that the cylinder is extended.
4. When you let go of the control lever, it automatically returns to the neutral position.

5. When you move the control lever of the single/double acting valve to the D position, the cylinder retracts as the load comes down by its own weight.

! WARNING

- *For your safety and best performance, use only implements and attachments approved for use with your tractor.*
- *Always be sure that hydraulic couplers are clean. Contamination of the hydraulic system can cause malfunctions, accelerated wear and equipment damage.*
- *Do not adjust hydraulic system pressure settings. Never change relief valve settings. Improper settings can cause serious equipment damage and personal injury.*

ATTACHING DEVICES FOR GENERAL IMPLEMENTS



- (1) Lower Link
- (2) Drawbar Hitch
- (3) Top Link
- (4) Lift Linkage
- (5) Stabilizer

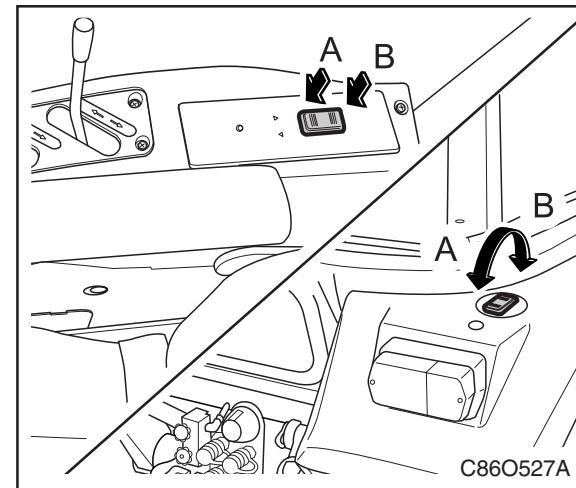
WHEN IMPLEMENT IS NOT ATTACHED

1. Fix lower link (LH & RH) so that the links do not come in contact with the wheels.
2. Use the bracket provided to secure the top link.

ADJUSTMENT OF TOP LINK

1. Extend or retract the top link to adjust the inclination of an implement.
2. Secure the top link adjustment with the lock nut after adjusting the top link.
3. The position for connecting the top link varies depending on the type of implement.

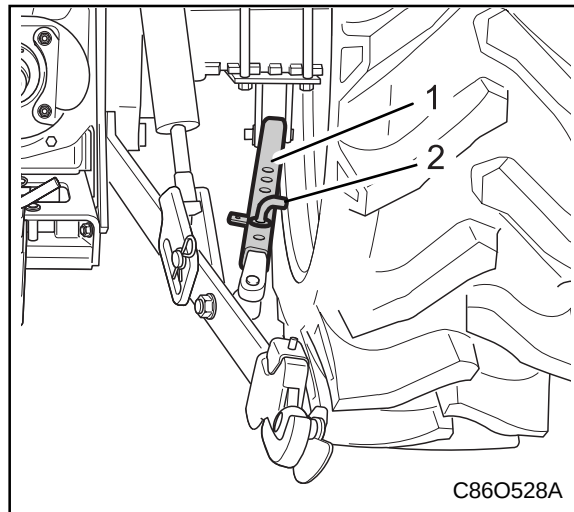
LEVELING ADJUSTMENT (LIFT CYLINDER EQUIPPED) (DK751,801,901)



(A) Up

(B) Down

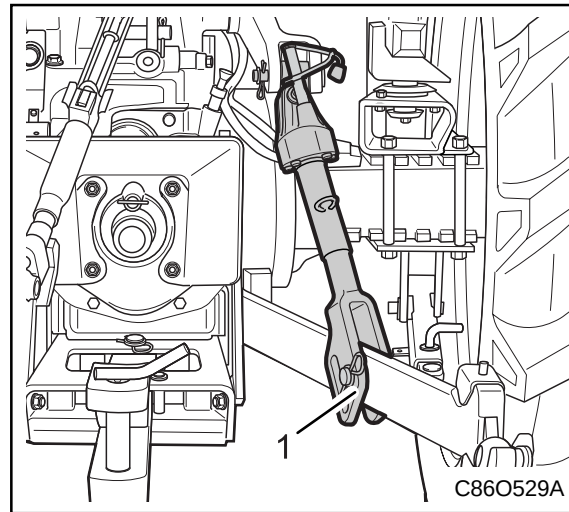
1. Level or tilt the implement from the operator's station. Setting depends on the type of implement.
2. Activate the rocker switch to make the leveling adjustment.

ADJUSTMENT OF CHECK LINK

(1) Stabilizer (2) Pin

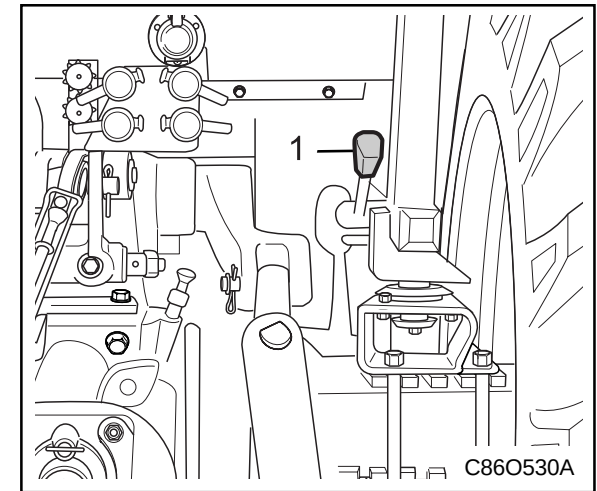
Adjust the stabilizers to control horizontal sway of the implement.

Type of implement	Stabilizer adjustment
Plow, furrow, subsoiler, cultivator, ditcher	Loosen until the implement can be moved 50 ~ 60 mm (1.97 ~ 2.36 in.) horizontally.
Rotary mower, hay rake, tender, ridger	Tighten securely

LEVELING ADJUSTMENT (MANUAL)

(1) Lift Linkage

1. Adjust the position (leveling) of the implement by turning the lift linkage located on the right side.
2. After the adjustment, secure with the lock nut.
3. Positioning is dependent upon the type of implement.

EXTERNAL POSITION CONTROL LEVER

(1) External Position Control Lever

The lift can be controlled from the ground while attaching or detaching implements.

! WARNING

When leaving the driver's seat to attach or detach implements:

- **Shift the transmission into neutral.**
- **Set the parking brake.**
- **Slow the engine to idle speed.**
- **Push the draft control lever forward to the floating range.**
- **Keep bystanders clear of the tractor and the implement.**

WHEELS, TIRES AND TREAD**WHEELS - FRONT**

Front tread can not be adjusted.

Model	Tread
DK651	1,473 mm (57.9 in.)
DK751	1,534 mm (60.3 in.)
DK801/901	1,576 (62.0 in.)

TREADWIDTH - FRONT

The front tread width is not adjustable.
Check and tighten as instructed.

Wheel nut torque	196 ~ 226 N.m 20 ~ 23 kgf·m 144.7 ~ 166.3 lbf.ft
------------------	--

**WARNING**

- *Do not use tires larger than specified.*

WHEELS - REAR

Rear tread width can be adjusted as shown with the standard equipped tires.

To change the tread width

1. Remove the wheel rim and / or disk mounting bolts.
2. Change the position of the rim and / or disk (right and left) to the desired position, and then tighten the bolts.

TREAD-REAR

Model	Tread
DK651	1,406 ~ 1,802 mm (55.4 ~ 70.9 in.)
DK751/801	1,504 ~ 1,904 mm (59.2 ~ 74.9 in.)
DK901	1,534 ~ 1,934 mm (60.3 ~ 76.1 in.)

Wheel nut torque	274.6 ~ 318.7 N.m 28 ~ 32.5 kgf·m 202.6 ~ 235.0 lbf.ft
------------------	--

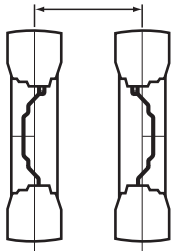
Rim bolt torque	280 ~ 340 N.m 28.5 ~ 34.7 kgf·m 206.6 ~ 250.7 lbf.ft
-----------------	--

**WARNING**

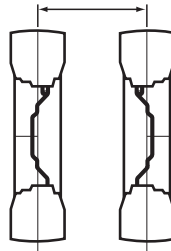
- *Do not use tires larger than specified.*

DK651

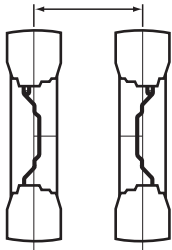
1406mm
(55.4in)



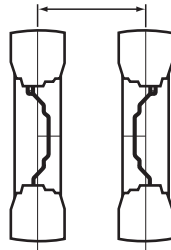
1502mm
(59.1in)



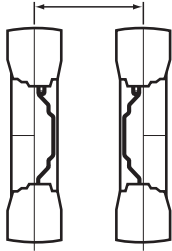
1606mm
(63.2in)



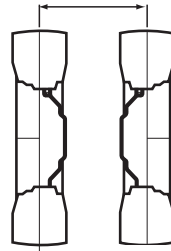
1706mm
(67.0in)



1806mm
(71.1in)



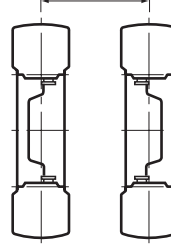
1902mm
(74.9in)



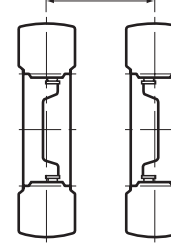
C86O531A

DK751/801/901

1436mm
(56.5in.)

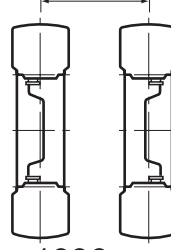


1534mm
(60.4in.)

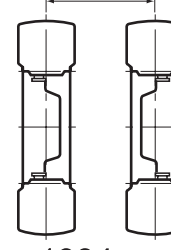


(Standard)

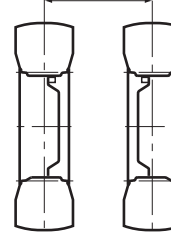
1636mm
(64.4in.)



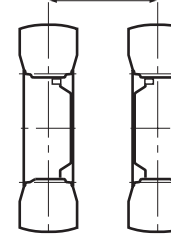
1734mm
(68.3in.)



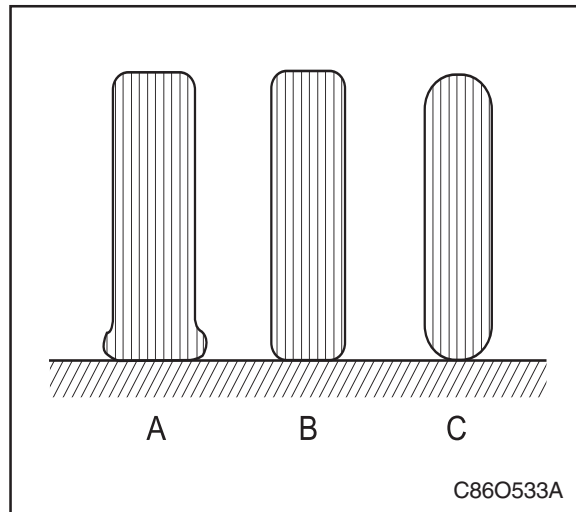
1836mm
(72.3in.)



1934mm
(76.1in.)



C86O532A

AIR PRESSURE - TIRES

(A) *Insufficient*
(C) *Excessive*

(B) *Recommended*

Check air pressure in front and rear tires regularly.

AVERAGE AIR PRESSURE

Classification		Tire Size (PR)	Air Pressure (kg/cm ² (psi))
DK651	Front	11.2-20	2.4(34.0)
	Rear	16.9-30	1.8(25.6)
DK751	Front	11.2-24	2.4(34.0)
	Rear	18.4-30	2.0(28.0)
DK801/901	Front	12.4-24	2.4(34.0)
	Rear	18.4-34	2.0(28.0)

BALLAST**SELECTING FRONT BALLAST**

Add weight to the front end, if needed, for stability. Heavy pulling and heavy rear mounted implements tend to lift the front wheels. Add enough ballast to maintain steering control and prevent tip over.

Remove weight when it is no longer needed. Front weights are available from your dealer. Your dealer can help you decide how much is required for your particular application.

NOTE

- Additional ballast may be needed for transporting heavy implements. When implement is raised, drive slowly over rough ground, regardless of how much ballast is used.

SELECT REAR BALLAST CAREFULLY

Add weight to rear wheels, if needed, to improve traction or for stability. Amount of rear ballast should be matched to the job; and ballast should be removed when it is not needed. Rear wheel weights are available, or liquid may be added to the tires. Consult your KIOTI dealer for the correct ballasting necessary for your particular application.

MODEL	Maximum weight
DK651	-
DK751/801/901	50kg x 2ea (220.5 lbs.)

MODEL	Maximum weight
DK651	27kg x 10ea (595.2 lbs.)
DK751/801/901	36kg x 10ea (793.7 lbs.)

6

MAINTENANCE

SERVICE INTERVALS

LUBRICANTS

DAILY CHECK

INITIAL 50 HOURS

EVERY 50 HOURS

EVERY 100 HOURS

EVERY 200 HOURS

EVERY 250 HOURS

EVERY 400 HOURS

EVERY 600 HOURS

EVERY 800 HOURS

EVERY 1 YEAR

EVERY 2 YEARS

SERVICE AS REQUIRED

SERVICE INTERVALS

[illegible]

No.	Item	Period	Indication on Hour Meter																		After Purchase		Important	
			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	1500	3000	1 year	2 years		
18	Power steering oil line	Check				●				●				●				●						
		Change																				●		
19	Fuel line	Check		●		●		●		●		●		●		●		●						
		Change																				●		
20	Intake air line	Check				●				●				●				●						
		Change																				●	*3	
21	Toe-in	Adjust				●				●				●				●						
22	Engine valve clearance	Adjust																●						
23	Fuel injection nozzle injection pressure	Check																	●	●				
24	Injection pump	Check																		●		●		
25	Cooling system	Clean																				●		
26	Coolant	Change																						
27	Fuel system	Check																			Service as required			
28	Fuse	Change																						
29	Light bulb	Change																						
30	Drain moisture from clutch housing	Drain																						

No.	Period Item		Indication On Hour Meter																		After Purchase		Important	
			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	1500	3000	1 year	2 years		
31	Air conditioner condenser net	Clean																			Everyday			
32	Air conditioner belt tension	Check				●				●				●				●						
33	Intake air filter	Clean				●				●				●				●						
34	Ambient air filter	Clean				●				●				●				●						
35	Air conditioner hose	Check																			●			
36	Heater hose	Check																			●			
37	Refrigerant level	Check																			As necessary			
38	Washer liquid	Supplement																						

NOTE : The jobs indicated by ● must be done after the first 50 hours of operation.

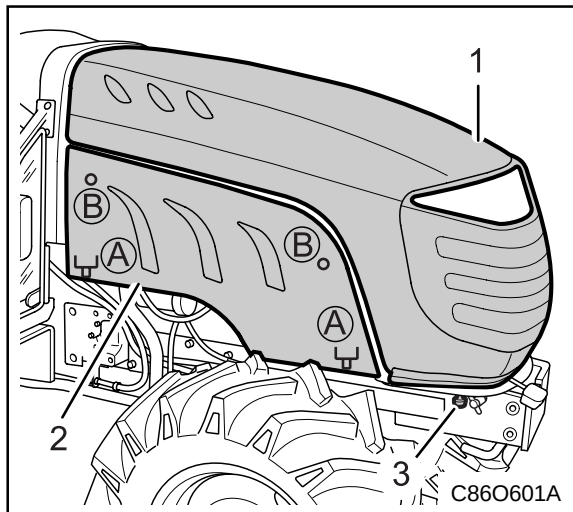
LUBRICANTS

To prevent serious equipment damage, use only genuine DAEDONG fluids, oils and greases, or equivalents.

No.	Locations	Capacities		Lubricants	
		DK651	DK751/801/901		
1	Fuel	100ℓ (26.4 U.S.gal.)		No.2-D diesel fuel No.1-D diesel fuel if temperature is below -10°C (14°F)	
2	Coolant	9.1ℓ (2.4 U.S.gal.)	18.5ℓ (4.9 U.S.gal.)	Fresh clean water with anti-freeze (50:50)	
3	Engine crankcase	6.9ℓ (1.82 U.S.gal.)	10.5ℓ (2.77 U.S.gal.)	Engine oil: API Service Classification CC or CD	
				Above 25°C (77°F)	SAE30, SAE10W-30 or 10W-40
				0 to 25°C (32 to 77°F)	SAE20, SAE10W-30 or 10W-40
				Below 0°C (32°F)	SAE10W, SAE10W-30 or 10W-40
4	Transmission case	60ℓ (15.85 U.S.gal.)		Exxonmobil	Mobilfluid 423 or 424 Exxon Hydraul 560
				Shell	DONAX-TD/TD Plus
				BP	Tractran UTH
5	Front axle case	Each 3.5ℓ (0.9 U.S.gal.)		SAE 90 gear oil or transmission case oil	
6	Front axle	4.5ℓ (1.2 U.S.gal.)			
7	Greasing	As necessary		Standad type grease	

DAILY CHECK

HOW TO DISCONNECT THE SIDE COVER AND HOOD



(1) Hood

(2) Side Cover

(3) Knob

The hood can be opened by pulling down the handle located in the left bottom at hood.

Don't apply excessive pressure to the steering wheel in order to lock. It may cause to break down the hood.

CAUTION

- The wiring connection for the headlights must be disconnected before the front grille is removed completely.

When the under side of the side cover is pulled to outward, rocker "A" fixed at the under side is lifted.

After pull, lift it upward slightly (rocker "B" unlocked), then the side cover could be removed.

CAUTION

- Be careful not to trap your fingers when closing the side cover.

WALK AROUND INSPECTION

For your own safety and maximum service life of the machine, make a thorough daily inspection before operating the machine to start the engine.

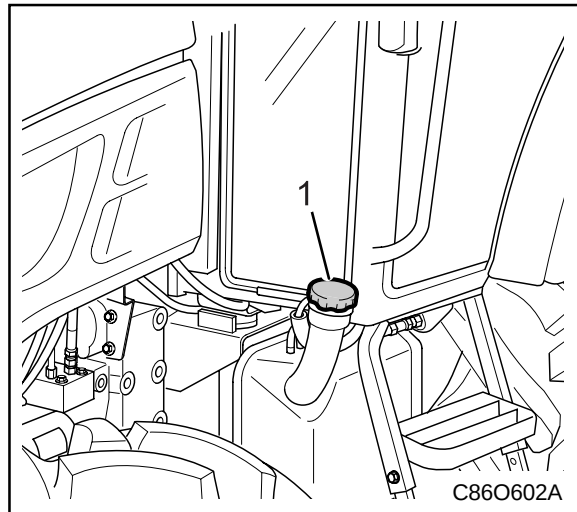
CAUTION

To avoid personal injury:

- Be sure to check and service the tractor on a flat place with the engine shut off and the parking brake "ON".

Look around and under the tractor for such items as loose bolts, trash build-up, oil or coolant leaks, broken or worn parts.

CHECKING AND REFUELING



(1) Fuel Tank Cap

Fuel tank capacity	100ℓ (26.4 U.S.gal.)
--------------------	-------------------------

⚠ CAUTION

To avoid personal injury:

- Do not smoke while refueling.
- Be sure to stop the engine before refueling.
- Dirt or sand contained in fuel may cause the fuel injection pump to malfunction, use the strainer when refuelling.

Dirt may block the vent hole for the fuel tank, thus causing the engine to lose power, periodically clear the vent hole and do not cover.

1. Turn the key switch to "ON", check the amount of fuel by fuel gauge.
2. Fill fuel tank when fuel gauge shows 1/4 or less fuel in tank.
3. Use grade No.2-Diesel fuel at temperatures above -10°C (14°F).

⊕ IMPORTANT

- Do not permit dirt or trash to get into the fuel system.
- Be careful not to let the fuel tank become empty, otherwise air will enter the fuel system, necessitating bleeding before next engine start.
- Be careful not to spill during refueling. If should spill, wipe it off at once, or it may cause a fire.
- To prevent condensation (water) accumulation in the fuel tank, fill the tank before parking overnight.

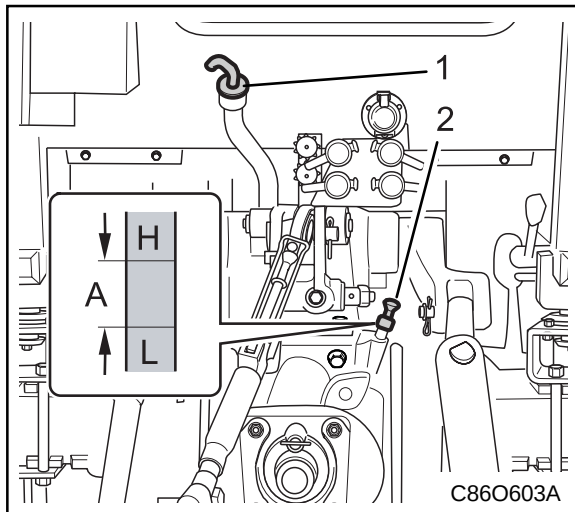
NOTE

- No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313 JUN87)
- Grade of Diesel Fuel Oil According to ASTM D975

Flash Point, °C (°F)	Water and Sediment, volume %	Carbon Residue on, 10 percent Residuum, %	Ash, weight %
Min	Max	Max	Max
52 (125)	0.05	0.35	0.01

Distillation Temperatures, °C(°F) 90% Point		Viscosity Kinematic cSt or mm²/s at 40°C		Viscosity Saybolt, SUS at 100°F		sulfur, weight %	Copper Strip Corrosion	Cetane Number
Min	Max	Min	Max	Min	Max	Max	Max	Min
282 (540)	338 (640)	1.9	4.1	32.6	40.1	0.50	No.3	40

CHECKING TRANSMISSION FLUID LEVEL



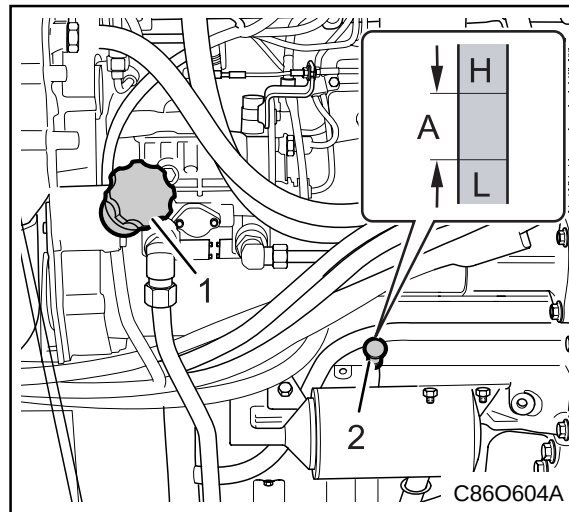
(1) Oil Inlet (2) Gauge
(A) Oil Level is Acceptable Within This Range

1. Park the machine on a flat surface, lower the implement and shut off engine.
2. Check the fluid level on the fluid level dipstick. If the level is too low, add new oil to the prescribed level at the oil inlet.
(See "LUBRICANTS" in Maintenance Section)

⊕ IMPORTANT

- If oil level is low, do not run engine.

CHECKING ENGINE OIL LEVEL



(1) Oil Inlet (2) Dipstick
(A) Oil Level is Acceptable Within this Range

⊕ IMPORTANT

- When using an oil of different maker or viscosity from the previous one, remove all of the old oil. Never mix two different types of oil.
- Never run engine if the oil level is low.

⚠ CAUTION

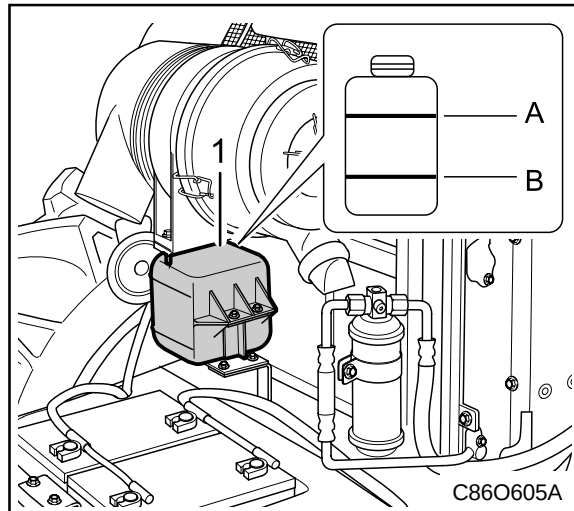
To avoid personal injury:

- Be sure to stop the engine before checking the oil level.

1. Park the machine on a flat surface.
2. Check engine oil before starting the engine or 5 minutes or more after the engine has stopped.
3. To check the oil level, draw out the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level lies between the two notches. If the level is too low, add new oil to the prescribed level at the oil inlet.

(See "LUBRICANTS" in Maintenance Section)

CHECKING COOLANT LEVEL



(1) Reserve Tank

(A) HIGH

(B) LOW

CAUTION

To avoid personal injury:

- Do not remove radiator cap while coolant is hot. When cool, slowly rotate cap to the first stop and allow sufficient time for excess pressure to escape before removing the cap completely.

1. Check to see that the coolant level is between the "HIGH" and "LOW" marks of recovery tank.
2. When the coolant level drops due to evaporation, add water only up to the full level.

In case of leakage, add anti-freeze and water in the specified mixing ratio up to the full level.

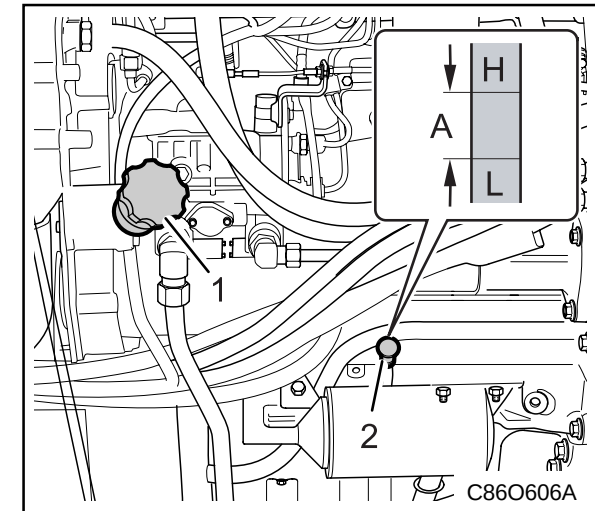
(See "Flush Cooling System and Changing Coolant" in every 2 years maintenance.)



IMPORTANT

- If the radiator cap has to be removed, follow the caution above and securely retighten the cap.
- Use clean, fresh water and anti-freeze to fill the recovery tank.
- If water should leak, consult your local KIOTI Dealer.

CLEANING GRILL, RADIATOR NET AND OIL COOLER SCREEN



(1) Radiator Net

(A) Detach



CAUTION

To avoid personal injury:

- Be sure to stop the engine before removing the screen.

1. Check front grill and side screens to be sure they are clean of debris.
2. Lift out the screen and remove all the foreign material.



IMPORTANT

- Grill and screen must be clean from debris to prevent engine from overheating and to allow good air intake for the air cleaner.

CHECKING SEAT BELT AND ROPS

1. Always check condition of seat belt and ROPS attaching hardware before operating tractor.
2. Replace if damaged.

CHECKING BRAKE AND CLUTCH PEDALS

1. The brake and clutch pedals should be inspected for free travel, and smooth operation.
2. You should adjust these pedals if an incorrect measurement is found.
(See “adjusting clutch and brake pedals” in the 100 hour maintenance schedule.)

NOTE

- Brake pedals should be equal when depressed.

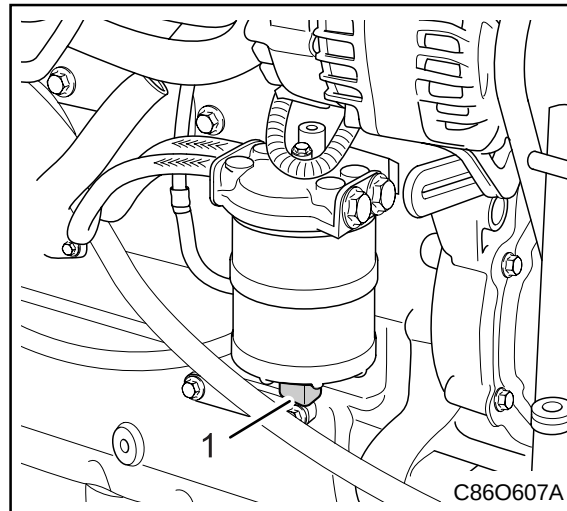
CHECKING GAUGES, METER AND EASY CHECKER

1. Inspect the instrument panel for broken gauge(s), meter(s) and Easy Checker lamps.
2. Replace if broken.

CHECKING HEAD LIGHT, HAZARD LIGHT ETC.

1. Inspect the lights for broken bulbs and lenses.
2. Replace if broken.

DRAINING WATER FROM FUEL PRE-FILTER



(1) Drain Plug

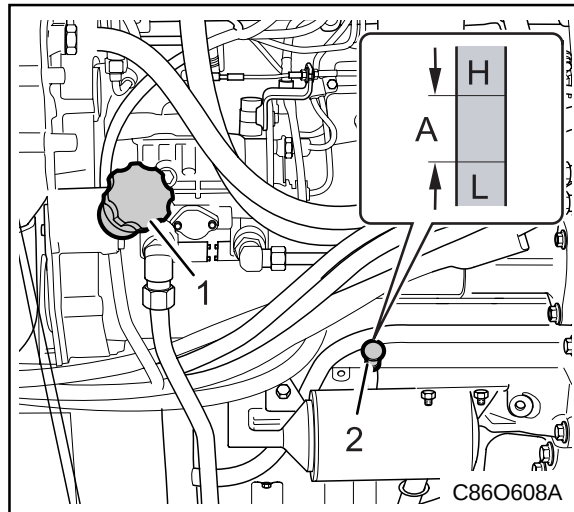
Water and dirt in fuel are deposited at fuel filter. Remove the drain plug to remove the deposited water and dirt when necessary.



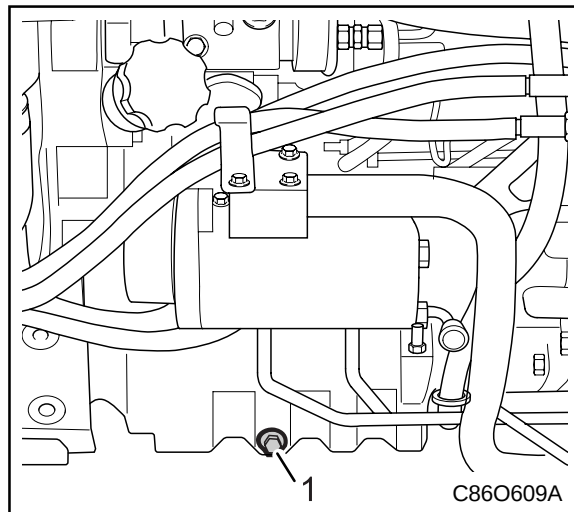
CAUTION

- **Water in fuel results in breakage of injection pump shaft or malfunction of injection nozzle. Drain the water from the fuel pre-filter frequently.**

INITIAL 50 HOURS CHANGING ENGINE OIL



(1) Oil Inlet (2) Dipstick
(A) Oil level is acceptable within this range



(1) Drain Plug

⚠ CAUTION

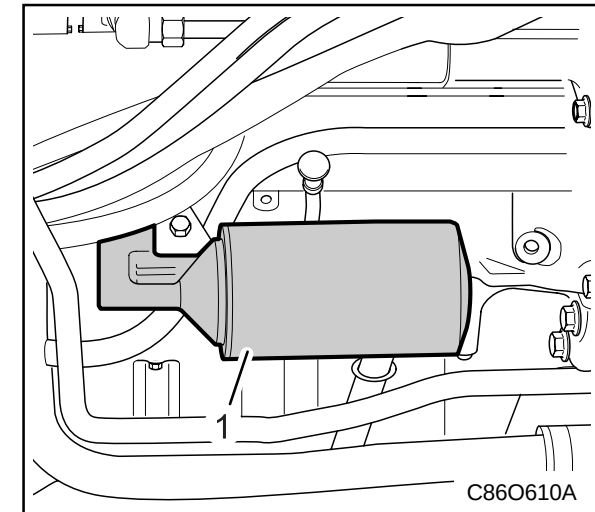
To avoid personal injury:

- Be sure to stop the engine before changing the oil.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. To drain the used oil, remove the drain plug at the bottom of the engine and drain the oil completely into the oil pan. All the used oil can be drained out easily when the engine is still warm.
2. After draining reinstall the drain plug.
3. Fill with the new oil up to the upper notch on the dipstick.

Model	Oil capacity with filter
DK651	6.9 ℓ (1.82 U.S.gal.)
DK751/801/ 901	10.5 ℓ (2.77 U.S.gal.)

REPLACING ENGINE OIL FILTER



(1) Engine Oil Filter

+ IMPORTANT

- To prevent serious damage to the engine, use only a KIOTI genuine filter.

⚠ CAUTION

To avoid personal injury:

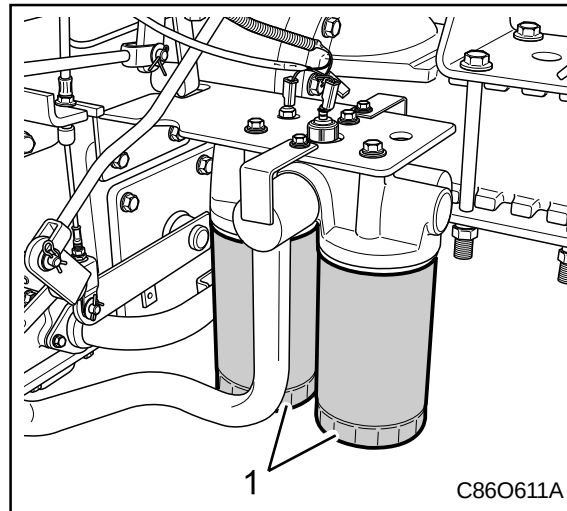
- Be sure to stop the engine before changing oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Remove the oil filter.
2. Put a film of clean engine oil on the rubber seal of the new filter.
3. Tighten the filter quickly until it contacts the mounting surface.

Tighten filter by hand an additional half turn only.

4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.

REPLACING HYDRAULIC OIL & TRANSMISSION OIL FILTER



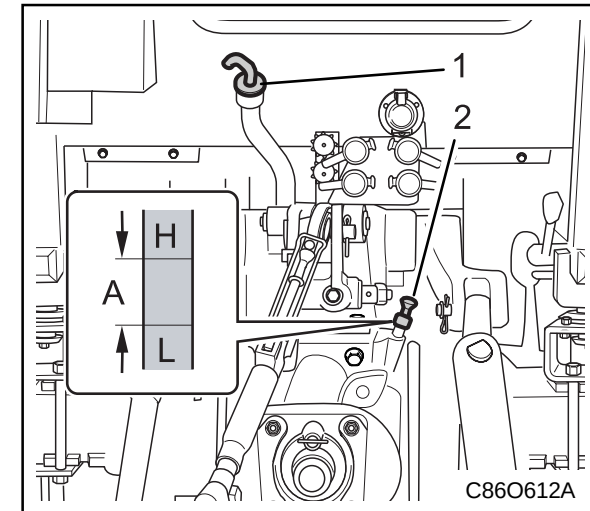
(1) Hydraulic Oil Filter

⚠ CAUTION

To avoid personal injury:

- Be sure to stop the engine before changing the oil filter cartridge.
- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. Be sure to move a drain pan under the filter.
2. Remove the oil filter.
3. Put a film of clean transmission oil on the rubber seal of the new filter.



(1) Oil Inlet

(2) Gauge

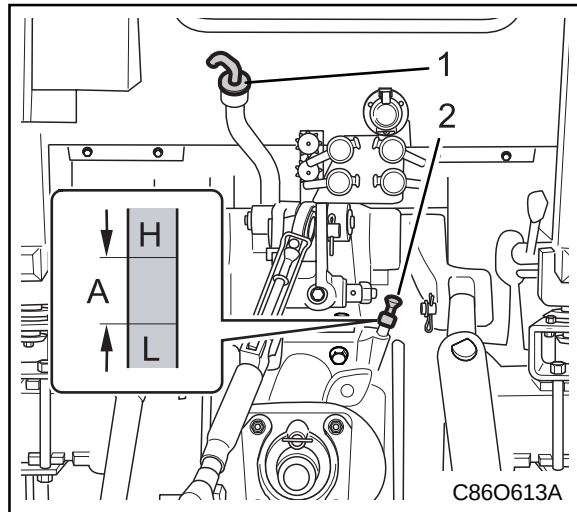
(A) Oil Level is Acceptable Within This Range

4. Tighten the filter quickly until it contacts the mounting surface. Tighten the filter by hand an additional half turn only.
5. After the new filter has been replaced, fill with oil up to the upper line of the gauge.
6. After running the engine for a few minutes, stop it and check the oil level again, add oil to the prescribed level.
7. Make sure that the transmission fluid doesn't leak through the seal.

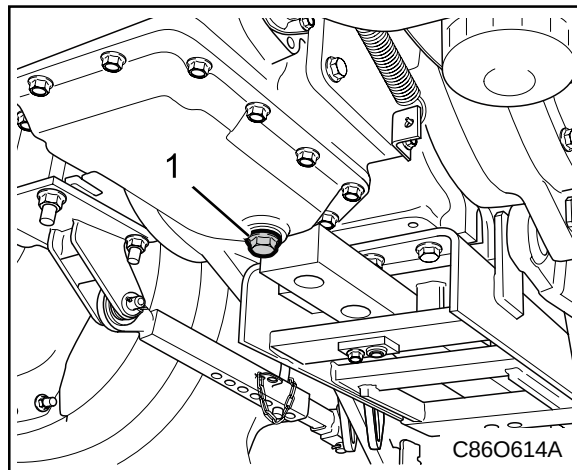
⊕ IMPORTANT

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

CHANGING TRANSMISSION FLUID



(1) Oil Inlet (2) Gauge
(A) Oil Level is Acceptable Within This Range



(1) Drain Plug

⚠ CAUTION

To avoid personal injury:

- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plug.
3. Fill with the new KIOTI TF65 fluid up to the upper line of the gauge.

(See "LUBRICANTS" in Maintenance Section)

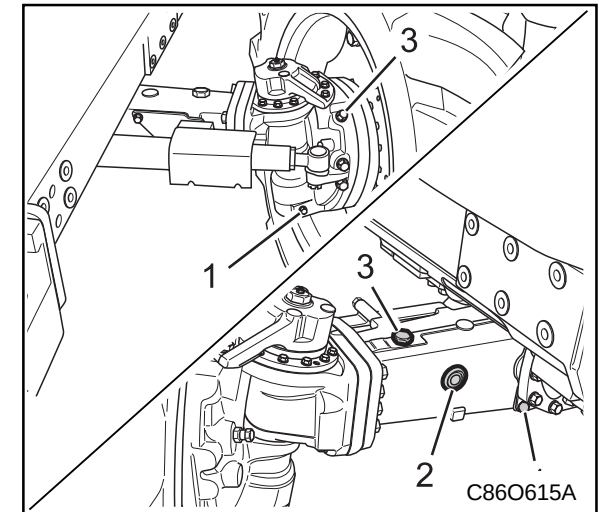
4. After running the engine for a few minutes, stop it and check the oil level again; add oil to prescribed level.

Oil Capacity	60 ℓ (15.85 U.S.gal.)
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+ 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.

CHANGING FRONT AXLE CASE OIL

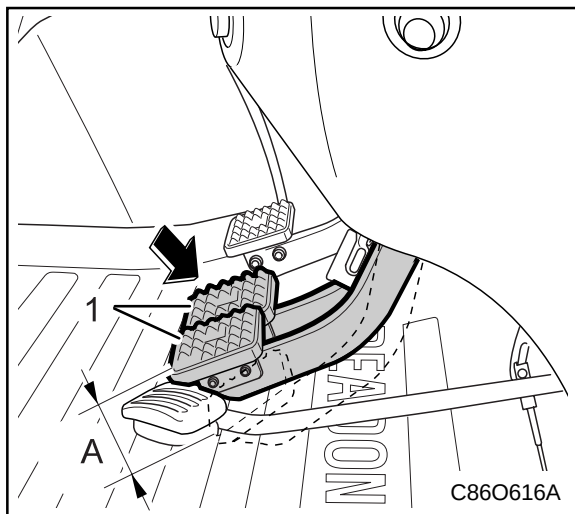


(1) Drain Plug (3) Filling Plug
(2) Check Plug

1. To drain the used oil, remove the right and left drain plugs and filling plug at the front axle case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Remove the oil level check plug.
4. Fill with the new oil up to the check plug port. (See "LUBRICANTS" in Maintenance Section)
5. After filling reinstall the filling plug and check plug.

Model	Oil capacity
Front axle case support	4.5 ℓ (1.2 u.s.gal.)
Front axle case (LH,RH)	Each 3.5 ℓ (0.9 u.s.gal.)

ADJUSTING BRAKE PEDAL



(1) Brake Pedal

(A) Free Travel

Proper brake pedal free travel (A)	15 ~ 30 mm (0.59 ~ 1.18 in.) on the pedal.
	Keep the free travel in the right and left brake pedals equal.

1. Release parking brake.
2. Slightly depress the pedals and measure the free travel at the top of the pedal stroke.
3. If adjustments are needed, loosen the locking nut and turn the turnbuckle until the rod length is at the desired and acceptable limit.
4. Re-tighten the lock nuts.



CAUTION

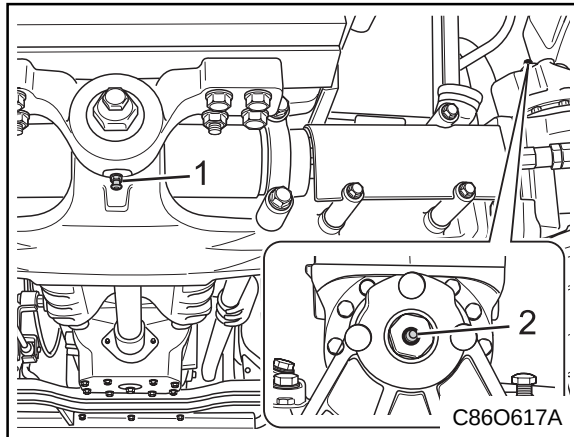
To avoid personal injury:

- Stop the engine and chock the wheels before checking brake pedal.

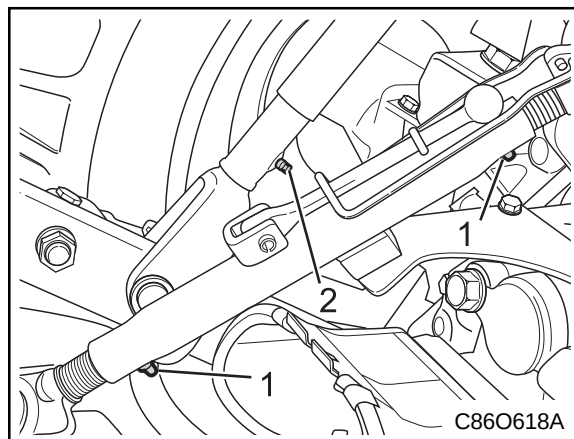
EVERY 50 HOURS

LUBRICATING GREASE FITTINGS

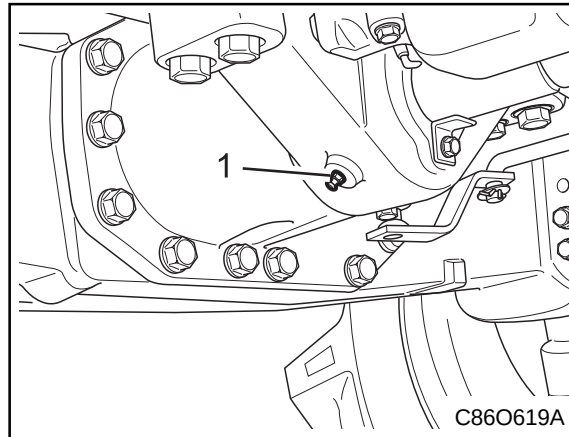
You should apply a small amount of multi-purpose grease to the following points every 50 hours or as needed.



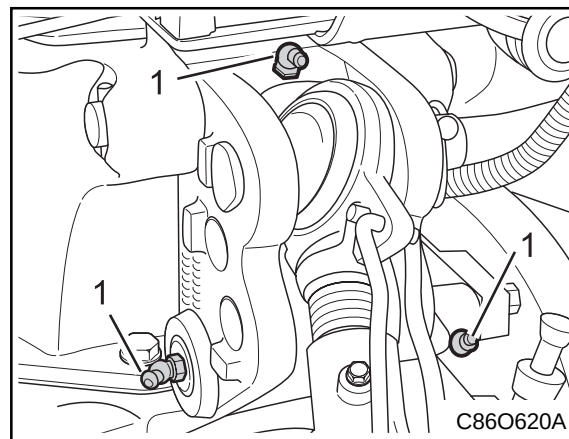
- (1) Grease Nipple (Front Axle Bracket) (Front)
(2) Grease Nipple (Axle Case Bracket) (Front)



- (1) Grease Nipple (Front Axle Bracket) (Rear)



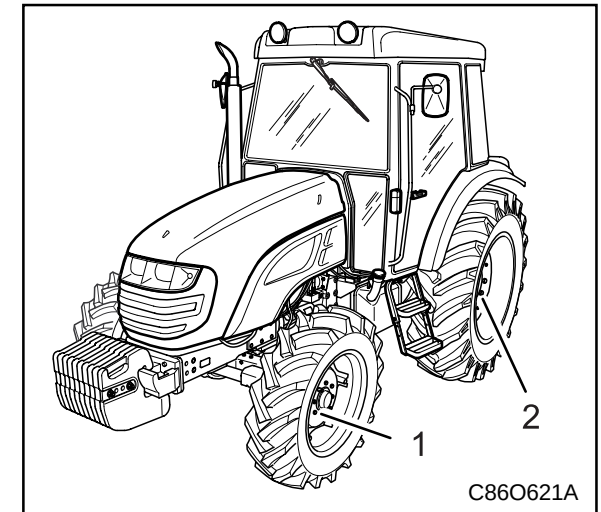
- (1) Grease Nipple (Top Link)
(2) Grease Nipple (Lift Rod)



- (1) Grease Nipple (Top Link Bracket)

If your tractor is operated in extremely wet, muddy, or dusty conditions you should lubricate the fittings more often.

CHECKING WHEEL BOLT TORQUE



- (1) Nut: 166.7 ~ 186.3 N·m
(17 ~ 19 kgf·m, 122.9 ~ 137.4 lbf·ft)
Bolt: 196 ~ 226 N·m
(20 ~ 23 kgf·m, 144.7 ~ 166.3 lbf·ft)
(2) Nut: 274.6 ~ 318.7 N·m
(28 ~ 32.5 kgf·m, 202.6 ~ 235.0 lbf·ft)

CAUTION

To avoid personal injury:

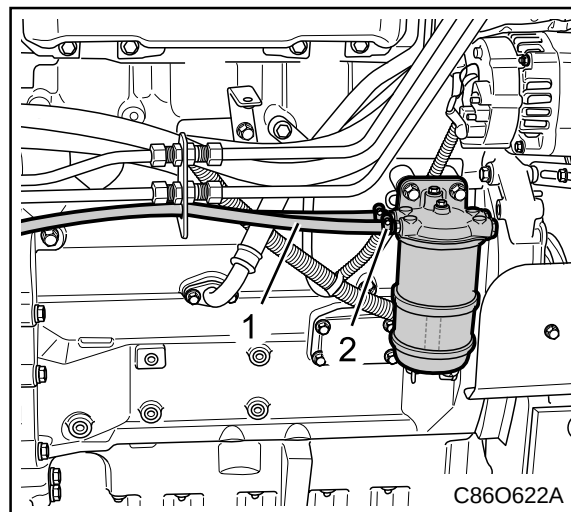
- Never operate tractor with a loose rim, wheel, or axle.
- Any time bolts and nuts are loosened, retighten to specified torque.
- Check all bolts and nuts frequently and keep them tight.

Check wheel bolts and nuts regularly especially when new. If they are loose, tighten them as above.

EVERY 100 HOURS ADJUSTING BRAKE PEDAL

- Look at page 6-13.

CHECKING FUEL LINE



(1) Fuel Lines

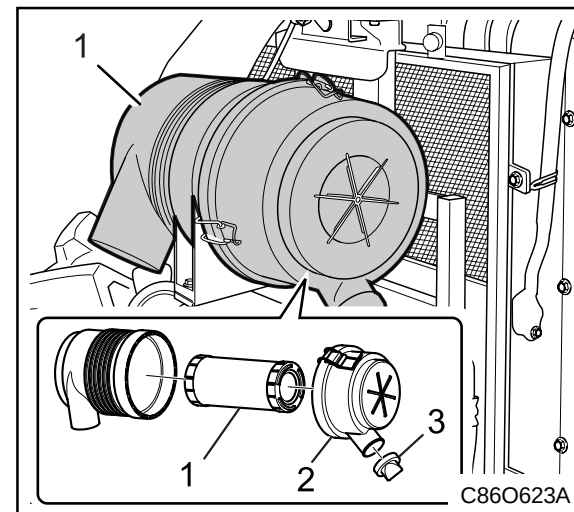
(2) Clamp Bands

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, replace or repair them at once.

NOTE

- If the fuel line is removed, be sure to properly bleed the fuel system. (See "Bleeding Fuel System" in as required maintenance)

CLEANING AIR CLEANER PRIMARY ELEMENT



(1) Element

(2) Cover

(3) Evacuator Valve

1. Remove the air cleaner cover and element.
2. Clean the element:
 - 1) When dry dust adheres to the element, blow compressed air from the inside, turning the element. The compressed air pressure must be below 686 kPa (7 kgf/cm³, 99 psi).

- 2) When carbon or oil adheres to the element, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.

3. Replace air cleaner element:

Once yearly or after every sixth cleaning, whichever comes first.

NOTE

- Check to see if the evacuator valve is blocked with dust.



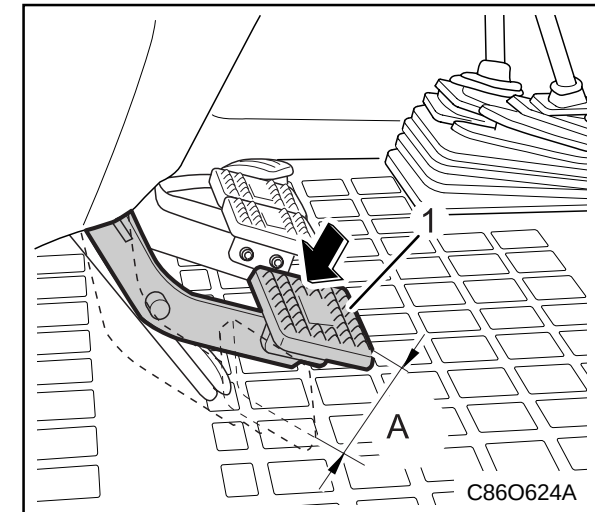
IMPORTANT

- The air cleaner uses a dry element, never apply oil.
- Do not run the engine with filter element removed.
- Be sure to refit the cover with the arrow ↑ (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element.
- Do not touch the secondary element except in cases where replacing is required. (See "Replacing Air Cleaner Secondary Element" in Every 1 Year maintenance.)

EVACUATOR VALVE

Open the evacuator valve once a week under ordinary conditions - or daily when used in a dusty place - to get rid of large particles of dust and dirt.

ADJUSTING CLUTCH PEDAL



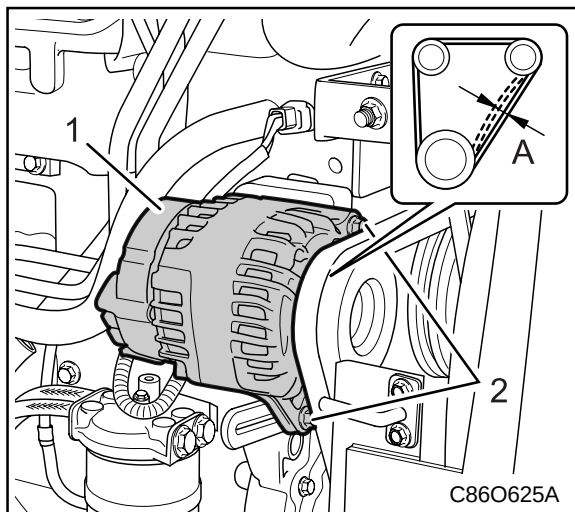
(1) Clutch Pedal

(A) Free Travel

Proper clutch
pedal free travel(A)

0 ~ 10 mm
(0 ~ 0.39 in.)
on the pedal

1. Stop the engine and remove the key.
2. Slightly depress the clutch pedal and measure free travel at top of pedal stroke.
3. If adjustment is needed, loosen the lock nut, remove the clevis pin and adjust the rod length within acceptable limits.
4. Retighten the lock nut and split the cotter pin.

ADJUSTING FAN BELT TENSION

(1) Generator (2) Bolt
(A) Check the Belt Tension

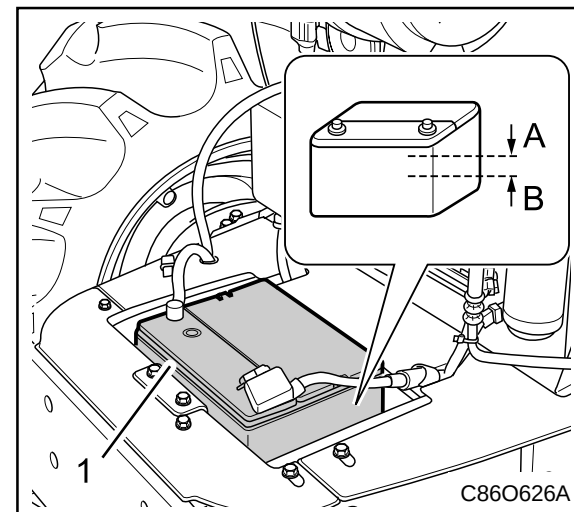
1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belts falls within acceptable limits.
4. Replace fan belt if it is damaged.

⚠ CAUTION

To avoid personal injury:

- Be sure to stop the engine before checking belt tension.

Proper fan belt tension (A)	A deflection of between 7 ~ 9 mm (0.28 ~ 0.34 in.) when the belt is pressed in the middle of the span.
-----------------------------	--

BATTERY

(1) Battery
(A) High (B) Low

⚠ CAUTION

To avoid personal injury:

- Never remove the vent caps while the engine is running.
- Keep electrolyte away from eyes, hands and clothes. If you are splattered with it, wash it away completely with water immediately and get medical attention.
- Wear eye protection and rubber gloves when working around the battery.

Mishandling the battery shortens the service life and adds to maintenance costs. The original battery is maintenance free, but needs some servicing.

If the battery is weak, the engine will be difficult to start and the lights will be dim. It is important to check the battery periodically.

BATTERY CHARGING

1. Make sure each electrolyte level is somewhere between the markings (A) and (B). Add a proper amount of distilled water up to the highest level as required.
2. The water in the electrolyte evaporates during recharging. Liquid shortage damages the battery. Excessive liquid spills over and damages the tractor body.
3. To slow charge the battery, connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
4. A boost charge is only for emergencies. It 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 do this will shorten the battery's service life.

5. When the specific gravity of electrolyte is between 1.27 and 1.29 the charging is completed.
6. When exchanging an old battery for a new one, use battery of equal specification shown in table 1.

Table 1

Battery TYPE	Volts (v)
100 AH	12

DIRECTION FOR STORAGE

1. When storing the tractor for a long period, remove the battery from tractor, adjust the electrolyte to the proper level and store in a dry place out of direct sunlight.
2. The battery self-discharges while it is stored.
Recharge it once every three months in hot seasons and once every six months in cold seasons.



CAUTION

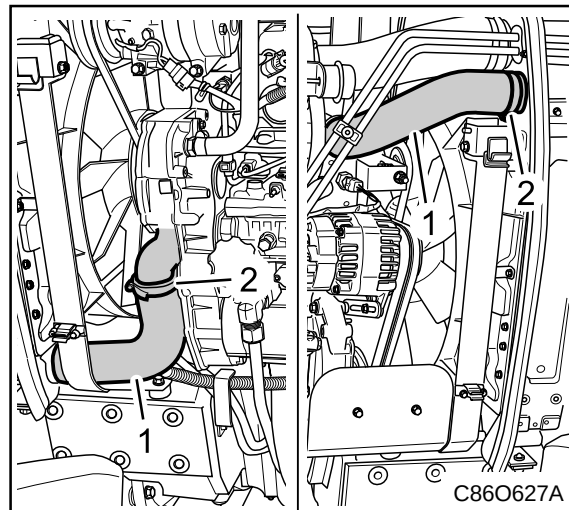
To avoid personal injury:

- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.
- When charging the battery, ensure the vent caps are securely in place. (If equipped)
- When disconnecting the cable from the battery, start with the negative terminal first.
- When connecting the cable to the battery, start with the positive terminal first.
- Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

EVERY 200 HOURS REPLACING HYDRAULIC OIL & TRANSMISSION OIL FILTER

- Look at page 6-12.

CHECKING RADIATOR HOSE AND CLAMP



(1) Radiator Hoses (2) Clamp

Check to see if radiator hoses are properly fixed every 200 hours of operation or six months, whichever comes first.

1. If hose clamps are loose, or water leaks, tighten the clamps securely.
2. Check radiator hoses. If hoses are swollen, hardened, or cracked, replace both the hose and the related clamps, and tighten securely.

Replace hoses and hose clamps every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.

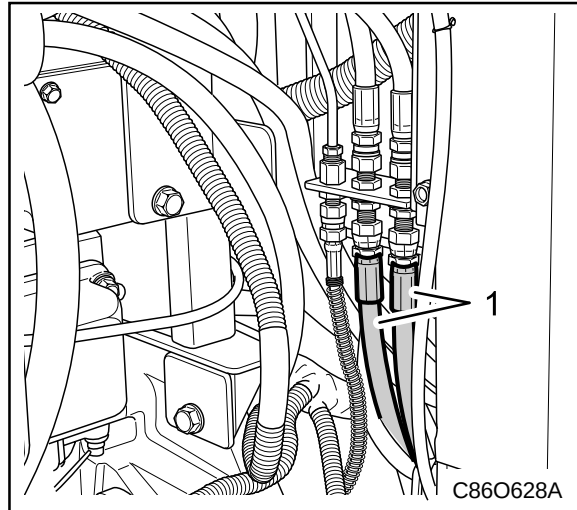
PRECAUTION AT OVERHEATING

Take the following actions in the event of engine “overheating”, an event that occurs when the engine coolant temperature is equal to or greater than its boiling point.

1. Stop the machine operation in a safe place and keep the engine unloaded idling.
2. Don't stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
3. Keep yourself well away from the machine for another 10 minutes or until the steam has stopped blowing out of the engine.
4. Allow the engine to cool sufficiently, before servicing the engine. Then follow the manual's “ Troubleshooting” section to find and repair the cause of the overheating. Do not start the engine again until all repairs are made.

A/C belt tension	Belt deflection should be 10 to 12 mm (0.394 to 0.472 in.) when pressing the center point of belt with the force of 10 kgf.
------------------	---

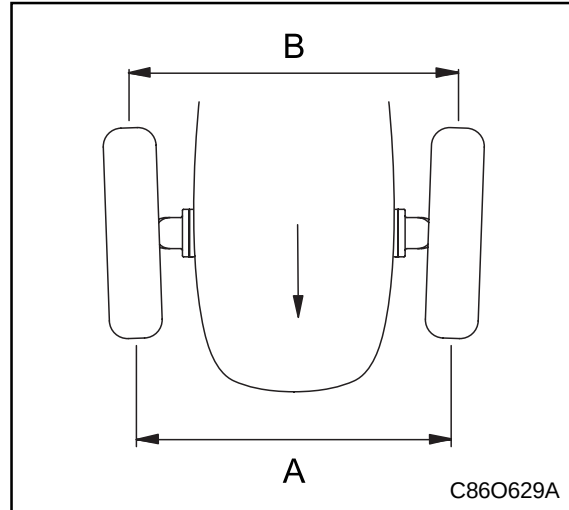
CHECKING POWER STEERING LINE



(1) Power Steering

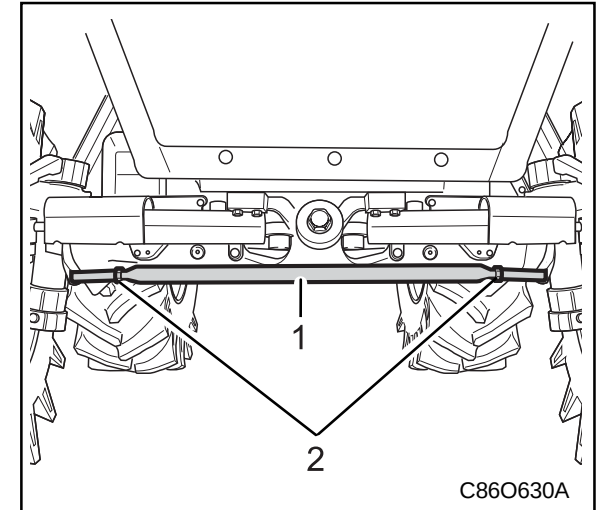
1. Check to see that all hydraulic lines and hose clamps are tight and undamaged.
2. If damage is found you should replace the hose or clamp at once.

ADJUSTING TOE-IN



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

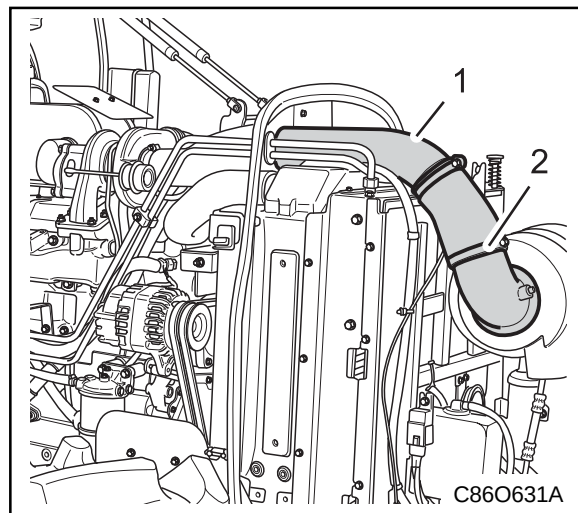
1. Park tractor on a flat surface.
2. Turn the steering wheel so front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure the distance between tire beads at front of tire, hub height.
5. Measure the distance between tire beads at rear of tire, hub height.
6. The front distance should be 2 to 8 mm less than rear distance. If not, adjust the tie rod length.



(1) Tie-Rod (2) Lock Nut

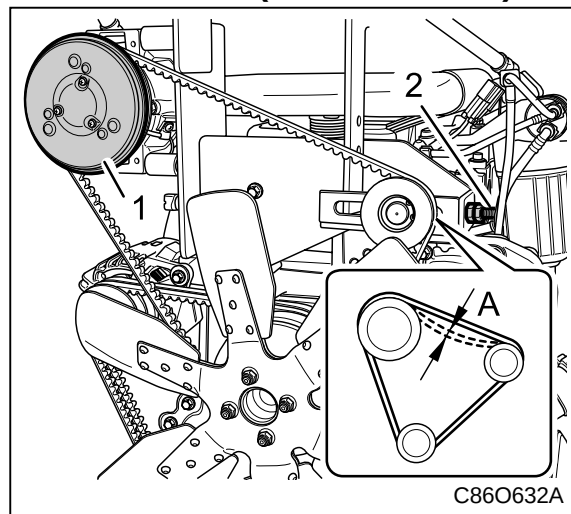
ADJUSTING PROCEDURE

1. Loosen the lock nut and turn the turn-buckle to adjust the rod length until the proper toe-in measurement is obtained.
2. Retighten the lock nut.

CHECKING AIR INTAKE LINE

(1) Intake Pipe (2) Clamp

1. Check the intake pipe and clamp.
2. Replace the damaged parts.

ADJUSTING AIR CONDITIONER BELT TENSION (CABIN MODEL)

(1) A/C Compressor (2) Adjusting Belt

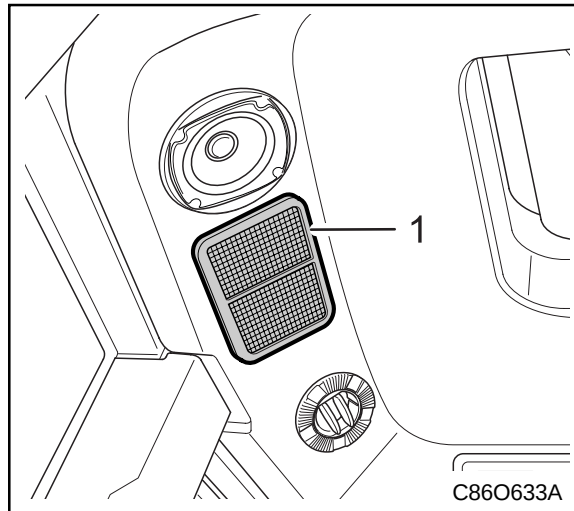
1. Stop the engine and remove the ignition key.
2. Check the belt tension.
3. If the tension is out of the specified range, adjust it.
4. Replace the belt with new one if it is damaged.

Fan belt tension	Belt deflection should be 10 to 12 mm (0.394 to 0.472 in.) when pressing the center point of belt with the force of 10 kgf.
------------------	---

**CAUTION**

- Stop the engine before adjusting the air conditioner belt tension.

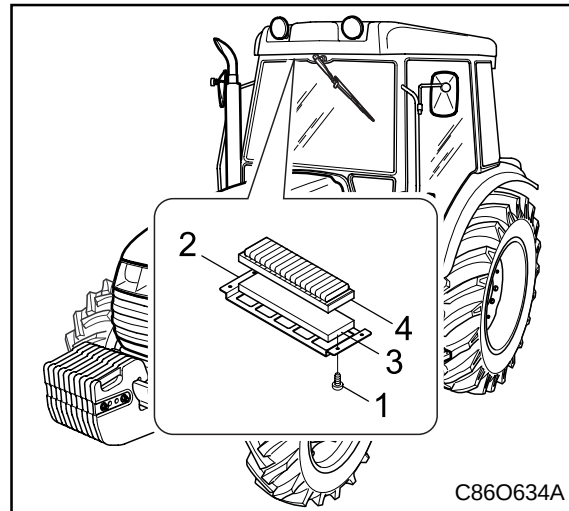
CLEANING INTAKE AIR FILTER



(1) Grille

1. Remove the air grille with a flat bladed screwdriver.
2. Clean the grille with a compressed air.

CLEANING AMBIENT AIR FILTER



(1) Bolts
(2) Cover

(3) Element
(4) Filter

1. Unscrew the bolts and remove the cover, element and filter.
2. Clean the filter and element with a compressed air.

EVERY 250 HOURS CHANGING ENGINE OIL

- Look at page 6-10.

CHANGING ENGINE OIL FILTER

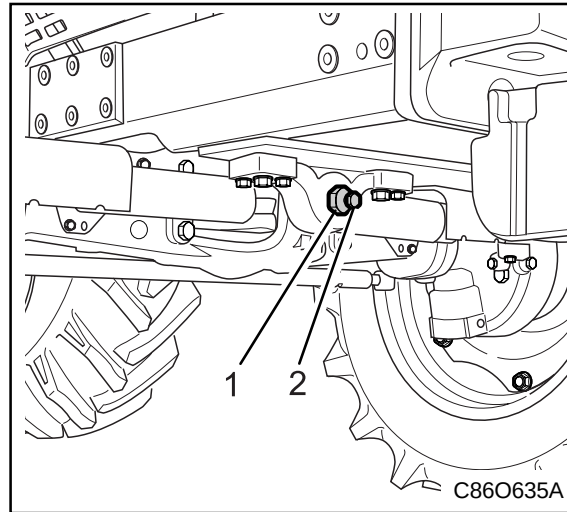
- Look at page 6-11.

EVERY 400 HOURS**CHANGING TRANSMISSION FLUID**

- Look at page 6-12.

CHANGING FRONT AXLE CASE OIL

- Look at page 6-13.

EVERY 600 HOURS**ADJUSTING FRONT AXLE PIVOT**

(1) Adjusting Screw (2) Lock Nut

If the front axle pivot pin adjustment is not correct, front wheel vibration can occur causing vibration in the steering wheel.

ADJUSTING PROCEDURE

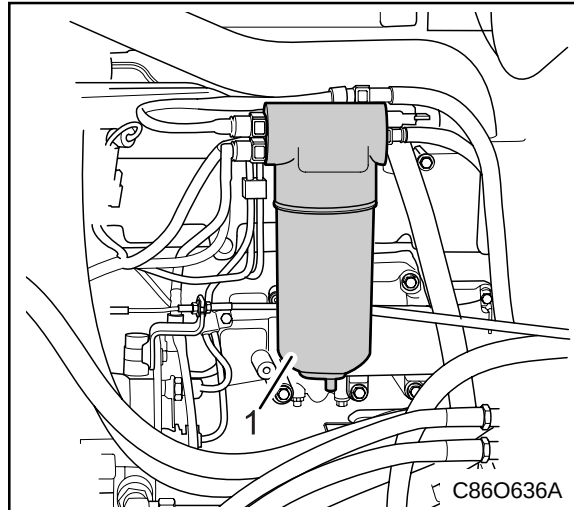
Loosen the lock nut, tighten the adjusting screw all the way, and then loosen the screw by 1/6 turn. Retighten the lock nut.

EVERY 800 HOURS**ADJUSTING ENGINE VALVE CLEAR-
ANCE**

Consult your local KIOTI DEALER for this service.

EVERY 1 YEAR

REPLACING FUEL FILTER ELEMENT



(1) Fuel Filter

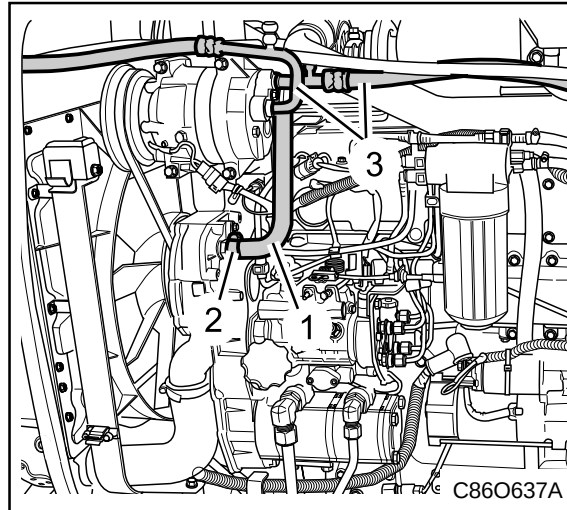
1. Clean the outer surface of fuel filter completely.
2. Remove the drain plug from the bottom of fuel filter to drain water and fuel.
3. Remove the filter case with a filter wrench.
4. Replace the element with new one.



CAUTION

- Be sure not to contact any dirt and foreign objects when replacing the element.

CHECKING HEATER HOSES AND A/C HOSES



(1) Heater Hose

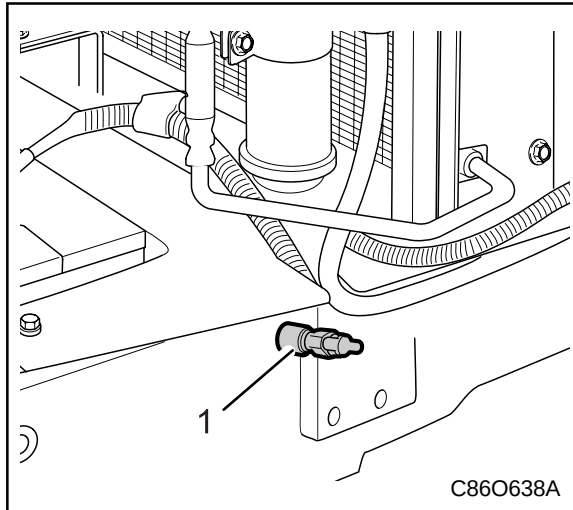
(3) A/C Hose

(2) Clamp

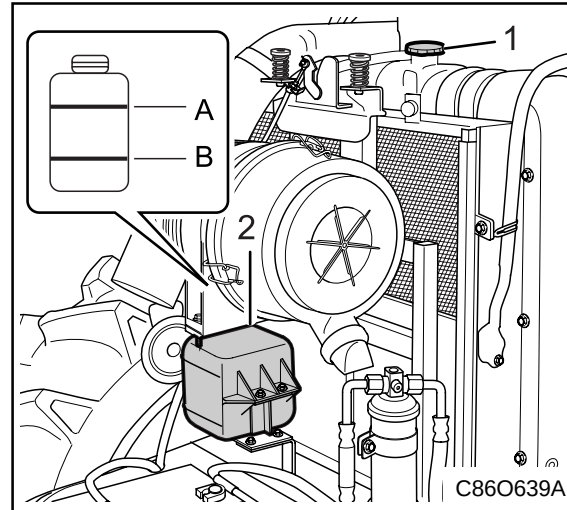
1. Check the hoses and clamps.
2. Replace the damaged parts.

EVERY 2 YEARS

FLUSH COOLING SYSTEM AND CHANGING COOLANT



(1) Drain Cock



(1) Radiator Cap (2) Recovery Tank
(A) Full (B) Low

⊕ IMPORTANT

- Do not start engine without coolant.
- Use clean, fresh water and anti-freeze to fill the radiator and recovery tank.
- When the anti-freeze is mixed with water, the anti-freeze mixing ratio must be less than 50%.
- Securely tighten radiator cap. If the cap is loose or improperly fitted, water may leak out and the engine could overheat.

⚠ CAUTION

To avoid personal injury:

- Do not remove the radiator cap when the engine is hot. Then loosen cap slightly to stop the relieve any excess pressure before removing cap completely.

1. Stop the engine and let it cool.
2. To drain the coolant, open the radiator drain plug and remove radiator cap. The radiator cap must be removed to completely drain the coolant.
3. After all coolant is drained, close the drain plug.
4. Fill with clean water and cooling system cleaner.
5. Follow the cleaner manufacture's instruction.
6. After flushing, fill with clean water and anti-freeze until the coolant level is just below the port.
7. Fill with coolant up to the "FULL" mark on the recovery tank.
8. Start and operate the engine for few minutes.
9. Stop the engine and let cool.
10. Check coolant level of recovery tank and add coolant if necessary.

Model	Coolant capacity
DK651	9.1 ℓ (2.4 U.S.gal.)
DK751/801/ 901	18.5 ℓ (4.9 U.S.gal.)

ANTI-FREEZE

If cooling water freezes, it can damage the cylinders and radiator. It is necessary, if the ambient temperature falls below 0°C (32°F), to remove cooling water after operating or to add anti-freeze to it.

1. There are two types of anti-freeze available; use the permanent type (PT) for this engine.
2. Before adding anti-freeze for the first time, clean the radiator interior by pouring fresh water and draining it a few times.
3. The procedure for mixing of water and anti-freeze differs according to the make of the anti-freeze and the ambient temperature, basically it should be referred to SAE J1034 standard, more specifically also to SAE J814c.
4. Mix the anti-freeze with water, and then fill into the radiator.

Vol % Anti-freeze	Freezing Point		Boiling Point*	
	°C	°F	°C	°F
40	-24	-12	106	222
50	-37	-34	108	226

- * At 760 mmHg pressure (atmospheric). A higher boiling point is obtained by using a radiator pressure cap which permits the development of pressure within the cooling system.

NOTE

- SAE J1034 and SAE J814c are industry standards that necessitate a minimum glycol content in the concentrated anti-freeze.
- When the cooling water level drops due to evaporation, add water only. In case of leakage, add anti-freeze and water in the specified mixing ratio.
- Anti-freeze absorbs moisture. Keep unused anti-freeze in a tightly sealed container.
- Do not use radiator cleaning agents when anti-freeze has been added to the cooling water. (Anti-freeze contains an anti-corrosive agent, which will react with the radiator cleaning agent forming sludge which will affect the engine parts.)

REPLACING RADIATOR HOSE (WATER PIPES)

Replace the hoses and clamps.

(See “Checking Radiator Hose and Clamp” in every 200 hours maintenance.)

REPLACING POWER STEERING HOSE

Replace the hoses and clamps.

(See “Checking power steering line” in every 200 hours maintenance.)

REPLACING FUEL HOSE

Replace the hoses and clamps.

(See “Checking Fuel line” in every 100 hours maintenance.)

SERVICE AS REQUIRED

BLEEDING FUEL SYSTEM

AIR MUST BE REMOVED

1. When the fuel filter or lines are removed.
2. When tank is completely empty.
3. After the tractor has not been used for a long period of time.

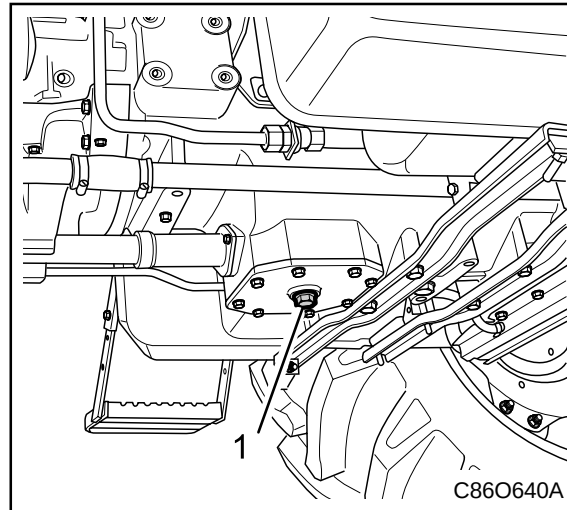
AIR BLEEDING

For Delphi fuel injection pump, the air in fuel system is automatically removed when running the engine for 3 minutes.

However, Bosch VE model cannot remove the air in fuel system automatically.

Consult your local KIOTI DEALER for this service.

DRAINING CLUTCH HOUSING WATER



(1) Plug

Your tractor is equipped with a plug under the clutch housing.

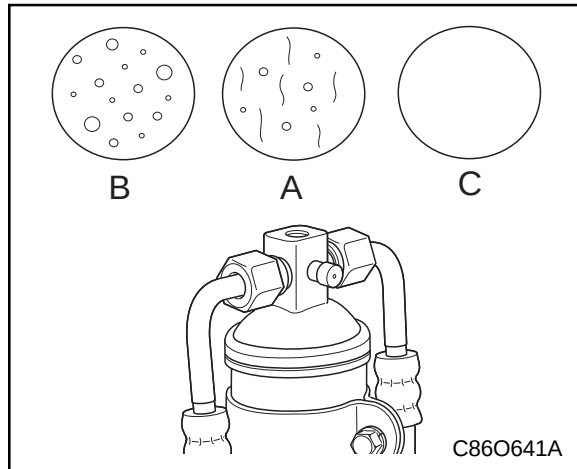
After you operate your tractor in the rain, snow, or after washing the tractor, water may get into the clutch housing. If this happens, remove the plug in the clutch housing and drain water. Remember to reinstall the plug to avoid serious damage to clutch.

REPLACING LIGHT BULB

1. Head lights and rear combination lights:
Take the bulb out of the light body and replace with a new one.
2. Other lights:
Detach the lens and replace the bulb.

Light	Capacity
Head lights	12V 55W/
Turn signal lights (Front)	60W
Turn signal lights (Rear)	12V 15W
Work light	12V 23W
Tail light (Front)	12V 35W
Stop light/Tail light (Rear)	12V 21W/8W
Instrument panel illumination	12V 3.4W
Except the bulb above (instrument panel)	14V 1.7W
Interior lamps (only for cabin model)	12V 10W

CHECKING REFRIGERANT

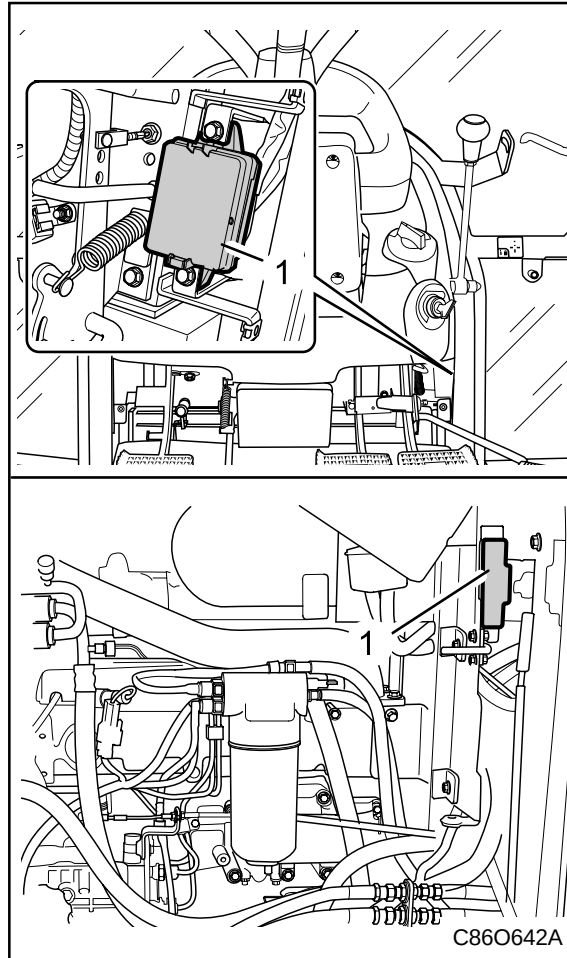


⚠ CAUTION

- Park tractor on a flat place and put the block on the wheel.
- Put forward/backward lever, Main shift lever and PTO lever in neutral.

1. Operate air conditioner with the following status.
 - Engine rpm : approx 1500 rpm
 - Temperature control lever : at the point of maximum cooling temperature
 - Blower control switch : high
 - Air conditioner switch : ON
2. Open hood and check the receiver window.
 - A. Normal : air bubbles sometimes pass.
 - B. Shortage : air bubbles pass continually.
 - C. Overage : no air bubble passes.

REPLACING FUSE



(1) Fuse Box

The tractor electrical system is protected from potential damage by fuses.

A blown fuse indicates that there is an overload or short somewhere in the electrical system.

If any of the fuses should blow, replace with a new one of the same capacity.

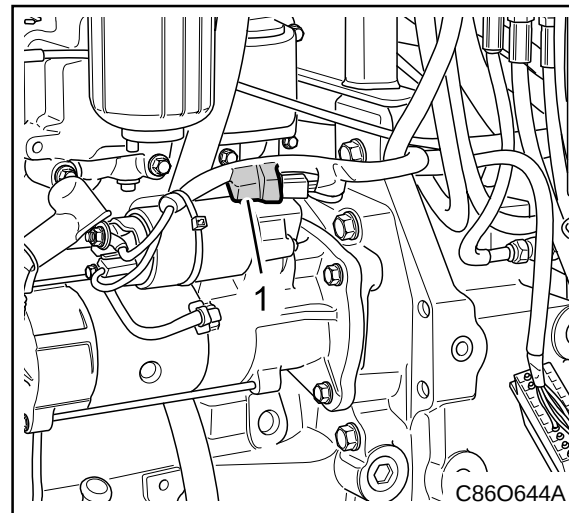
⚡ IMPORTANT

- Before replacing a blown fuse, determine why the fuse blew and make any necessary repairs. Failure to follow this procedure may result in serious damage to the tractor electrical system. Refer to the troubleshooting section of this manual or your local KIOTI Dealer for specific information dealing with electrical problems.

SPARE 7.5A				SPARE 7.5A					
7.5A	15A	25A	5A					15A	25A
FUEL PUMP	WORK LAMP	AIR CON	CIGAR LIGHTER					SPARE	SPARE

10A	15A	15A	5A	15A	5A
REFRIGERATOR	WIPER MOTOR	STREO	HORN	FLASHER	ROOM LAMP
SPARE FUSE		10A	15A	25A	
20A	10A	25A	10A	25A	FUSE HOLDER
SOLENOID POWER	UNIT	BACK LAMP /DEFROST	METER PANEL	HEAD LAMP	
Part No.		T4816-69101			
Use only the rating capacity fuse.					

C86O643A



(1) *Slow Blow Fuse*

Fuse

Capacity (A)	Protected circuit
20	Turn signal lights
10	Work light
15	Head lights / Tail light
15	Timer relay
10	Stop lights
15	Customer use

Slow Blow Fuse

Capacity (A)	Protected circuit
60	Whole

7

LONG-TERM STORAGE

REMOVING THE TRACTOR FROM STORAGE

INSTRUCTIONS FOR LONG-TERM STORAGE

1. Make any repairs and adjustments that are needed.
2. Change the engine oil, and then let the engine run for about 5 minutes so that the oil goes through all parts of the engine.
3. Inspect and perform any scheduled maintenance that is due.
4. Apply a light coat of grease to any parts that are likely to rust.
5. Ensure that the cooling system contains the proper amount of antifreeze; or completely drain the cooling system.
6. Remove the drain plug and drain any water from the clutch housing.
7. Inflate the tires to the maximum rated air pressure
8. Disconnect the negative (-) battery cable.
9. Remove all wheel weights and counterweights. Remove or lower implements.
10. Raise the tractor and install suitable supports under the axles to keep the tractor off the ground.
11. Store the tractor indoors or cover it completely with a weather-proof cover.
12. During long-term storage, charge the battery by operating the tractor for 30 minutes every 2 months.

REMOVING THE TRACTOR FROM STORAGE

1. Check the tire air pressure and inflate the tires if they are low.
2. Jack the tractor up and remove the support blocks from under the front and rear axles.
3. Charge the battery, if needed; and reconnect the negative (-) battery cable.
4. Check the fan belt condition and tension.
5. Check all fluid levels (engine oil, transmission/hydraulic oil, engine coolant and any attached implements.)
6. Start the engine. Observe all gauges and indicator lights. If all gauges are functioning properly and reading normal, move the tractor outside. Once outside, park the tractor and let the engine idle for at least five minutes. Shut the engine off and walk around the tractor making a visual inspection. Check for leaks and malfunctions.
7. Restart the engine and allow it to reach the normal operating temperature. With the engine fully warmed up, release the parking brake and test the brakes for proper adjustment as you carefully move forward. Adjust the brakes, as necessary.

8 TROUBLESHOOTING

MAJOR PROBLEM AND POSSIBLE CAUSES

In case of engine problems, use the following charts to determine possible causes.

PROBLEMS	POSSIBLE CAUSES	
	CHECKS BY THE USER	CHECKS BY THE WORK PERSONNEL
The starter motor turns the engine too slowly	1,2,3,4	
The engine does not start.	5,6,7,8,9,10,12,13,14	34,35,36,37,38,42,43,44
The engine is difficult to start.	5,6,7,8,9,10,12,13,14,15,16,17,19	34,36,37,38,40,42,43,44
Insufficient engine power output	8,9,10,12,13,16,17,18,19, 20,21	34,36,37,38,40,42,43,44
Engine misfire	8,9,10,12,13,15,20,22,62	34,36,37,38,39,40,41,43
High fuel consumption	11,13,15,17,18,19,21,22	34,36,37,38,39,40,42,43,44
Black exhaust smoke	11,13,15,17,19,21,22	34,36,37,38,39,40,42,43,44
Blue or white exhaust smoke	4,15,21,23,62	36,37,38,39,42,44,45,52,58
Low oil pressure.	4,24,25,26	46,47,48,50,51,59
Engine knocking.	9,13,15,17,20,22,23,62	36,37,40,42,42,44,46,52,53,60
Engine runs erratically	7,8,9,10,11,12,13,15,16,18,20,22,23	34,38,39,40,41,44,52,60
Vibration	13,18,20,27,28	34,38,39,40,41,44,52,54
High oil pressure	4,25	49
Engine overheating	11,13,15,19,27,29,30,32,61	34,36,37,39,52,55,56,57
Crankcase pressure	31,33	39,42,44,45,52
Bad compression	11,22	37,39,40,42,43,44,45,53,60
Engine stops right after starting	10,11,12	

NOTE

- If you do not find the cause of trouble, consult your dealer for assistance.

LIST OF POSSIBLE CAUSES

1. Battery capacity low. 2. Bad or corroded electrical connections. 3. Faulty starter motor. 4. Wrong grade of lubricating oil. 5. Starter motor turns engine too slowly. 6. Fuel tank empty. 7. Fault in fuel shutoff. 8. Restriction in a fuel line. 9. Faulty fuel pump. 10. Dirty fuel filter element. 11. Dirty or damaged air filter. 12. Air in fuel system. 13. Faulty fuel injectors or incorrect type. 14. Cold start system used incorrectly. 15. Fault in cold start system. 16. Restriction in fuel tank vent. 17. Wrong type or grade of fuel used. 18. Restricted movement of engine speed control. 19. Restriction in exhaust pipe. 20. Engine temperature is too high. 21. Engine temperature is too low. 22. Incorrect valve tappet clearances. 23. Air filter incorrectly installed or wrong type; or air intake blockage.	24. Low oil level. 25. Defective gauge. 26. Dirty lubricating oil filter element. 27. Cooling fan damaged. 28. Fault in engine mounting or flywheel housing. 29. Engine oil overfilled. 30. Restriction in air or water passages of radiator. 31. Restriction in breather pipe. 32. Insufficient coolant in system. 33. Vacuum line leaks or fault in crank-case vent. 34. Fault in fuel injection pump. 35. Broken drive on fuel injection pump. 36. Timing of fuel injection pump is incorrect. 37. Valve timing is incorrect. 38. Bad compression. 39. Cylinder head gasket leaks. 40. Valve damaged or sticking. 41. Fuel injector sticking, or clogged in-jector nozzle. 42. Worn or damaged cylinder bores. 43. Leakage between valve and seats.	44. Piston rings are stuck, worn or broken. 45. Valve stems and/or guides are worn. 46. Crankshaft bearings are worn or damaged. 47. Lubricating oil pump is worn. 48. Relief valve does not close. 49. Relief valve does not open. 50. Relief valve spring is broken. 51. Oil pump suction blocked or damaged. 52. Piston is damaged. 53. Piston height is incorrect. 54. Flywheel housing or flywheel is not aligned correctly. 55. Sticking or incorrect type of thermostat. 56. Restriction in coolant passages. 57. Water pump failure. 58. Valve stem seal is damaged (If equipped). 59. Oil sump strainer clogged. 60. Valve spring is broken. 61. Drive belt for water pump is loose. 62. Faulty cold start switch/faulty wiring.
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9

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