

HITACHI

Training Text

ZAXIS

200-3 class

240-3 class

270-3 class

330-3 class

MAINTENANCE

Technical Training Center

MAINTENANCE

CORRECT MAINTENANCE AND INSPECTION PROCEDURES

Learn how to service your machine correctly. Follow the correct maintenance and inspection procedures shown in this manual.

Inspect machine daily before starting.

- Check controls and instruments.
- Check coolant, fuel and oil levels.
- Check for leaks, kinked, frayed or damaged hoses and lines.
- Walk around machine checking general appearance, noise, heat, etc.
- Check for loose or missing parts.

If there is any problem with your machine, repair it before operating or contact your authorized dealer.

- IMPORTANT:**
- **Use only recommended fuel and lubricants.**
 - **Be sure to use only genuine Hitachi parts. Failure to do so may result in serious injury or death and/or machine breakdown.**
 - **Use only genuine HITACHI parts.**
 - **Failure to use recommended fuel, lubricants, and genuine Hitachi parts will result in loss of Hitachi product warranty.**
 - **Never adjust engine governor or hydraulic system relief valve.**
 - **Protect electrical parts from water and steam.**
 - **Never disassemble electrical components such as main controller, sensors, etc.**



SA-005

MAINTENANCE

Hitachi machine models are classified into 3 classes and 2 models as shown in the table below. When referring to the texts and/or illustrations indicated with the applicable machine class names in this manual, check that the machine models concerned are included using this table.

Class

ZX200-3 Class	ZAXIS200-3, 200LC-3, 210H-3, 210LCH-3, 210K-3, 210LCK-3
ZX270-3 Class	ZAXIS240-3, 240LC-3, 250H-3, 250LCH-3, 250K-3, 250LCK-3, 270-3, 270LC-3
ZX330-3 Class	ZAXIS330-3, 330LC-3, 350H-3, 350LCH-3, 350K-3, 350LCK-3

Model

Std. Model	ZAXIS200-3, 200LC-3, 210H-3, 210LCH-3, 240-3, 240LC-3, 250H-3, 250LCH-3, 270-3, 270LC-3, 330-3, 330LC-3, 350H-3, 350LCH-3
K Model	ZAXIS210K-3, 210LCK-3, 250K-3, 250LCK-3, 350K-3, 350LCK-3

All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

CHECK THE HOUR METER REGULARLY

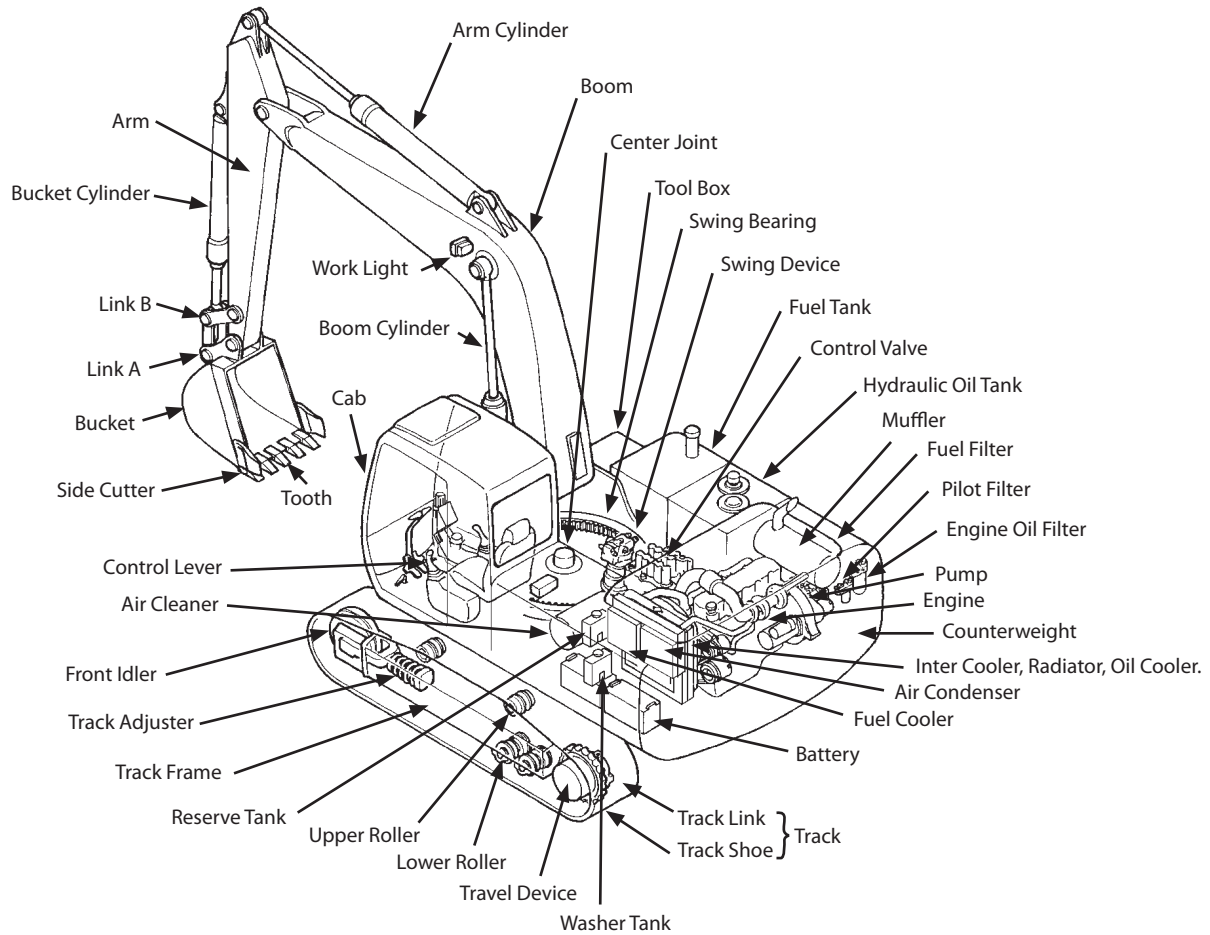
- Intervals on the periodic maintenance chart are for operating in normal conditions. If you operate your machine in more adverse conditions, you should service it at SHORTER INTERVALS.
- Lubricate, make service checks and adjustments at intervals shown on periodic maintenance guide table (see page 7-4 and 7-5).

USE CORRECT FUELS AND LUBRICANTS

**IMPORTANT: Always use recommended fuels and lubricants.
Failure to do so will result in machine damage and loss of Hitachi product warranty.**

MAINTENANCE

LAYOUT












M1U1-01-005

MAINTENANCE

MAINTENANCE GUIDE TABLE

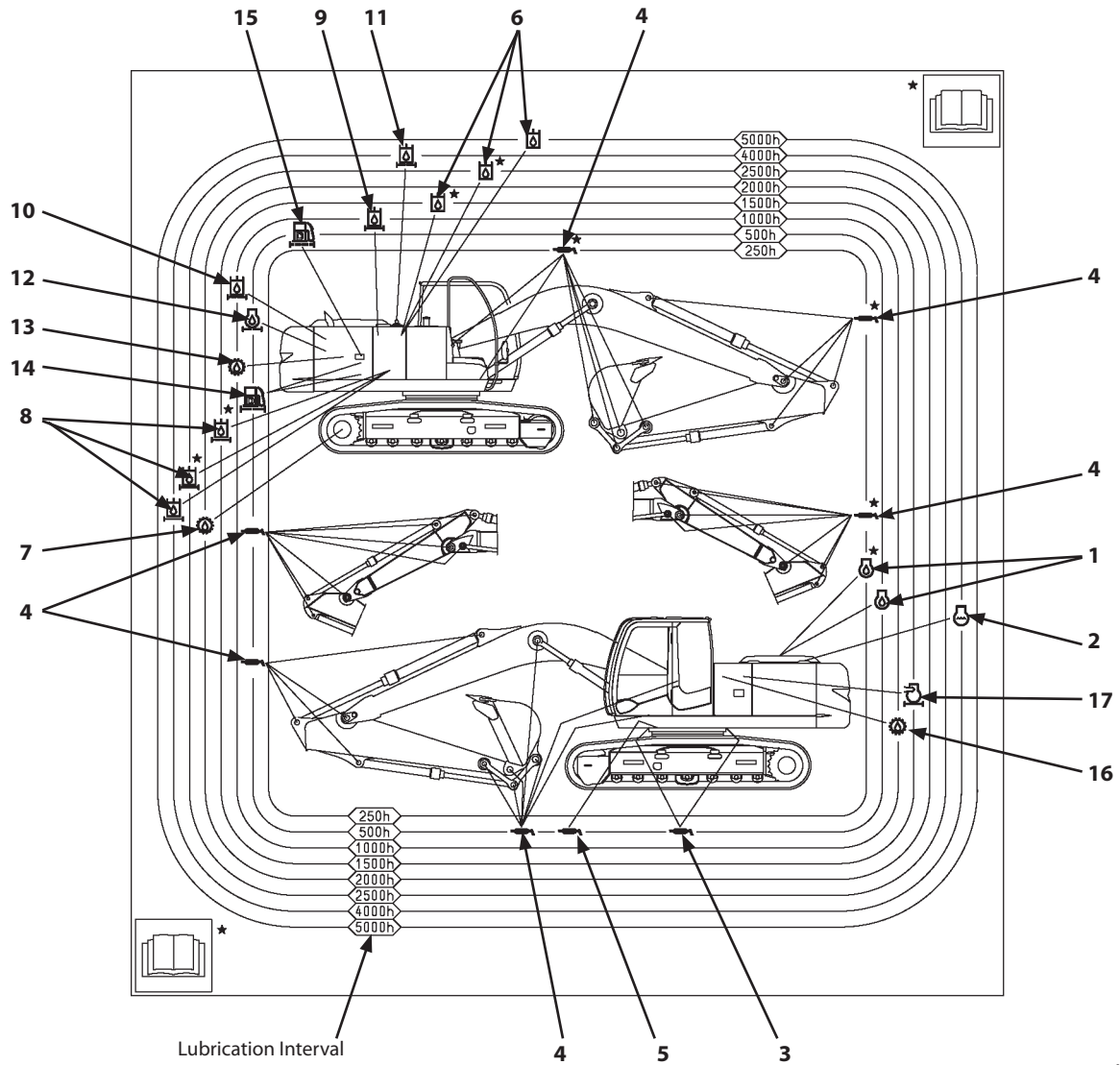
The maintenance guide table is affixed to the reverse side of the tool box cover. Lubricate and/or service the parts at the intervals as instructed in the table so that all necessary maintenance can be performed regularly.

- **Symbol Marks**
The following marks are used in the maintenance guide table.

	Grease (Front Joint Pin, Swing Bearing, Swing Gear)		Hydraulic Oil Filter (Pilot Filter, Hydraulic Oil Tank Filter, Suction Filter)
	Gear Oil (Travel Reduction Device, Swing Reduction Device)		Air Cleaner Element
	Engine Oil		Coolant (Long-Life Coolant)
	Engine Oil Filter		Fuel Filter (Fuel Filter Cartridge)
	Hydraulic Oil		

MAINTENANCE

Maintenance Guide Table



M1G6-07-012

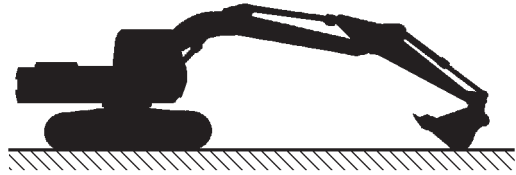
Item	Page	Item	Page
1 Engine Oil	7-18	10 Hydraulic Oil Filter (Pilot)	7-33
2 Coolant (Long-Life Coolant)	7-53	11 Hydraulic Oil Filter (Air Breather)	7-34
3 Grease	7-16	12 Engine Oil Filter	7-19
4 Grease	7-14	13 Gear Oil (Pump Transmission)	7-21
5 Grease	7-17	14 Fuel Filter (Main/Pre)	7-47
6 Hydraulic Oil	7-28	15 Fuel Solenoid Pump Strainer	7-49
7 Gear Oil (Travel Device)	7-23	16 Gear Oil (Swing Device)	7-22
8 Hydraulic Oil Filter (Suction)	7-29	17 Air Cleaner Element	7-51
9 Hydraulic Oil Filter (Main)	7-32		

MAINTENANCE

PREPARE MACHINE FOR MAINTENANCE

Before performing the maintenance procedures given in the following chapters, park the machine as described below, unless otherwise specified.

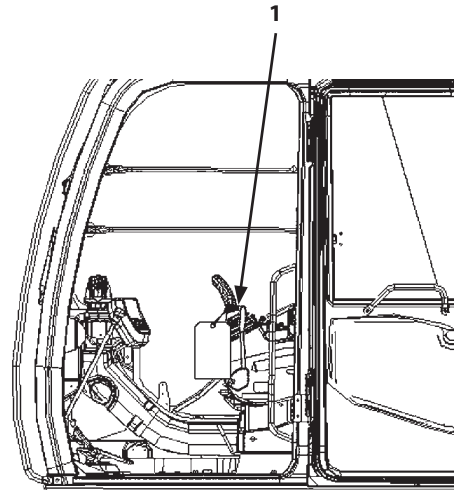
1. Park the machine on a level surface.
2. Lower the bucket to the ground.
3. Turn the auto-idle/auto acceleration selector switch off.



M104-07-021

IMPORTANT: The turbocharger may be damaged if the engine is not properly shut down.

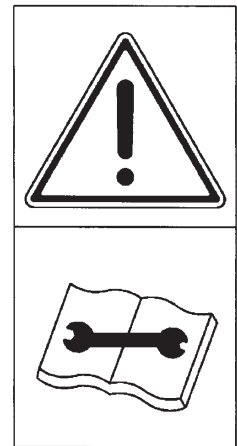
4. Run the engine at slow idle speed without load for five minutes.
5. Turn the key switch OFF. Remove key from switch. (If maintenance must be performed with engine running, do not leave machine unattended.)
6. Pull the pilot control shut-off lever (1) to the LOCK position.
7. Before performing any work on the machine, attach a tag on the right control lever.



M1V1-07-001



SS3076175



SS2045102

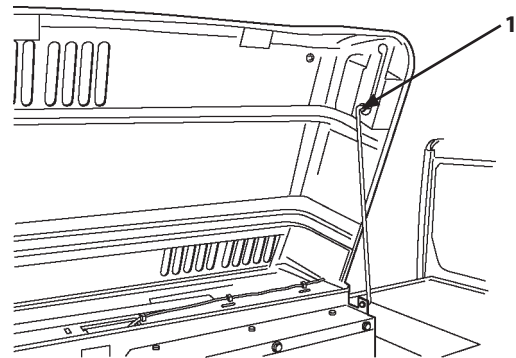
MAINTENANCE

HOOD AND ACCESS COVERS



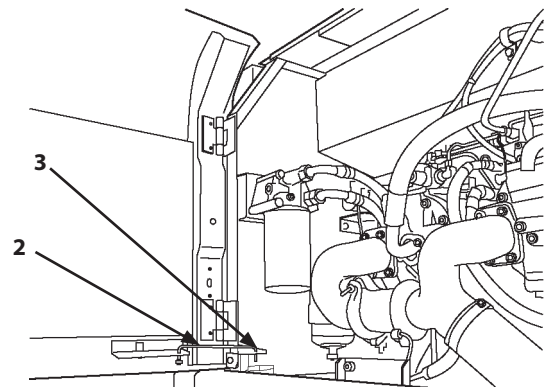
WARNING:

- Do not keep the hood and access covers open when the machine is parked on a slope, or while the wind is blowing hard. The hood or access covers may close accidentally, possibly resulting in personal injury.
 - When opening or closing the hood and access covers, take extra care not to catch fingers between the base machine and the hood or access covers.
-
- Remove locks (2 used) to open the engine access cover. Holding the handle on the access cover, raise the cover until the cover is secured with catch (1).
 - After opening the right and/or left access cover, be sure to insert rod (2) into cover lock hole (3) to hold the cover.
 - When opening the rear left cover, open the front left cover first. Then, pull to open the rear left cover as illustrated.



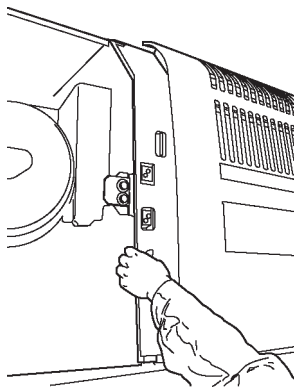
Engine Cover

M1U1-07-030



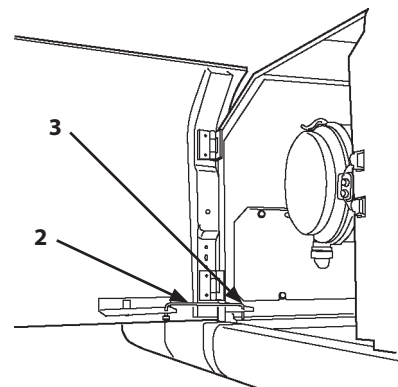
Right Cover

M1U1-07-032



Rear Left Cover

M1U1-07-033



Front Left Cover

M1U1-07-031

MAINTENANCE

PERIODIC REPLACEMENT OF PARTS

To ensure safe operation, be sure to conduct periodic inspection of the machine. In addition, the parts listed below, if defective, may pose serious safety/fire hazards. It is very difficult to gauge the extent of deterioration, fatigue, or weakening of the parts listed below simply by visual inspection alone. For this reason, replace these parts at the intervals shown in the table below. However, if any of these parts are found to be defective, replace before starting operation, regardless of the interval.

Also, when replacing hoses, check the clamps for deformation, cracks, or other deterioration, and replace as necessary.

Be sure to perform periodic inspection of all hoses, as shown below, and replace or retighten any defective parts found, as necessary.

Consult your authorized dealer for correct replacement.

Periodic Replacement Parts		Replacement Intervals	
Engine	Fuel hose (Fuel tank to Supply pump)	Every 2 years	
	Oil filter hose (Engine to oil filter)	Every 2 years	
	Heater hose (Heater to engine)	Every 2 years	
Hydraulic System	Base Machine	Pump suction hose	Every 2 years
		Pump delivery hose	Every 2 years
		Swing hose	Every 2 years
		Travel high pressure hose	Every 2 years
	Front Attachment	Boom cylinder line hose	Every 2 years
		Arm cylinder line hose	Every 2 years
		Bucket cylinder line hose	Every 2 years
Seat belt		Every 3 years	


 **NOTE:** Be sure to replace seals, such as O-rings and gaskets, when replacing hoses.

MAINTENANCE

MAINTENANCE GUIDE

A. GREASING (See Page 7-14)


Parts		Quantity	Interval (hours)						
			8	50	100	250	500	1000	2000
1. Front Joint Pins	Bucket and Link Pins	9	★			★★			
	Others	11	★			★★			
2. Swing Bearing		2							
3. Swing Internal Gear		1					★★★		

 **NOTE:** ★ Maintenance required when operating in water or mud and under extremely severe condition.
 ★★ Maintenance required only during first time check.
 ★★★ Check and add grease.

IMPORTANT: Grease bucket and link pivots every day until break-in operation (50 hours) is complete. When the bucket joint boss end faces are not finished with WC thermal spraying, grease the bucket two joint pin sections at an interval of every 250 hours.

B. ENGINE (See Page 7-18)

Parts		Quantity	Interval (hours)						
			8	50	100	250	500	1000	2000
1. Engine Oil	Oil Level Check	-							
2. Engine Oil	Change	ZX200 ₋₃ , 270 ₋₃ Class (6.1 US gal)				★			
		ZX330 ₋₃ Class (10.8 US gal)				★			
3. Engine Oil Filter	Replacement	1				★			

 **NOTE:** ★ Change 250 operating hours, if the content of sulfur of fuel is 2000 ppm or more. Consult your nearest Hitachi dealer for the details.

C. TRANSMISSION (See Page 7-21)

Parts		Quantity	Interval (hours)						
			8	50	100	250	500	1000	2000
1. Pump Trans- mission	Oil Level Check	1							
	Change	ZX200 ₋₃ , 270 ₋₃ Class (1.1 US qt)							
		ZX330 ₋₃ Class (1.5 US qt)							
2. Swing Reduction Gear	Oil Level Check	1							
	Change	ZX200 ₋₃ Class (1.6 US gal)							
		ZX270 ₋₃ Class (Ex- cept 270 ₋₃ , 270LC ₋₃) (2.4 US gal)							
		ZAXIS270 ₋₃ , 270LC ₋₃ (3.1 US gal)							
	ZX330 ₋₃ Class (4.5 US gal)								
3. Travel Reduction Gear	Oil Level Check	2							
	Change	ZX200 ₋₃ Class (1.8 US gal)							
		ZX270 ₋₃ Class (Ex- cept 270 ₋₃ , 270LC ₋₃) (2.1 US gal)							
		ZAXIS270 ₋₃ , 270LC ₋₃ , 330 ₋₃ Class (2.4 US gal)							