

OPERATION MANUAL

**CRAWLER EXCAVATOR
R55-9**

**H
Y
D
R
A
U
L
I
C**

CONTENTS

Foreword	0-1	6. Efficient working method	4-11
Before servicing this machine	0-2	7. Operation in the special work sites	4-15
EC regulation approved	0-3	8. Normal operation of excavator	4-17
Table to enter S/No and distribution	0-4	9. Attachment lowering pattern	4-18
Safety labels	0-5	10. Storage	4-19
Machine data plate	0-14	11. RCV lever operating pattern	4-21
Guide (direction, S/No, symbol)	0-15		
SAFETY HINTS		TRANSPORTATION	
1. Before operating the machine	1-1	1. Preparation for transportation	5-1
2. During operating the machine	1-6	2. Dimension and weight	5-2
3. During maintenance	1-13	3. Loading the machine	5-4
4. Parking	1-16	4. Fixing the machine	5-6
		5. Loading and unloading by crane	5-7
SPECIFICATIONS		MAINTENANCE	
1. Major components	2-1	1. Instruction	6-1
2. Specifications	2-2	2. Tightening torque	6-6
3. Working range	2-3	3. Fuel, coolant and lubricants	6-9
4. Weight	2-4	4. Maintenance check list	6-11
5. Lifting capacities	2-5	5. Maintenance chart	6-16
6. Bucket selection guide	2-7	6. Service instruction	6-18
7. Undercarriage	2-8	7. Electrical system	6-36
8. Specification for major components	2-9	8. Air conditioner and heater	6-39
9. Recommended oils	2-12		
CONTROL DEVICES		TROUBLESHOOTING GUIDE	
1. Cab devices	3-1	1. Engine	7-1
2. Cluster	3-2	2. Electrical system	7-2
3. Switches	3-13	3. Others	7-3
4. Levers and pedals	3-18		
5. Full auto air conditioner and heater	3-21	HYDRAULIC BREAKER AND QUICK CLAMP	
6. Others	3-25	1. Selecting hydraulic breaker	8-1
OPERATION		2. Circuit configuration	8-2
1. Suggestion for new machine	4-1	3. Maintenance	8-3
2. Check before starting the engine	4-2	4. Precaution while operating the breaker	8-4
3. Starting and stop the engine	4-3	5. Quick clamp	8-6
4. Operation of the working device	4-7		
5. Traveling of the machine	4-8	INDEX	9-1

EC Declaration of conformity - update 04/01/'10

1. We hereby declare that the following machine comply with the machine directive 2006/42/EC, EMC-directive 2004/108/EC, Non-road mobile machinery emission directive 97/68/EC (amended by 2002/88/EC, 2004/26/EC, 2006/105/EC) and noise emission 2000/14/EC (amended by 2005/88/EC).

Excavator	Model :	*****
	Serial Nr. :	***

2. Manufacturer	Hyundai Heavy Industries Co. Ltd. 1 Chonha-Dong, Dong-Ku Ulsan The republic of Korea
-----------------	---

Authorized representative : Owner of the technical file for machine production. (TCF : Technical Construction File)	Hyundai Heavy Industries Europe N.V. Vossendal 11 2440 Geel Belgium
--	--

3. Harmonized European directives :	EN474-1:2006 +A1:2009, EN474-5: 2006, EN ISO 12100-1:2003, EN ISO 12100-2:2003, EN ISO 2867:2008, EN ISO 7096:2008, EN ISO 6683:2008, EN ISO 2860:2008, EN ISO 6682:2008, EN ISO 3744:2009, EN 982:1996+A1:2008, EN ISO 3457:2008 EN ISO 2860:2008, EN ISO 7096:2008, ISO 5006: 2006
-------------------------------------	--

4. Noise level :

Certain n° :	e13*2000/14*2005/88*0059*08
--------------	-----------------------------

Date :	2009-06-17
--------	------------

Conformity assessment procedure :	Attachment VIII following the periodical inspection on technical extended with "Information on the scope of delivery" by TÜV Rheinland.
-----------------------------------	---

Authorized entity :	Société Nationale de Certification et d'Homologation s.à r.l CE0499 11, route de Luxembourg 5230 Sandweiler Luxemburg
---------------------	--

Engine power :	*** kW
----------------	--------

Guaranteed sound power level :	*** dB (A)
--------------------------------	------------

5. Remarks

Managing Director

Geel, Belgium

//*****

FOREWORD

This manual contains a number of instructions and safety recommendations regarding driving, handling, lubrication, maintenance, inspection and adjustment of the excavator.

The manual is to promote safety maintenance and enhance machine performance.

Keep this manual handy and have all personnel read it periodically.

If you sell the machine, be sure to give this manual to the new owners.

This machine complies with EC directive "2006/42/EC".

1. **Read** and **understand** this manual before operating the machine.

This operator's manual may contain attachments and optional equipment that are not available in your area. Please consult your local Hyundai distributor for those items you require.

Improper operation and maintenance of this machine can be hazardous and could result in serious injury or death.

Some actions involved in operation and maintenance of the machine can cause a serious accident, if they are not done in a manner described in this manual.

The procedures and precautions given in this manual apply only to intended uses of the machine. If you use your machine for any unintended uses that are not specifically prohibited, you must be sure that it is safe for you and others. In no event should you or others engage in prohibited uses of actions as described in this manual.

2. **Inspect** the jobsite and **follow** the safety recommendations in the **safety hints** section before operating the machine.

3. Use **genuine Hyundai spare parts** for the replacement of parts.

We expressly point out that Hyundai will not accept any responsibility for defects resulting from non-genuine parts or non workmanlike repair.

In such cases Hyundai cannot assume liability for any damage.

Continuing improvements in the design of this machine can lead to changes in detail which may not be reflected in this manual. Consult Hyundai or your Hyundai distributor for the latest available information for your machine or for questions regarding information in this manual.

BEFORE SERVICING THIS MACHINE

It is the responsibility of the owner and all service and maintenance personnel to avoid accidents and serious injury by keeping this machine properly maintained.

It also is the responsibility of the owner and all service and maintenance personnel to avoid accidents and serious injury while servicing the machine.

No one should service or attempt to repair this machine without proper training and supervision.

All service and maintenance personnel should be thoroughly familiar with the procedures and precautions contained in this manual.

All personnel also must be aware of any federal, state, provincial or local laws or regulations covering the use and service of construction equipment.

The procedures in this manual do not supersede any requirements imposed by federal, state, provincial or local laws.

Hyundai can not anticipate every possible circumstance or environment in which this machine may be used and serviced.

All personnel must remain alert to potential hazards.

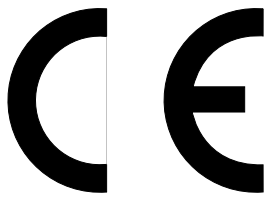
Work within your level of training and skill.

Ask your supervisor if you are uncertain about a particular task. Do not try to do too much too fast.

Use your common sense.

EC REGULATION APPROVED

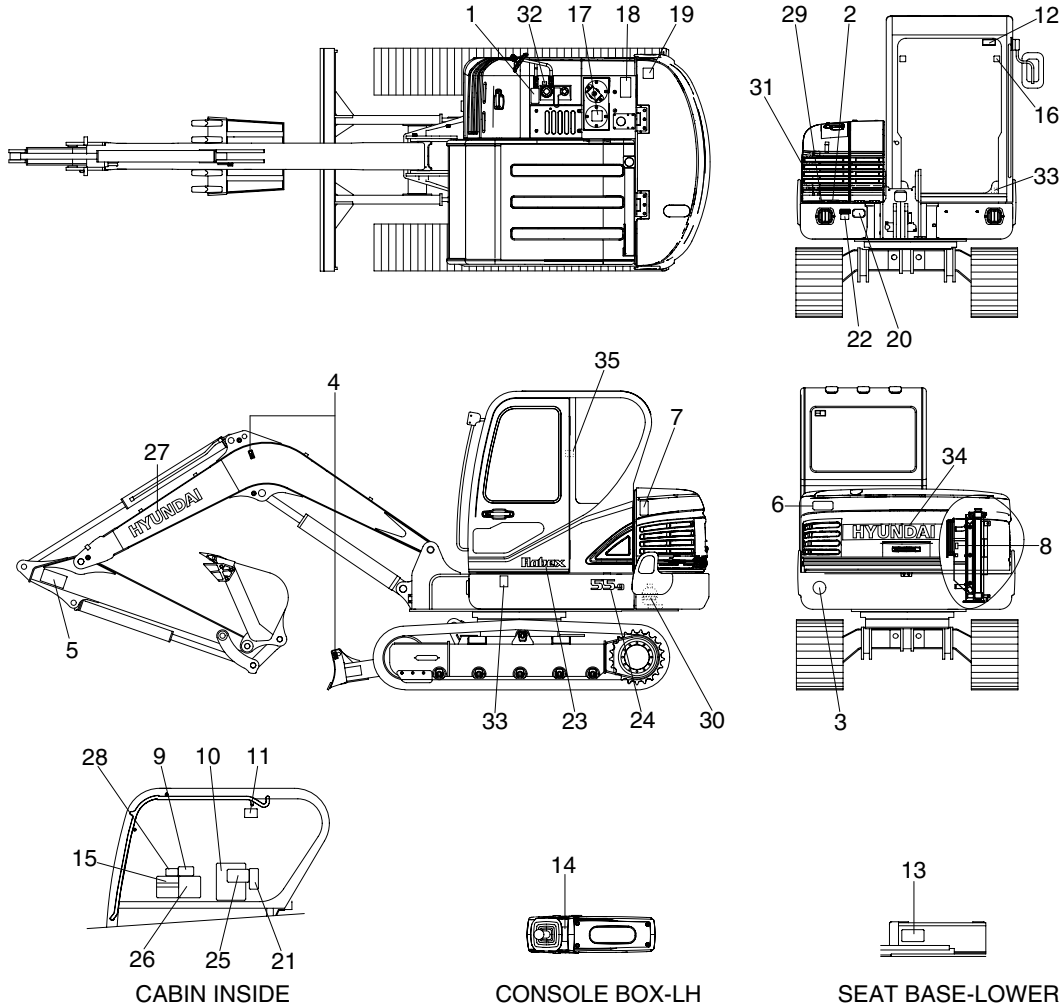
- Noise level (EN474-1 : 2006 and 2000/14/EC) are as followings.
 - LWA : 98 dB (EU only)
 - LPA : 77 dB
- The value of vibrations transmitted by the operator's seat are lower than standard value of (EN474-1 : 2006 and 2002/44/EC)



SAFETY LABELS

1. LOCATION

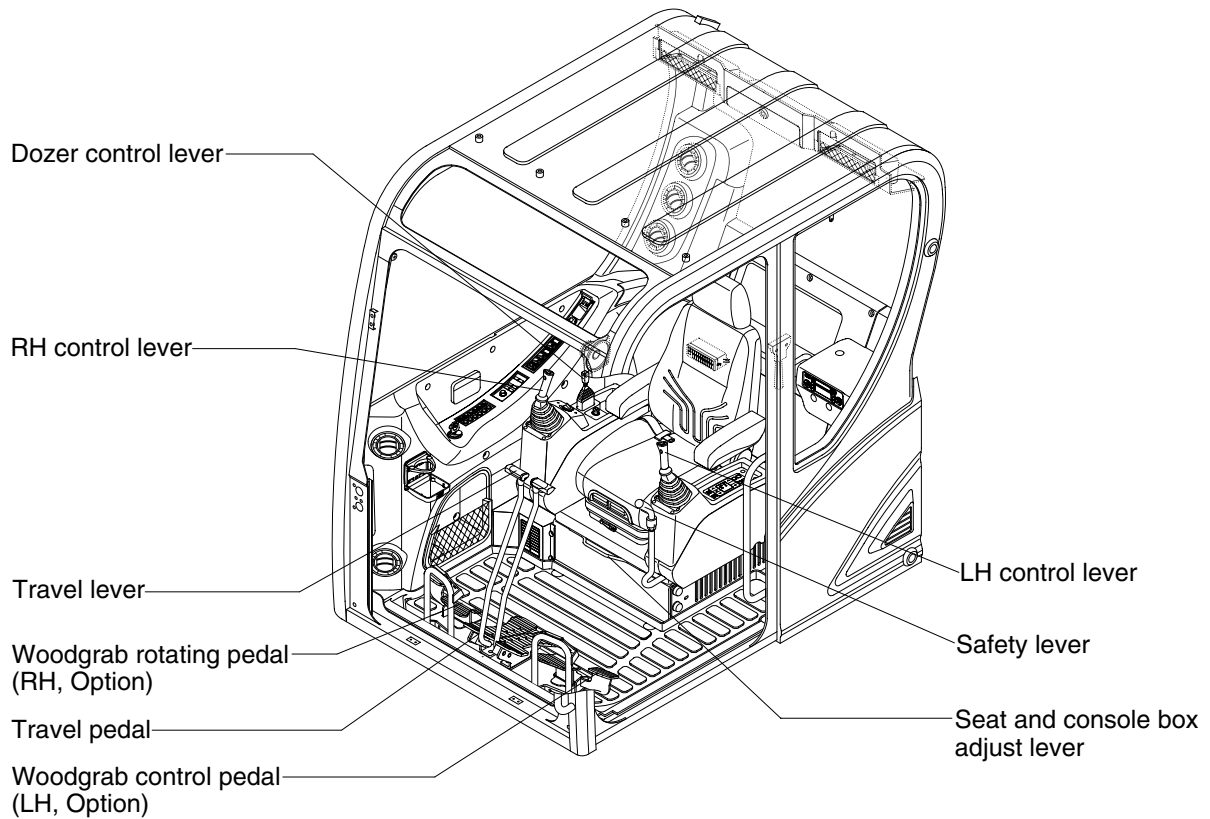
Always keep these labels clean. If they are lost or damaged, attach them again or replace them with a new label.



- | | | | | | |
|----|--------------------------|----|---------------------------|----|---------------------|
| 1 | Fueling | 13 | Aircon filter | 25 | Service instruction |
| 2 | Battery-accident | 14 | Console tilting | 26 | Lifting chart |
| 3 | Reflecting | 15 | Machine control-cabin | 27 | Trade mark-boom |
| 4 | Lifting point ideogram | 16 | Stay fix-cabin | 28 | Boom swing lock |
| 5 | Keep clear-boom/arm | 17 | Hydraulic oil lubrication | 29 | ECM connector |
| 6 | Keep clear-rear | 18 | Falling | 30 | Accumulator |
| 7 | Keep clear-side | 19 | No step-engine hood | 31 | Battery position |
| 8 | Caution-engine room | 20 | Name plate | 32 | Low sulfur fuel |
| 9 | Control ideograms-swivel | 21 | General warning-frame | 33 | Noise level LWA |
| 10 | General cautions-cabin | 22 | Indicate-grease | 34 | Trade mark-CWT |
| 11 | Safety front window | 23 | Robex | 35 | Hammer |
| 12 | Warning front window | 24 | Model name | | |

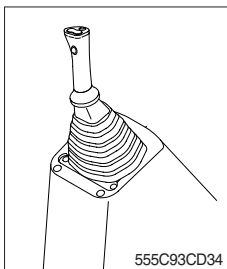
5591FW01

4. LEVERS AND PEDALS



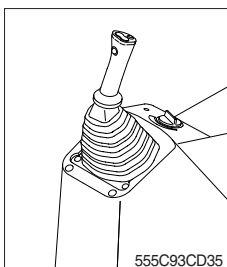
5593CD22A

1) LH CONTROL LEVER



- (1) This joystick is used to control the swing and the arm.
- (2) Refer to **operation of working device** in chapter 4 for details.

2) RH CONTROL LEVER

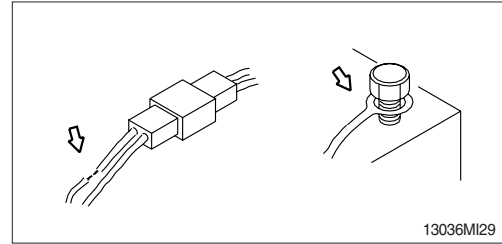


- (1) This joystick is used to control the boom and the bucket.
- (2) Refer to **operation of working device** in chapter 4 for details.

7. ELECTRICAL SYSTEM

1) WIRING, GAUGES

Check regularly and repair loose or malfunctioning gauges when found.



2) BATTERY

(1) Clean

① Wash the terminal with hot water if it is contaminated, and apply grease to the terminals after washing.

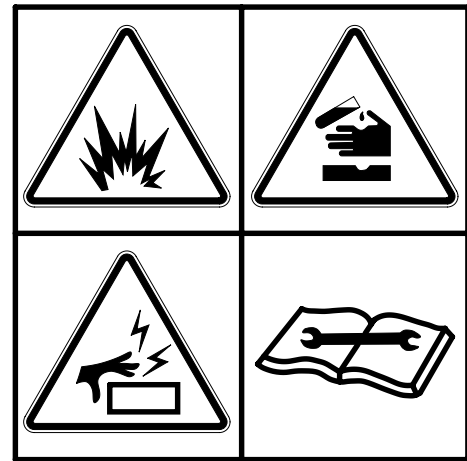
⚠ **Battery gas can explode. Keep sparks and flames away from batteries.**

⚠ **Always wear protective glasses when working with batteries.**

⚠ **Do not stain clothes or skin with electrolyte as it is acid.**

Be careful not to get the electrolyte in eyes.

Wash with clean water and go to the doctor if it enters the eyes.



36070FW05

(2) Recycle

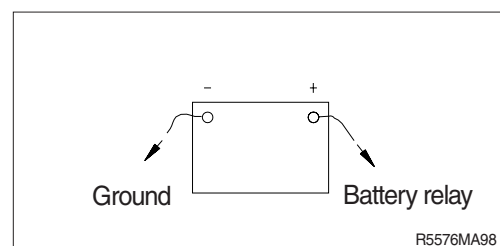
Never discard a battery.

Always return used batteries to one of the following locations.

- A battery supplier
- An authorized battery collection facility
- Recycling facility

(3) Method of removing the battery cable

Remove the cable from the ground connection first (⊖ terminal side) and reconnect it last when reassembling.



3) STARTING THE ENGINE WITH A BOOSTER CABLE

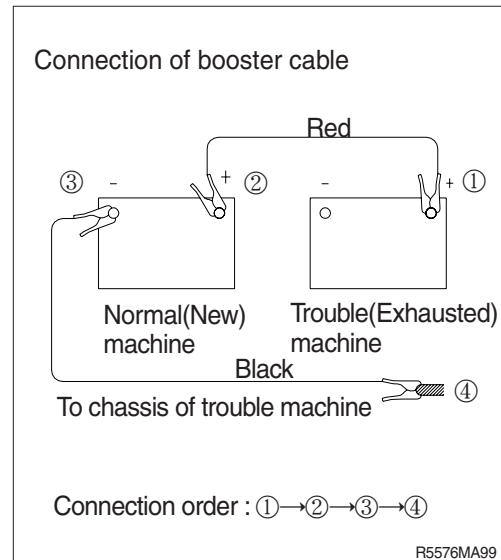
Keep following order when you are going to start engine using booster cable.

(1) Connection of booster cable

※ **Use the same capacity of battery for starting.**

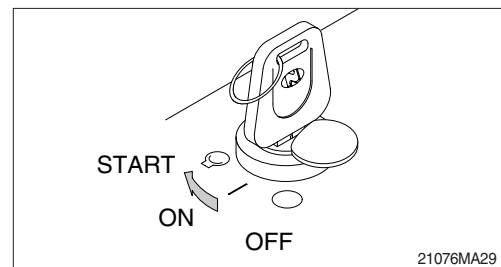
- ① Make sure that the starting switches of the normal machine and trouble machine are both at the OFF position.
- ② Connect the red terminal of booster cable to the battery (+) terminal between exhausted and new battery.
- ③ Connect the black terminal of the booster cable between new battery (-) terminal and chassis of trouble machine.

※ **Keep firmly all connection, the spark will be caused when connecting finally.**



(2) Starting the engine

- ① Starting the engine of the normal machine and keep it to run at high idle.
- ② Start engine of the trouble machine with starting switch.
- ③ If you can not start it by one time, restart the engine after 2 minutes.



(3) Taking off the booster cable

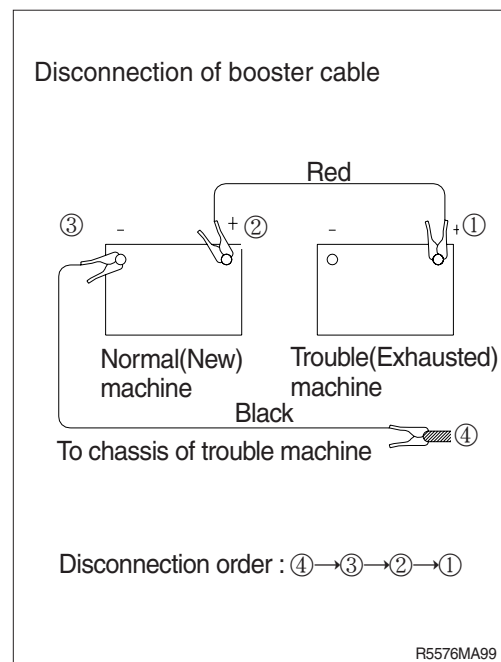
- ① Take off the booster cable(black).
- ② Take off the booster cable(red) connected to the (+) terminal.
- ③ Run engine with high idle until charging the exhausted battery by alternator, fully.

▲ **Explosive gas is generated while using the battery or charging it. Keep away flame and be careful not to cause the spark.**

※ **Charge the battery in the well ventilated place.**

※ **Place the machine on the earth or concrete. Avoid charging the machine on the steel plate.**

※ **Do not connect (+) terminal and (-) terminal when connecting booster cable because it will be shorted.**

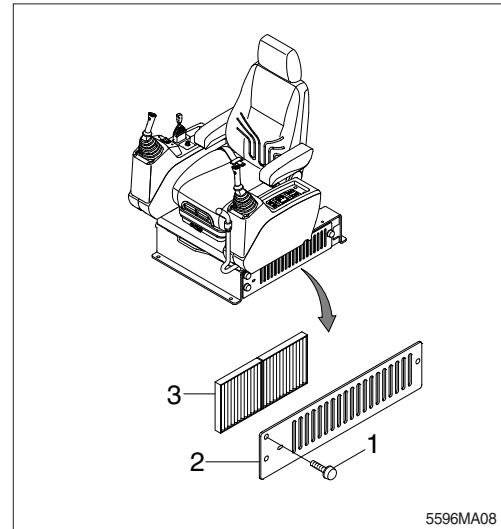


8. AIR CONDITIONER AND HEATER

1) CLEAN AND REPLACE OF THE CIRCULATION FILTER

※ **Always stop the engine before servicing.**

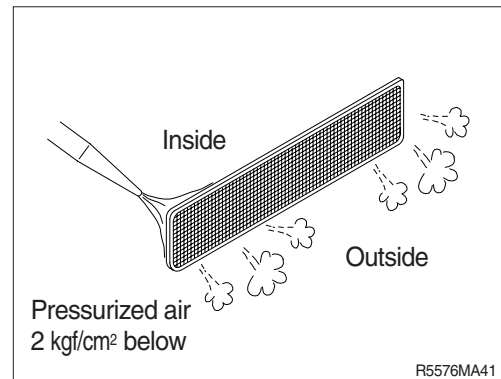
- (1) Remove the screw (1) and cover (2) on the seat base.
- (2) Remove the circulation filter (3).



- (4) Clean the filter using a pressurized air (Below 2 kgf/cm², 28psi).

△ **When using pressurized air, be sure to wear safety glasses.**

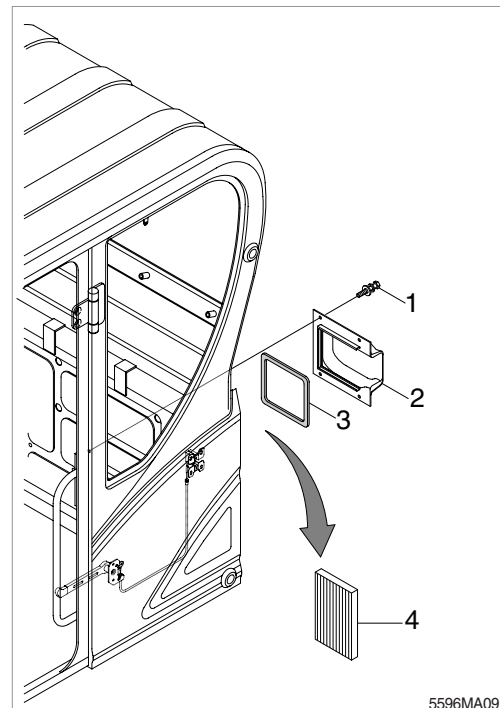
- (5) Inspect the filter after cleaning. If it is damaged or badly contaminated, use a new filter.



2) CLEAN AND REPLACE OF THE RECIRCULATION FILTER

※ **Always stop the engine before servicing.**

- (1) Remove the screw (1), cover (2) and pad (3).
- (2) Remove the recirculation filter (4).



Diesel Engines

ABS	Agco-Sisu
Akasaka	Baudouin
BMW	Bukh
Caterpillar	CHN 25/34
Cummins	Daihatsu
Detroit	Deutz
Doosan-Daewoo	Fiat
Ford	GE
Grenaa	Guascor
Hanshin	Hatz
Hino	Honda
Hyundai	Isotta
Isuzu	Iveco
John-Deere	Kelvin
Kioti	Komatsu
Kubota	Liebherr
Lister	Lombardini
MAK	MAN B&W
Mercedes	Mercruiser
Mirrlees BS	Mitsubishi
MTU	MWM
Niigata	Paxman
Perkins	Pielstick
Rolls / Bergen	Ruggerini
Ruston	Scania
Shibaura	Sisu-Valmet
SKL	Smit-Bolnes
Sole	Stork
VM-Motori	Volvo
Volvo Penta	Westerbeke
Wichmann	Yanmar

Machinery

ABG	Airman
Akerman	Ammann
Astra	Atlas Copco
Atlas Weyha.	Atlet
Bell	Bendi
Bigjoe	Bobcat
Bomag	BT
Carelift	Case
Caterpillar	Cesab
Challenger	Champion
Claas	Clark
Combilift	Crown
Daewoo-Doosan	Demag
Deutz-Fahr	Dressta

Machinery

Drott	Dynapack
Extec	Faun
Fendt	Fiat
Fiatallis	Flexicoil
Furukawa	Gehl
Genie	Grove-gmk
Halla	Hamm
Hangcha	Hanix
Hanomag	Hartl
Haulpack	Hiab
Hidromek	Hino truck
Hitachi	Hyster
Hyundai	IHI
Ingersoll-rand	JCB
JLG	John-Deere
Jungheinrich	Kalmar
Kato	Kioti
Kleeman	Kobelco
Komatsu	Kramer
Kubota	Lamborghini
Landini	Liebherr
Linde	Link-belt
Manitou	Massey-Ferg.
Mccormick	MDI-Yutani
Mitsubishi	Moxy
Mustang	Neusson
New-Holland	Nichiyu
Nissan	OK
OM-Pimespo	others-tech
Pel-Job	PH-mining
Poclain	Powerscreen
Same	Samsung
Sandvik	Scania
Schaefer	Schramm
Sennebogen	Shangli
Shibaura	Steiger
Steinbock	Steyr
Still	Sumitomo
Super-pac	Tadano
Takeuchi	TCM
Terex	Toyota
Valpadana	Venieri
Versatile	Vogele
Volvo	Weidemann
Wirtgen	Yale
YAM	Yanmar