

Foreword



MX45 Operator's Manual

Issue number 1.0/OM-4/03

Part number 054-107

Copyright 2003

by The Charles Machine Works, Inc.



, Ditch Witch, AutoCrowd, Modularmatic, Jet Trac, Roto Witch, Subsite, Fluid Miser, Sidekick, Perma-Soil, Power Pipe, Super Witch, Super Witch II, Pierce Arrow, and The Underground are registered trademarks of The Charles Machine Works, Inc.

CMW and The Underground Authority Worldwide are pending trademarks of The Charles Machine Works, Inc.

Your Machine Serial Numbers and Dealer

Machine serial no.	
Engine serial no.	
Dealer name	
Address	
Service personnel	
Phone/fax	

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

 **WARNING**

Please read and make sure that you fully understand the precautions described in this manual and the safety labels on the machine. When operating or servicing the machine, always follow these precautions strictly.



Safety Labels

The following warning signs and safety labels are used on this machine.

- Be sure that you fully understand the correct position and content of labels.
- To ensure that the content of labels can be read properly, be sure that they are in the correct place and always keep them clean. When cleaning them, do not use organic solvents or gasoline. These may cause the labels to peel off.
- There are also other labels in addition to the warning signs and safety labels. Handle those labels in the same way.
- If the labels are damaged, lost, or cannot be read properly, replace them with new ones. For details of the part numbers for the labels, see this manual or the actual label, and place an order with your Ditch Witch dealer.

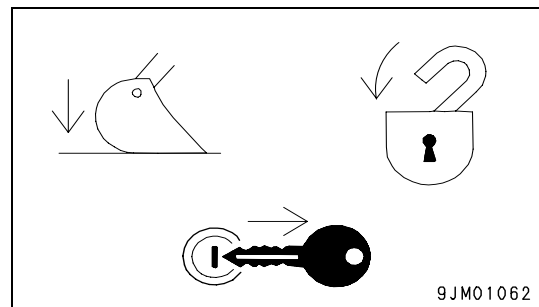
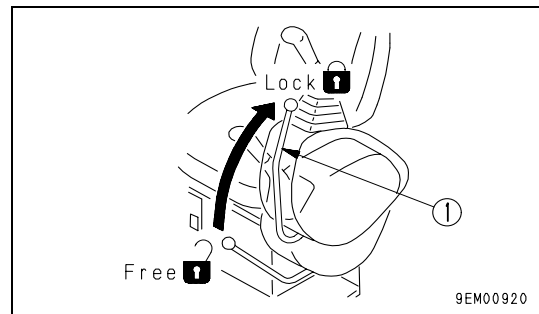
Keep Operator's Compartment Clean

- When entering the operator's compartment, always remove all mud and oil from the soles of your shoes. If you operate the pedal with mud or oil affixed to your shoes, your foot may slip and this may cause a serious accident.
- Do not leave parts or tools lying around the operator's compartment.
- Do not stick suction pads to the window glass. Suction pads act as a lens and may cause fire.
- Do not use cellular telephones inside the operator's compartment when driving or operating the machine.
- Never bring any dangerous objects such as flammable or explosive items into the operator's compartment.



Leaving Operator's Seat with Lock

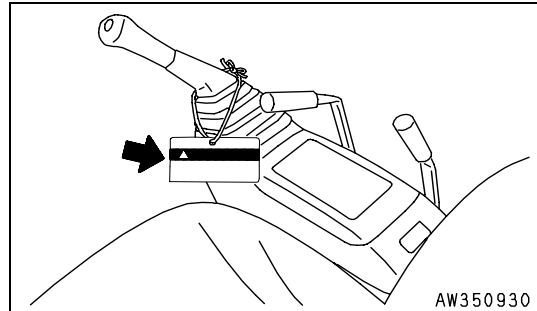
- Before standing up from the operator's seat (such as when opening or closing the front window, installing or removing the bottom window, or adjusting the operator's seat), always lower the backhoe completely to the ground, set safety lock lever (1) securely to the LOCK position, then stop the engine. If you accidentally touch the levers when they are not locked, there is a hazard that the machine may suddenly move and cause serious injury or property damage.
- When leaving the machine, always lower the backhoe completely to the ground, set safety lock lever (1) securely to the LOCK position, then stop the engine. Use the key to lock all the equipment. Always remove the key, take it with you, and keep it in the specified place.



Safe Machine Operation

Starting Engine

If there is a warning tag hanging from the attachment control lever, do not start the engine or touch the levers.



Checks Before Starting Engine

Carry out the following checks before starting the engine at the beginning of the day's work.

- Remove all dirt from the surface of the window glass to ensure a good view.
- Remove all dirt from the surface of the lens of the working lamps and check that they light up correctly.
- Check the coolant level, fuel level, and oil level in engine oil pan, check for clogging of the air cleaner, and check for damage to the electric wiring.
- Adjust the operator's seat to a position where it is easy to carry out operations, and check that there is no damage or wear to the seat belt or mounting clamps.
- Check that the gauges work properly, check the angle of the lights and working lamps, and check that the control levers are all at the neutral position.
- Before starting the engine, make sure that the safety lock lever is in the LOCK position.
- Adjust the mirror to a position which gives a good view to the rear from the operator's seat. When adjusting, see "Rearview Mirrors" on page 95.
- Check that there are no persons or obstacles above, below, or in the area around the machine.

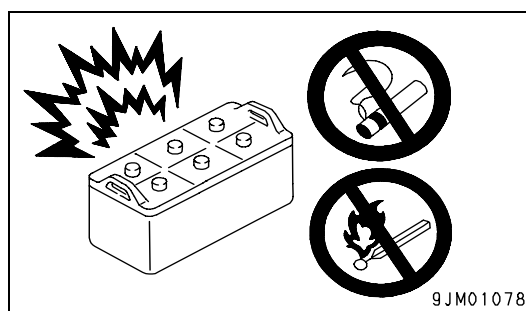
Battery

Battery Hazard Prevention

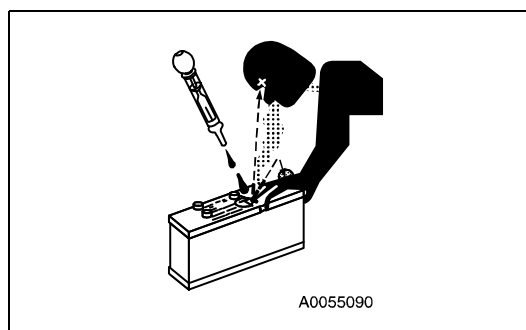
Battery electrolyte contains sulfuric acid, and batteries generate flammable hydrogen gas, which may explode. Mistaken handling can lead to serious injury or fire. For this reason, always observe the following precautions.



- Do not use or charge the battery if the battery electrolyte level is below the LOWER LEVEL line. This may cause an explosion. Always check the battery electrolyte level periodically and add distilled water to bring the electrolyte level to the UPPER LEVEL line.
- When working with batteries, always wear safety glasses and rubber gloves.
- Never smoke or use any flame near the battery.



- If you spill acid on your clothes or skin, immediately flush the area with large amount of water.
- If acid gets into your eyes, flush them immediately with large amount of water and seek medical attention.



- Before working with batteries, turn the starting switch to the OFF position.

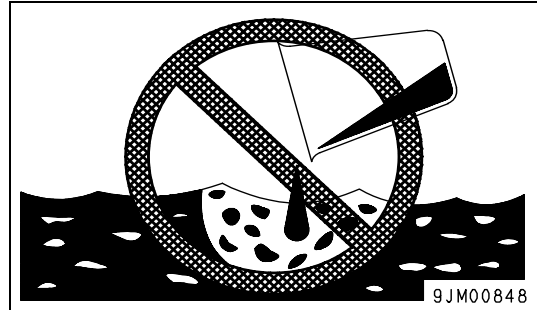
As there is a hazard that sparks will be generated, always do as follows.

- Do not let tools or other metal objects make any contact between the battery terminals. Do not leave tools or other metal objects lying around near the battery.
- Always disconnect the negative (-) terminal (ground side) first when removing the battery; when installing the battery, connect the positive (+) terminal first, and connect the ground last. Tighten the battery terminals securely.
- Flammable hydrogen gas is generated when the battery is charged, so remove the battery from the chassis, take it to a well-ventilated place, and remove the battery caps before charging it.
- Tighten the battery caps securely.
- Install the battery securely to the determined place.

Waste Materials

To prevent pollution, pay careful attention to the method of disposing of waste materials.

- Always put oil drained from your machine in containers. Never drain oil directly onto the ground or dump into the sewage system, rivers, the sea, or lakes.
- Obey appropriate laws and regulations when disposing of harmful objects such as oil, fuel, coolant, solvent, filters, and batteries.



Air Conditioner Maintenance

If air conditioner refrigerant gets into your eyes, it may cause blindness; if it touches your skin, it may cause frostbite. Never touch refrigerant.

Compressed Air

- When cleaning with compressed air, there is a hazard of serious injury caused by flying particles.
- When using compressed air to clean elements or the radiator, always wear safety goggles, dust mask, gloves, and other protective equipment.

Periodic Replacement of Safety Critical Parts

- For using the machine safely for an extended period of time, replace safety-critical parts like hoses and seat belts periodically.
- The material of these components naturally changes over time, and repeated use causes deterioration, wear, and fatigue. As a result, there is a hazard that these components may fail and cause serious injury or death. It is difficult to judge the remaining life of these components from external inspection or the feeling when operating, so always replace them at the specified interval.
- Replace or repair safety-critical parts if any defect is found, even when they have not reached the time specified interval.

Gauges and Meter

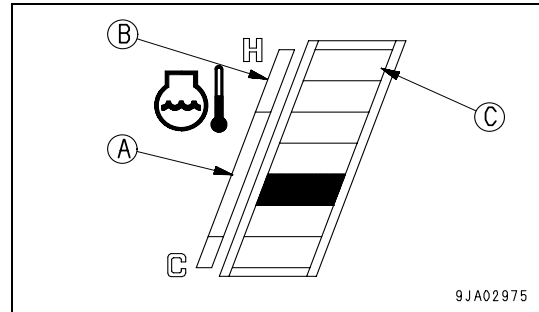
- **Engine Coolant Temperature Gauge**

This meter (2) shows the engine coolant temperature.

During normal operation, the lamp should light up in the green range (A).

If the lamp in the red range (B) lights up during operation, run the engine at low idle and wait for the temperature to go down to the green range (A).

After starting the engine, warm up it until the green range lights up.



REMARK

Only segment (C) flashes, and the alarm buzzer sounds at the same time.

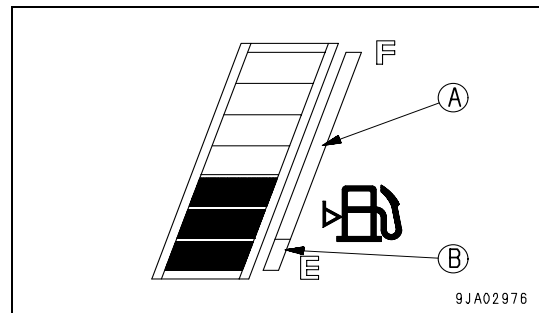
- **Fuel Gauge**

This meter (3) shows the fuel level in the fuel tank.

During normal operation, the lamp should light up in the green range (A).

If the lamp's red range (B) flashes during operation, there is less than 6 L (1.59 gal) of fuel remaining, so check and add fuel.

The correct level may not be displayed for a short time after the starting switch is turned to the ON position, but this is not an abnormality.



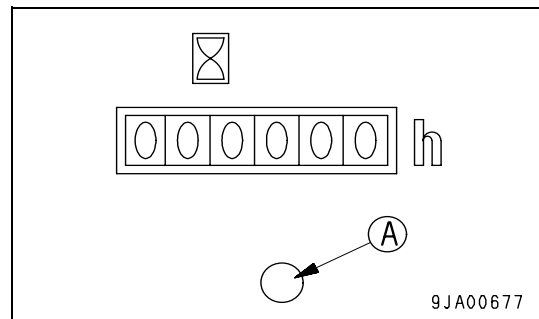
- **Service Meter**

This meter (4) shows the total operation hours of the machine. Set the periodic maintenance intervals using this display.

The service meter advances while the engine is running - even if the machine is not traveling.

While the engine is running, operation display (A) at the top inside of the meter will light to show that the meter is advancing.

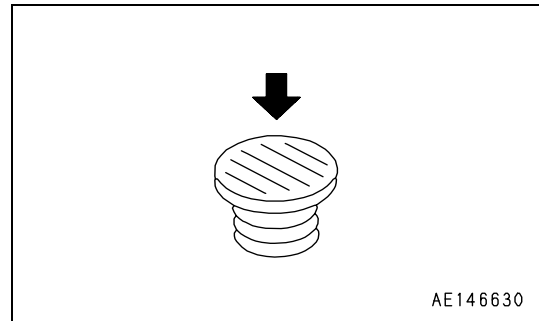
The meter will advance by 1 for each 1/10 hour of operation regardless of the engine speed.



Traveling Accelerator Pedal

If the pedal (9) is depressed, the machine speed will increase.

For details of the travel speed values, see "Specifications" on page 211.

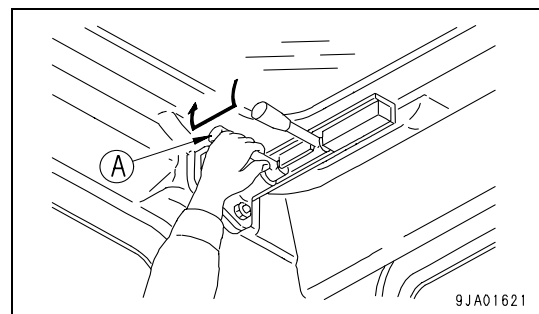
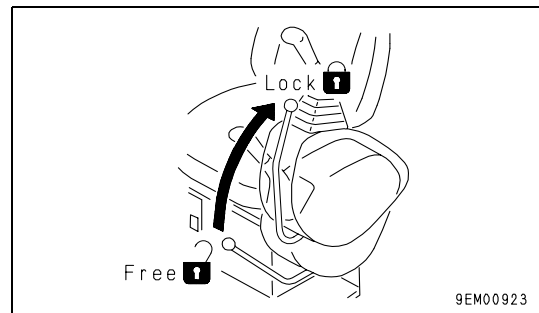


Windshield

(Machine equipped with cab)

WARNING

- When opening or closing the front window, bottom window, or the door, be sure to first set the safety lock lever to the LOCK position.
- If the control levers are not locked and touched by accident, a serious personal injury may be caused.
- When opening or closing the front window, park the machine on the flat ground, lower the backhoe to the ground, then stop the engine.
- When opening the front window, hold the grips securely with both hands, pull it up and do not release it until it clicks into the automatic lock catch.
- The pulled-up front window may drop under its own weight, so be sure to lock it with the right and left pins (A).
- When closing the front window, hold the grips securely with both hands and pull it down slowly.



It is possible to stow (pull up) the front window in the roof of the operator's compartment.

Mud Cover

WARNING

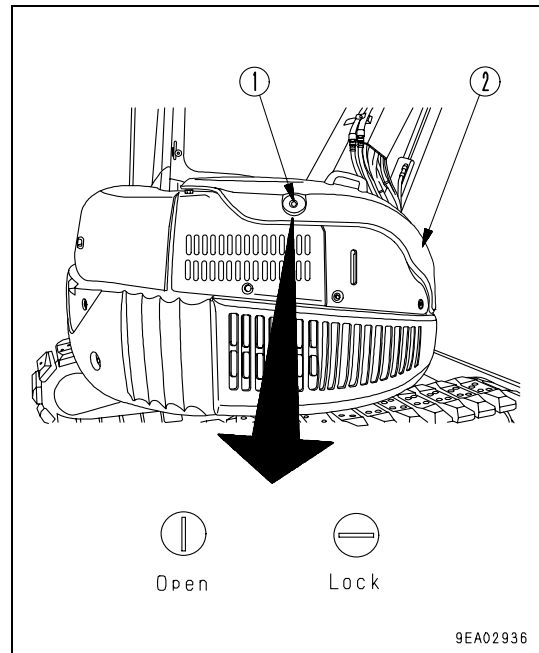
When carrying out inspection or maintenance inside the cover, open the cover and be sure to fix it securely in position with the stopper.

NOTICE

Always keep the hood locked except when opening it. Check the direction of the key slot in the opening knob to check that it is locked.



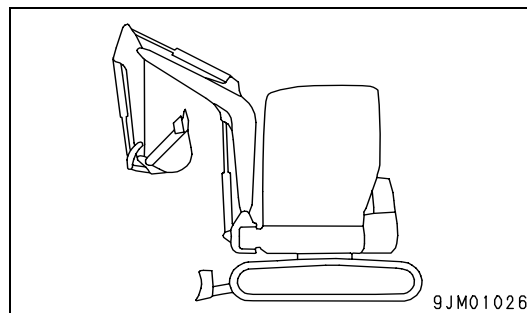
1. Release lock (1) of the mud cover.
(For details see "Opening and Closing Covers with Lock" on page 79.)
2. Push mud cover opening knob (1) and open cover (2).



4. Extend the boom, arm, and bucket cylinder fully as shown in the diagram on the right, remove the oil filler cap, then install the cap and pressurize the inside of the tank.

NOTICE

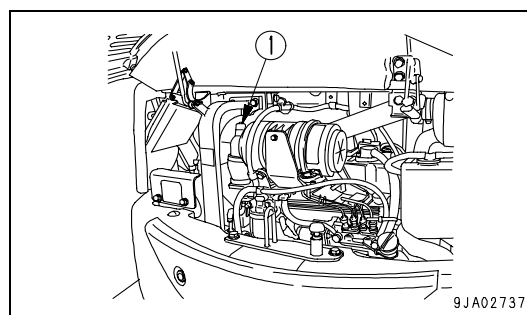
Be sure to pressurize the hydraulic tank. If it is not pressurized, the pump will suck in air, and this will adversely affect the equipment.



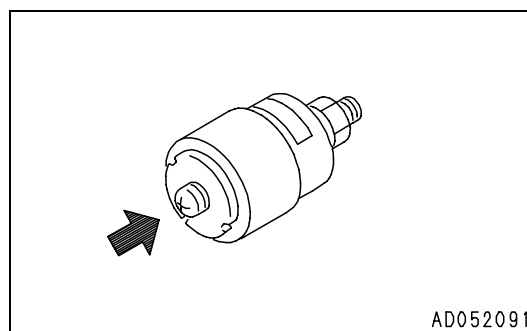
Check Dust Indicator

1. Open the engine hood and check that the red piston is not showing in dust indicator (1).
2. If the red piston has appeared, clean or replace the element immediately.

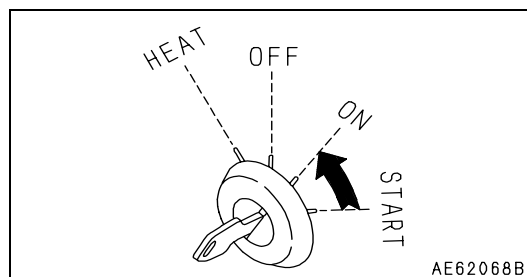
For details of the method of cleaning the element, see "Check, Clean, and Replace Air Cleaner Element" on page 169.



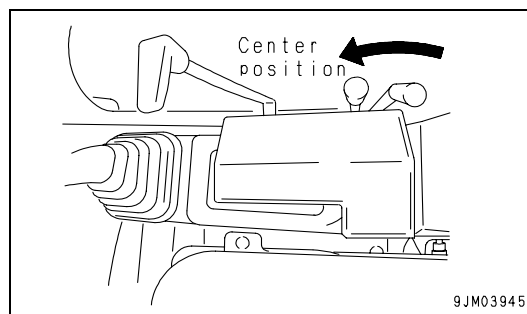
3. After checking, cleaning, and replacing, press the knob of dust indicator (1) to return the red piston to its original position.



5. When the engine starts, release the key in starting switch (2). The key will return automatically to the ON position.



6. Return fuel control lever (1) to a position midway between the low idle and full speed positions.



After Starting Engine

WARNING

- Emergency stop: If there has been any abnormal actuation or trouble, turn the starting switch key to the OFF position.
- If the attachment is operated without warming the machine up sufficiently, the response of the attachment to the movement of the control lever will be slow, and the attachment may not move as the operator desires, so always carry out the warming-up operation. Particularly in cold areas, be sure to carry out the warming-up operation fully.

Breaking In the New Machine

CAUTION

Your Ditch Witch machine has been thoroughly adjusted and tested before shipment. However, operating the machine under severe conditions at the beginning can adversely affect the performance and shorten the machine life. Be sure to break in the machine for the initial 100 hours (as indicated by the service meter). During break-in operations, follow the precautions described in this manual.

- Idle the engine for 5 minutes after starting it up.
- Avoid operation with heavy loads or at high speeds.
- Immediately after starting the engine, avoid sudden starts, sudden acceleration, unnecessary sudden stops, and sudden changes in direction.

Swinging

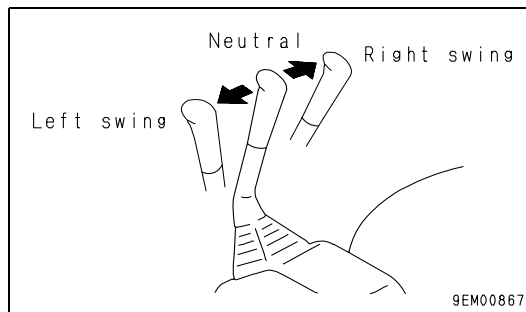
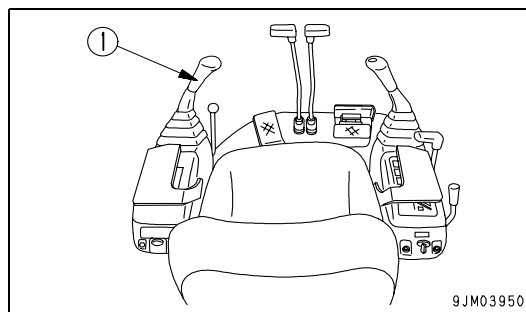
WARNING

When operating the swing, check that the area around the machine is safe.

1. Operate left backhoe control lever (1) to swing the upper structure.
2. When not using the swing, set left backhoe control lever (1) to the N position. The swing holding brake will be applied.

REMARK

- When using the swing on a slope, run the engine at low idle and operate the swing lever extremely slowly. Be particularly careful to avoid sudden movement when the bucket is loaded.
- When the bucket is loaded and the left backhoe control lever is operated, the swing holding brake is released, so the upper structure may swing momentarily, but this is not an abnormality.



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

Recommended Applications

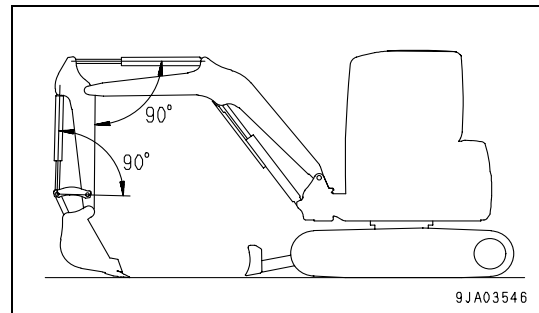
In addition to the following, it is possible to further increase the range of applications by using various attachments.

Backhoe Work

A backhoe is suitable for excavating at a position lower than the machine.

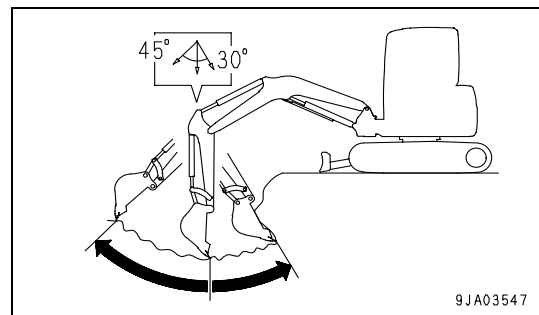
When the condition of the machine is as shown in the diagram at right, each cylinder's maximum pushing excavation force is obtained when the bucket cylinder and link, arm cylinder and arm are at 90°.

When excavating, use this angle effectively to optimize your work efficiency.



The range for excavating with the arm is from a 45° angle away from the machine to a 30° angle toward the machine.

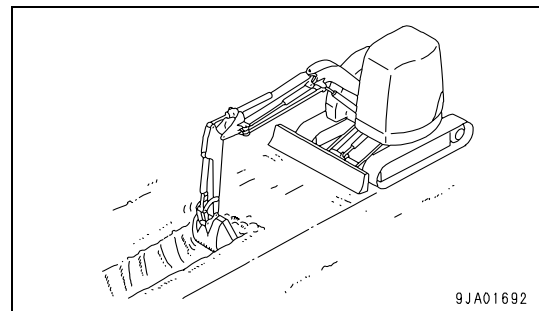
There may be some differences depending on the digging depth. Try to keep within the above range rather than operating to the end of the cylinder stroke.



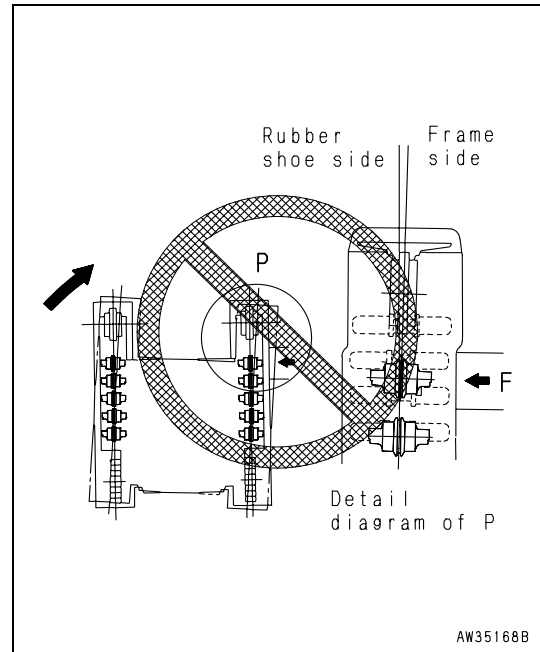
Ditching Work

Ditching work can be performed efficiently by attaching a bucket which matches the digging operation and then setting the tracks parallel to the line of the ditch to be excavated.

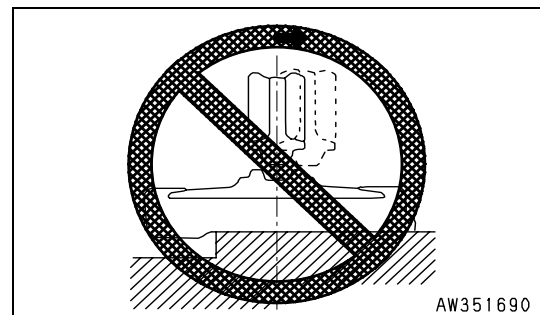
To excavate a wide ditch, first dig both sides and then finally remove the center portion.



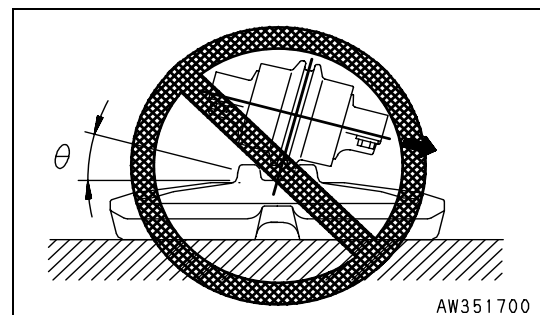
- When turning in a condition where the track shoe cannot move to the side because of the object it is passing over, or because of some other object.
- When the track shoe has moved out of alignment and the idler or track roller are not aligned with the core.



- If the machine travels in reverse in this condition, the track shoe will come off.



- If the machine is turned in this condition, the track shoe will come off.



Battery

WARNING

- The battery generates flammable gas, so do not bring fire or sparks near the battery.
- Battery electrolyte is dangerous. If it gets in your eyes or on your skin, wash it off with a large amount of water and consult a doctor.
- Battery electrolyte dissolves paint. If it gets on to the bodywork, wash it off immediately with water.
- If the battery electrolyte is frozen, do not charge the battery or start the engine with a different power source. There is danger that the battery may explode.
- Battery electrolyte is toxic, so do not let it flow into drainage ditches or spray it on to the ground surface.



When the ambient temperature drops, the capacity of the battery will also drop. If the battery charge ratio is low, the battery electrolyte may freeze. Maintain the battery charge as close as possible to 100%, and insulate it against cold temperature so that the machine can be started easily the next morning.

REMARK

Measure the specific gravity and calculate the rate of charge from the following conversion table.

Charging Rate(%)	Temperature (°C)			
	20	0	-10	-20
100	1.28	1.29	1.30	1.31
90	1.26	1.27	1.28	1.29
80	1.24	1.25	1.26	1.27
75	1.23	1.24	1.25	1.26

- As the battery capacity drops markedly in low temperatures, cover the battery or remove it from the machine, keep it in a warm place, and install it again the next morning.
- If the electrolyte level is low, add distilled water in the morning before beginning work. Do not add the water after the day's work so as to prevent fluid in the battery from freezing in the night.

Other Trouble

Electrical System

- (): Always contact your Ditch Witch dealer when dealing with these items.
- In cases of abnormalities or causes which are not listed below, please contact your Ditch Witch dealer for repairs.

Problem	Main cause	Remedy
Lamp does not glow brightly even when the engine runs at high speed	<ul style="list-style-type: none"> • Defective wiring 	<ul style="list-style-type: none"> • (Check, repair loose terminals, disconnections)
Lamp flickers while engine is running	<ul style="list-style-type: none"> • Defective adjustment of fan belt tension • Blown fuse 	<ul style="list-style-type: none"> • Adjust fan belt tension, see EVERY 250 HOURS SERVICE • Replace
Charge level monitor does not go out even when engine is running	<ul style="list-style-type: none"> • Defective alternator • Defective wiring 	<ul style="list-style-type: none"> • (Replace) • (Check, repair)
Abnormal noise is generated from alternator	<ul style="list-style-type: none"> • Defective alternator 	<ul style="list-style-type: none"> • (Replace)
Starting motor does not turn when starting switch is turned to ON	<ul style="list-style-type: none"> • Defective wiring • Insufficient battery charge • Blown fuse 	<ul style="list-style-type: none"> • (Check, repair) • Charge • Replace
Starting motor pinion repeatedly moves in and out (makes rattling sound)	<ul style="list-style-type: none"> • Insufficient battery charge 	<ul style="list-style-type: none"> • Charge
Starting motor turns engine sluggishly	<ul style="list-style-type: none"> • Insufficient battery charge • Defective starting motor 	<ul style="list-style-type: none"> • Charge • (Replace)
Starting motor disengages before engine starts	<ul style="list-style-type: none"> • Defective wiring • Insufficient battery charge 	<ul style="list-style-type: none"> • (Check, repair) • Charge
Pre-heating monitor does not light	<ul style="list-style-type: none"> • Defective wiring • Defective monitor 	<ul style="list-style-type: none"> • (Check, repair) • (Replace)
Oil pressure monitor does not light up when engine is stopped (starting switch at ON position)	<ul style="list-style-type: none"> • Defective monitor • Defective oil pressure switch 	<ul style="list-style-type: none"> • (Replace) • (Replace)



Lubricants, Fuel, and Coolant Specifications

Proper Selection

RESERVOIR	KIND OF FLUID	AMBIENT TEMPERATURE									
		-22 -30	-4 -20	14 -10	32 0	50 10	68 20	86 30	104 40	122°F 50°C	
Engine oil pan	Engine oil						SAE 30				
					SAE 10W						
				SAE 10W-30							
			SAE 15W-40								
Final drive case						SAE 30					
Hydraulic system						SAE 10W					
					SAE 10W-30						
			SAE 15W-40								
					ASTM D975 No.2						
Fuel tank		Diesel fuel									
			*1								
Grease fitting	Grease	HYPER WHITE GREASE									
Cooling system	Water	Add antifreeze									

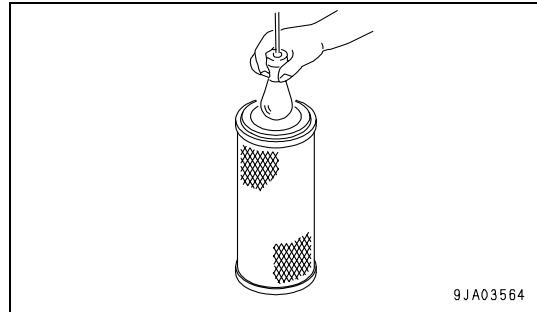


Capacity	Model	Engine oil pan	Final drive case (each)	Hydraulic system	Fuel tank	Cooling system
Specified	Liter	8.6	1.0	68	60	7.5
	gal	2.27	0.26	17.79	15.85	1.98
Refill	Liter	8.0	1.0	33	-	-
	gal	2.11	0.26	8.72	-	-

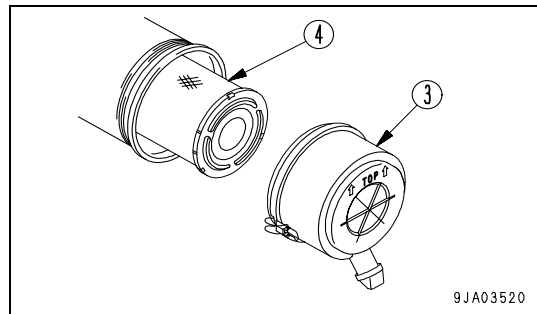
5. If small holes or thinner parts are found on the element when it is checked by shining a light through it after cleaning, replace the element.

OTICE

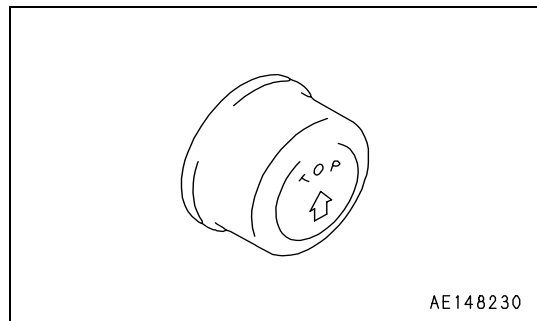
When cleaning the element, do not hit or beat it against anything. Do not use an element whose folds, gasket or seal are damaged.



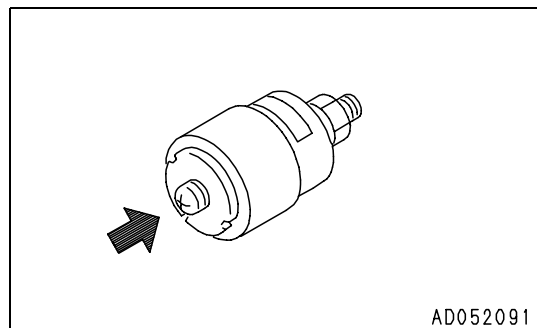
6. Remove the cloth or adhesive tape used to cover the air connector inside the air cleaner body.
7. Install cleaned element (4) or a new element.



8. Set the arrow mark on cover at the top, install to the air cleaner body, then secure with clip.



9. Press the dust indicator button to return the red piston to its original position.

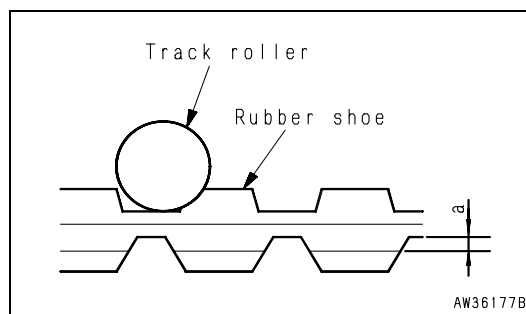
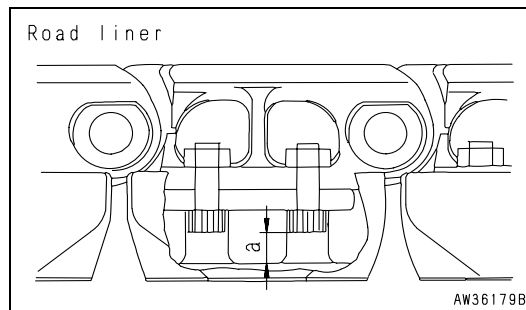


Check Rubber Tracks or Turf-Friendly Tracks

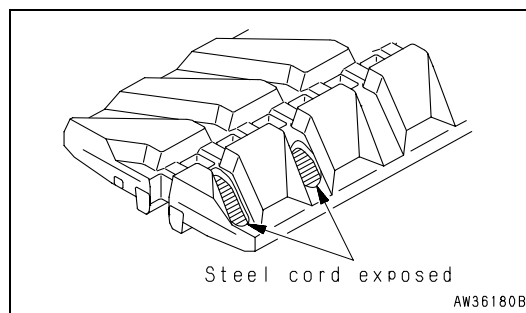
If the rubber tracks or turf-friendly tracks are in the following condition, they must be repaired or replaced, so please contact your Ditch Witch dealer for repairs or replacement.

Lug Height

- If lug height "a" is reduced by wear, the drawbar pull will drop.
If "a" is less than 5 mm (0.2"), replace with a new part.

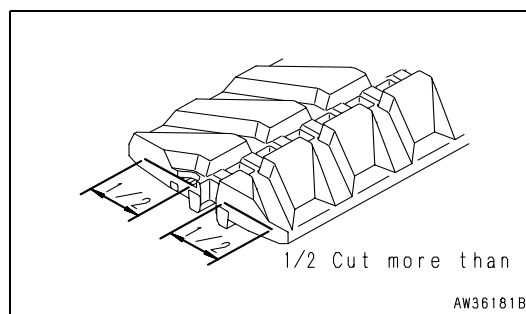


- If the lug wears and the steel cord inside the track is exposed for two links or more, replace with a new part.



Rubber Track Steel Cord Cuts

If more than half of the steel cord layer on one side is cut, replace with a new part.



NOTICE

- If the method of bleeding the air from the attachment itself is specified by the manufacturer, bleed the air according to the specified procedure.
 - After completing the air bleeding operation, stop the engine and leave the machine for 5 minutes before starting operations. This will remove the air bubbles in the oil inside the hydraulic cylinders.
 - Check that there is no leakage of oil and wipe off any oil that has been spilled.
-

4. Bleeding air from attachment (when installed)

If a breaker or other attachment has been installed, run the engine at low idle and operate the attachment pedal repeatedly (approx. 10 times) until the air has been bled from the attachment circuit.

Check Before Starting



For details of the following items, see "Checks Before Starting" on page 87.

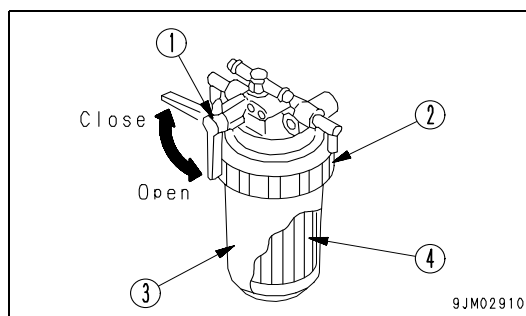
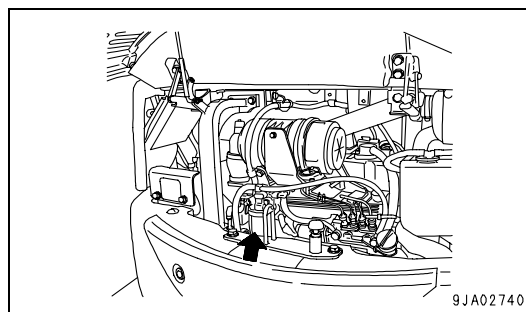
- Check coolant level, add coolant
- Check oil level in engine oil pan, add oil
- Check fuel level, add fuel
- Check oil level in hydraulic tank, add oil
- Check dust indicator
- Check, water separator
- Check electric wiring
- Check function of horn

Replace Fuel Filter Element

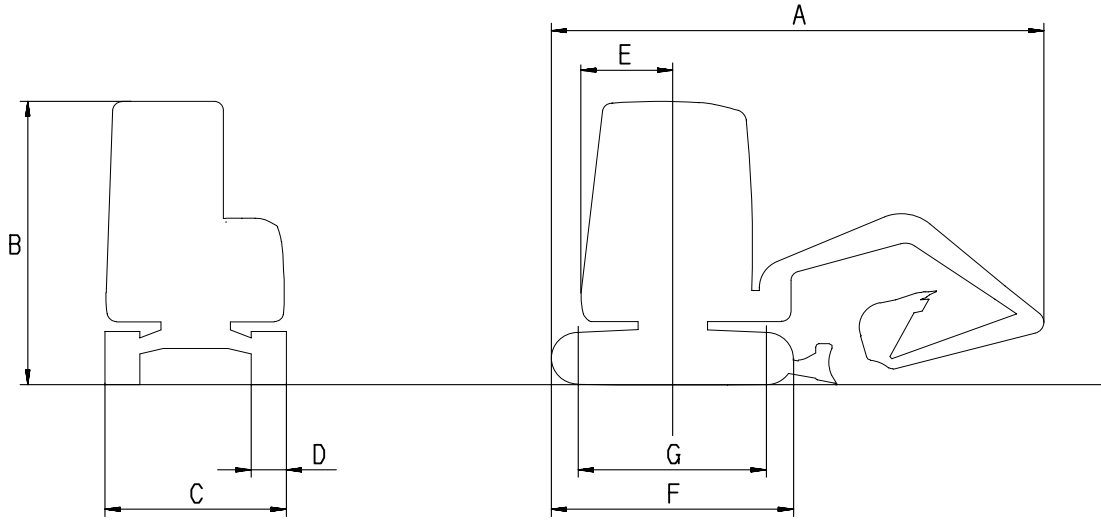
WARNING

- Engine is at high temperature immediately after the machine has been operated. Wait for engine to cool down before replacing the filter.
- Do not bring fire or sparks near the fuel.

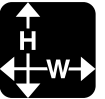
- Prepare a filter wrench for fuel filter element.
 - Prepare a container to catch the oil.
1. Place a container under the filter element to catch the oil.
 2. Close valve (1) at the top of the filter.
 3. Loosen ring (2) with a filter wrench, then remove element cup (3) and take out element (4).
 4. Wash element cup (3) in diesel oil or in a cleaning oil and install a new element.
 5. Fill the element cup with fuel, then install filter holder.
 6. When replacing a fuel filter element, replace the filter O-ring at the same time.
 7. Open valve (1) at the top of the filter.
 8. Set fuel control lever to the low idle position.
 9. After replacing the fuel filter element, bleed the air.



Specifications



9JA02980



General		Rubber tracks	Turf-friendly tracks
Operating Weight	canopy specified	4670 kg (10,297 lb)	4820 kg (10,628 lb)
	cab specified	4760 kg (10,496 lb)	4910 kg (10,827 lb)
Bucket capacity		0.16 m ³ (0.21 cu yd)	
Name of engine		Komatsu 4D88E-3HB diesel engine	
Engine power		28.32 kW (38 hp) @ 2500 rpm	
A	Overall length	5.3 m (17 ft 5 in)	5.3 m (17 ft 5 in)
B	Overall height	canopy specified	2.6 m (8 ft 5 in)
		cab specified	2.7 m (8 ft 7 in)
C	Overall width	2 m (6 ft 5 in)	2 m (6 ft 5 in)
D	Track width	400 mm (1 ft 4 in)	400 mm (1 ft 4 in)
E	Radius of upper structure	1.1 m (3 ft 6 in)	1.1 m (3 ft 6 in)
F	Length of track	2.5 m (8 ft 1 in)	2.5 m (8 ft 2 in)
G	Tumbler center distance	1.9 m (6 ft 4 in)	1.9 m (6 ft 3 in)
Min. ground clearance		320 mm (1 ft 1 in)	315 mm (1 ft 0 in)
Travel speed (low/high)		2.8 km/h (1.7 mph)/4.6 km/h (2.9 mph)	
Continuous swing speed		9.0 rpm	

Air Conditioner Controls

Cooling

- If you smoke when the cooler is on, the smoke may start to hurt your eyes, so carry out ventilation and cooling for a short time to remove the smoke.
- When running the air conditioner for a long time, carry out ventilation and cooling together once an hour.

Cooling with Care

When the cooler is on, set the temperature so that it feels slightly cool when entering the cab (5-6°C/ 41-42.8°F lower than the outside temperature). This temperature difference is considered to be the most suitable for your health, so always be careful to adjust the temperature properly.

Air Conditioner Maintenance

When Required

Off Season Checks

Even during the off-season, operate the air conditioner for 3 - 5 minutes once a month to maintain the oil film at all parts of the compressor.

Inspection and Maintenance Items

Check, maintenance items	Content of check, maintenance	Guideline for maintenance interval
Refrigerant (gas)	Charge amount	Twice a year (spring, autumn)
Condenser	Clogged fins	Every 500 hours
Compressor	Operating condition	Every 4000 hours
V-belt	Damage, tension	Every 250 hours
Blower motor, fan	Operating condition (does it make abnormal noise?)	When required
Control mechanism	Operating condition (does it function normally?)	When required
Hydraulic hose mounts	Mounting condition, looseness at tightening or connecting portions, leakage of gas, damage	When required



Hydraulic Circuit

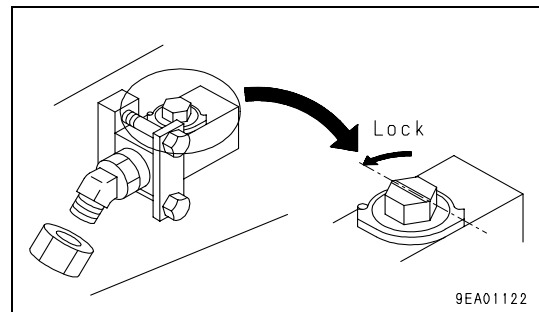
Hydraulic Circuit Connection

NOTICE

The pressure in the attachment hydraulic circuit on this machine is set at 20.6 MPa (210 kgf/cm², 2982 PSI), so check the ability of the attachment to withstand the pressure before installing it.

When connecting the attachment, connect the hydraulic circuit as follows.

1. Check that the stop valve is at the LOCK position, then remove the plug. Be careful not to lose or damage any part that is removed.



2. Connect the hydraulic hoses for the attachment provided by the attachment maker. The thread size of the elbow installed to the stop valve is PF1/2.

REMARK

If the elbow thread size does not match, please contact your Ditch Witch dealer.

3. After connecting the hydraulic hoses, bleed the air from the circuit.
 - Start the engine and run it at low idle for 10 minutes. For details, see "Starting Engine" on page 98. Then carry out the following operation.
 - Run the engine at low idle until the air in the attachment circuit is completely removed, then operate the attachment pedal repeatedly (approx. 10 times) to bleed the air.

NOTICE

If the attachment maker specifies an air bleeding procedure for the attachment itself, follow the specified procedure to bleed the air.

- After completing the bleeding of the air, stop the engine, and wait for at least 5 minutes before starting operations. This will release the bubbles in the oil inside the tank.
- Check that there is no oil leakage, and wipe off any oil that has been spilled.



Table for Combination of Telescopic Arm and Bucket

 WARNING

Do not install any bucket other than the one specified below. If any other unspecified bucket is installed, the machine may lose balance and tip over.

Table below shows a type of bucket that can be installed to the telescopic arm.

- O: Can be used
- X: Cannot be used

Name	Capacity [m ³ (cu.yd)]	Width [mm (in)] (including side cutter)	Play Adjustment	Telescopic Arm
Narrow bucket	0.06 (0.08)	370 (14.6)	-	x
Narrow bucket	0.11 (0.14)	500 (19.7)	Required	O
			Not required	x
Standard bucket	0.16 (0.21)	650 (25.6)	Required	x
			Not required	x
Wide bucket	0.18 (0.24)	700 (27.6)	-	x



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL