

Operation & Maintenance Manual

BR350JG-1

MOBILE CRUSHER

SERIAL NUMBERS **BR350JG-1 - 1005** and up

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It is our policy to improve our products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to install such changes on products sold previously.

Due to this continuous program of research and development, periodic revisions may be made to this publication. It is recommended that customers contact their distributor for information on the latest revision.

1. FOREWORD

This manual provides rules and guidelines which will help you use this machine safely and effectively. Keep this manual handy and have all personnel read it periodically. If this manual has been lost or has become dirty and can not be read, request a replacement manual from Komatsu or your Komatsu distributor.

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

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

This manual may contain attachments and optional equipment that are not available in your area. Consult Komatsu or your Komatsu distributor for those items you may require.

WARNING

- **Improper operation and maintenance of this machine can be hazardous and could result in serious injury or death.**
- **Operators and maintenance personnel should read this manual thoroughly before beginning operation or maintenance.**
- **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 or actions as described in this manual.**
- **Komatsu delivers machines that comply with all applicable regulations and standards of the country to which it has been shipped. If this machine has been purchased in another country or purchased from someone in another country, it may lack certain safety devices and specifications that are necessary for use in your country. If there is any question about whether your product complies with the applicable standards and regulations of your country, consult Komatsu or your Komatsu distributor before operating the machine.**
- **The description of safety is given in SAFETY INFORMATION on page 0-2 and in SAFETY from page 1-1.**

CALIFORNIA


Proposition 65 Warning


Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.


2. SAFETY INFORMATION

Most accidents are caused by the failure to follow fundamental safety rules for the operation and maintenance of machines. To avoid accidents, read, understand and follow all precautions and warnings in this manual and on the machine before performing operation and maintenance.

To identify safety messages in this manual and on machine labels, the following signal words are used.

-  **DANGER** – This word is used on safety messages and safety labels where there is a high probability of serious injury or death if the hazard is not avoided. These safety messages or labels usually describe precautions that must be taken to avoid the hazard. Failure to avoid this hazard may also result in serious damage to the machine.

-  **WARNING** – This word is used on safety messages and safety labels where there is a potentially dangerous situation which could result in serious injury or death if the hazard is not avoided. These safety messages or labels usually describe precautions that must be taken to avoid the hazard. Failure to avoid this hazard may also result in serious damage to the machine.

-  **CAUTION** – This word is used on safety messages and safety labels for hazards which could result in minor or moderate injury if the hazard is not avoided. This word might also be word for hazards where the only result could be damage to the machine.

- NOTICE** – This word is used for precautions that must be taken to avoid actions which could shorten the life of the machine.

Safety precautions are described in SAFETY from page 1-1.

Komatsu cannot predict every circumstance that might involve a potential hazard in operation and maintenance. Therefore the safety messages in this manual and on the machine may not include all possible safety precautions. If any procedures or actions not specifically recommended or allowed in this manual are used, you must be sure that you and others can do such procedures and actions safely and without damaging the machine. If you are unsure about the safety of some procedures, contact Komatsu distributor.

3. INTRODUCTION

This manual explains how to operate the machine correctly and how to conduct daily inspections, maintenance and adjustments. Even if you have enough experience of operating similar machines, we recommend you to read this manual by all means because the machine has some unique mechanisms and has to be operated properly. If you find any unclear, improper or insufficient expressions in this manual, please consult Komatsu or your Komatsu distributor.

3.1 RUNNING-IN

The machine was thoroughly adjusted and inspected before shipment. If the machine is operated under severe conditions from the early stage, however, its functions will be degraded earlier and its service life will be shortened. So, be sure to run in the machine for the first 100 hours (to be indicated on the service meter). At the time, pay attention to the following :

- After starting the machine, idle the engine for 5 minutes to warm it up.
- Do not operate the machine with heavy load or at high speeds.
- Avoid sudden start of travel, quick acceleration, sudden steering and sudden stop except in an emergency.

3.2 INSPECTION AND MAINTENANCE

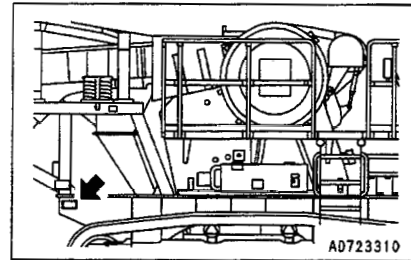
To operate the machine safely and to prevent failure, be sure to check the machine before operation and conduct periodic maintenance. Times mentioned in this manual are ones to be indicated on the service meter. Prepare daily, weekly and monthly maintenance schedules on the basis of these times.

Precautions on operation, maintenance and safety contained in this manual are applicable only when the machine is operated for the specified purposes. If you operate the machine for other purposes, you are responsible for how to operate it safely. In any case, never operate the machine as prohibited in this manual.

4. LOCATION OF PLATES, TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR

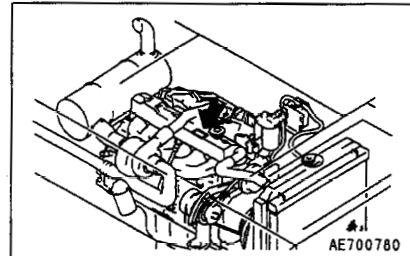
4.1 MACHINE SERIAL NO. PLATE POSITION

Provided at the front on the left side of the frame.



4.2 ENGINE SERIAL NO. PLATE POSITION

Provided on the upper side of the engine cylinder head cover.



4.3 TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR

Machine serial No.:	
Engine serial No.:	
Distributor name:	
Address:	Phone:
Service personnel for your machine:	

REMARK

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MEMO

SAFETY

 **WARNING**

Read and follow all safety precautions. Failure to do so may result in serious injury or death.

This safety section also contains precautions for optional equipment and attachments.

6. GENERAL PRECAUTIONS

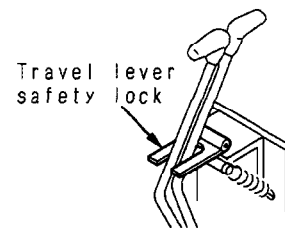
⚠ WARNING: For reasons of safety, always follow these safety precautions.

SAFETY RULES

- ONLY trained and authorized personnel can operate and maintain the machine.
- Follow all safety rules, precautions and instructions when operating or performing maintenance on the machine.
- When working with another operator or a person on worksite traffic duty, be sure all personnel understand all hand signals that are to be used.

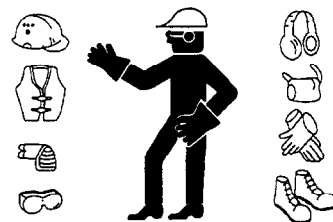
SAFETY FEATURES

- Be sure all guards and covers are in their proper position. Have guards and covers repaired if damaged.
- Use safety features such as safety lock lever and seat belts properly.
- NEVER remove any safety features. ALWAYS keep them in good operating condition.
- Improper use of safety features could result in serious bodily injury or death.



CLOTHING AND PERSONAL PROTECTIVE ITEMS

- Avoid loose clothing, jewelry, and loose long hair. They can catch on controls or in moving parts and cause serious injury or death. Also, do not wear oily clothes because they are flammable.
- Wear a hard hat, safety glasses, safety shoes, mask or gloves when operating or maintaining the machine. Always wear safety goggles, hard hat and heavy gloves if your job involves scattering metal chips or minute materials-this is so particularly when driving pins with a hammer and when cleaning the air cleaner element with compressed air. Check also that there is no one near the machine.

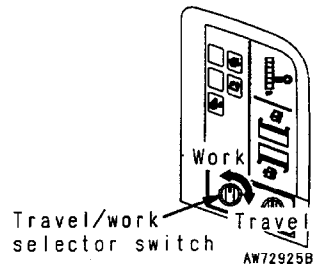


UNAUTHORIZED MODIFICATION

- Any modification made without authorization from Komatsu can create hazards.
- Before making a modification, consult your Komatsu distributor. Komatsu will not be responsible for any injury or damage caused by any unauthorized modification.

LOCKING BEFORE LEAVING OPERATOR'S SEAT

- When leaving the operator's seat, be sure to set the Travel/Work Selector Switch to "Work" position. If not, the machine may start traveling suddenly when you touch the travel lever carelessly, and this may cause serious injury or death.
- Before leaving the machine, be sure to stop the work equipment, to set the Travel/Work Selector Switch to the "Work" position, to stop the engine and to shut all locks. And never leave the key on the machine.

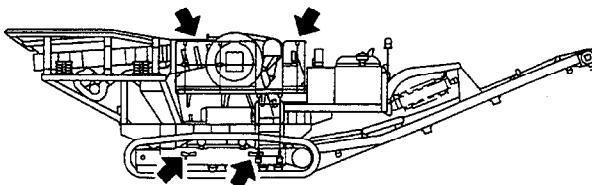


USE HANDRAIL AND STEP WHEN GETTING ON OR OFF MACHINE

- Never jump on or off the machine, especially when it is moving.
- When getting on or off the machine, face to the machine and use the handrails and the step or the track shoe.
- Do not hold any control lever when getting on or off the machine.
- Try to support your body with the handrail, the step or the track shoe at three points at least by using your hands and feet (two hands and a foot or a hand and two feet).
- Wipe up oil and muds on the handrails, the step and the track shoe, if any, and keep them clean all the time. If they have been damaged, repair them, and also tighten loose bolts if any.
- Never get on the engine hood.



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FIRE PREVENTION FOR FUEL AND OIL

Fuel, oil, and antifreeze can be ignited by a flame. Fuel is particularly **FLAMMABLE** and can be **HAZARDOUS**.

- Keep a flame away from flammable fluids.
- Stop the engine and do not smoke when refueling.
- Tighten all fuel and oil caps securely.
- Refueling and oiling should be made in well ventilated areas.
- Keep oil and fuel in the determined place and do not allow unauthorized persons to enter.



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PRECAUTIONS WHEN HANDLING AT HIGH TEMPERATURES

- Immediately after operations are stopped, the engine coolant, engine oil, and hydraulic oil are at high temperatures, and are still under pressure. Attempting to remove the cap, drain the oil or water, or replace the filters may lead to serious burns. Always wait for the temperature to go down, and follow the specified procedures when carrying out these operations.
- To prevent hot water from spurting out:
 - 1) Turn engine off.
 - 2) Allow water to cool.
 - 3) Slowly loosen cap to relieve pressure before removing.
- To prevent hot oil from spurting out:
 - 1) Turn engine off.
 - 2) Allow oil to cool.
 - 3) Slowly loosen cap to relieve pressure before removing.

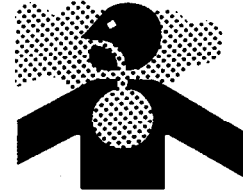


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BEWARE OF ASBESTOS DUSTS

You may be in danger of suffering from lung cancer if you inhale air containing asbestos dusts. No asbestos is used in the machine, but when handling debris which may contain asbestos, pay attention to the following:

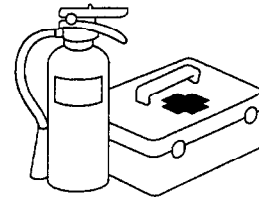
- Do not use compressed air for cleaning.
- Use water for cleaning to prevent asbestos from being scattered in the air.
- When operating the machine at a worksite where asbestos may be contained in the earth, be sure to locate the machine windward.
- Use a proper respirator if necessary.



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FIRE EXTINGUISHER AND FIRST AID KIT

- Be sure fire extinguishers have been provided and know how to use them.
- Provide a first aid kit at the storage point.
- Know what to do in the event of a fire.
- Be sure you know the phone numbers of persons you should contact in case of an emergency.



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PRECAUTIONS ON OPTIONAL PARTS AND ATTACHMENTS

- When mounting an optional attachment to the machine or using the same, read the instruction manual of the attachment and the portions related to it in this manual.
- Do not use any attachments which have not been approved by KOMATSU or your KOMATSU distributor. Such attachments may cause problems on safety or may exert adverse influence to operation and the service life of the machine.
- We shall not be responsible for injury, accident and trouble of the machine resulted from use of such attachment.

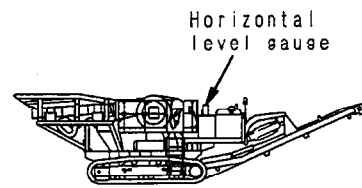
7. PRECAUTIONS DURING OPERATION

⚠ WARNING: For reasons of safety, always follow these safety precautions.

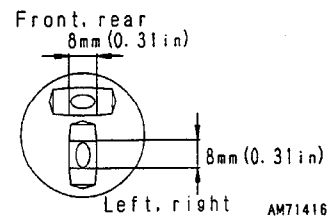
7.1 BEFORE STARTING ENGINE

SECURING SAFETY AT WORKSITE

- Assure safety at the worksite before starting operation.
- Examine the terrain and soil conditions of the worksite, and determine the best method of operation.
- Level the ground with the level fitted on the machine if the worksite is inclined.
- Install the machine so that the level bubble stays horizontally and vertically in the illustrated range (8 mm (0.31 in) ± 2°).
- In case of operation on road, station signalpersons around the worksite and surround the worksite with fences to protect vehicles and pedestrians.



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FIRE PREVENTION

- Thoroughly remove wood chips, leaves, paper and other flammable things accumulated on the engine compartment. They could cause a fire.
- Check fuel, lubrication, and hydraulic systems for leaks. Have any leaks repaired. Wipe up any excess oil, fuel or other flammable fluids.
Check point → See "12.1.1 WALK-AROUND CHECK".
- Be sure a fire extinguisher is present and working.



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VENTILATION FOR ENCLOSED AREAS

- If it is necessary to start the engine within an enclosed area, provide adequate ventilation. Exhaust fumes from the engine can KILL.

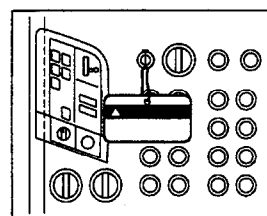
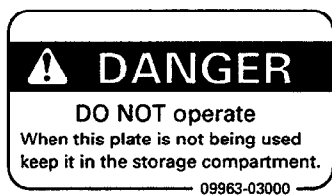


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7.2 WHEN AND AFTER STARTING ENGINE

WHEN STARTING ENGINE

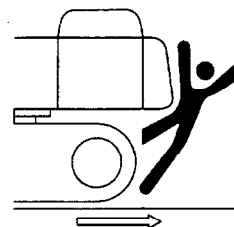
- Before getting on or off the machine, check again that there is no person around the machine.
- When a warning tag is hung on the control unit, do not start the engine.
- Before starting the engine, sound the horn as an alarm.
- Take the operator's seat and then start and operate the machine.
- Do not allow any person other than the operator to get in the cab as well as on the machine.
- If the machine has been fitted with a travel alarm, check that the alarm works normally.



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WHEN TRAVELING MACHINE FORWARD OR BACKWARD, CHECK THAT NO PERSON IS AROUND

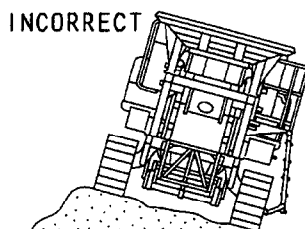
- Station signalperson(s) near dangerous place(s) and in poor visibility areas.
- Arrange so that no person can enter the area where the machine is moving to.
- Before moving the machine, sound the horn or give a signal to warn people not to approach the machine.
- There are blind spots behind the machine. Before moving it backward, make sure that there is no person around the machine.



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CAUTIONS IN TRAVELING

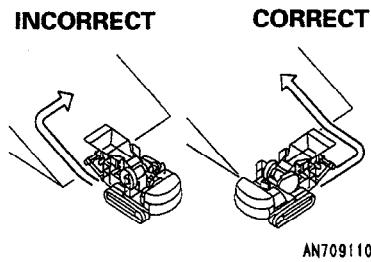
- Travel slowly on uneven grounds and avoid a sudden steering when changing the course.
- Try to remove obstacles ahead. If it is difficult, travel the machine over them at a slow speed keeping the work equipment low. In that case, take care that the machine is not inclined over 10° on one side.



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TRAVELING ON SLOPE

- When traveling on a slope, take care that the machine does not tip over nor slip aside.
- Do not change the traveling direction on the slope not travel the machine across the slope. Travel it down the slope to a flat ground and take a detour to travel it safely.
- The machine slips aside easily when traveling over grass, fallen leaves or wet steel plates even on a gentle slope. Do not travel the machine sideways and reduce the speed.



AVOID APPROACHING HIGH-VOLTAGE AREA

- Do not travel the machine too close to high voltage cables, but you will get an electric shock. Keep the following safety distance between the machine and high voltage cables.
- To prevent the accident, the following are effective:
 - 1) Wear rubber- or leather-soled shoes.
 - 2) Station a signalperson to warn you not to travel the machine too close to high voltage cables.
- When workers are doing some operations near high voltage cables, do not allow them to get too close to the machine.
- Inquire the electricity company in the area for the voltage of cables in the worksite.

Voltage	Min. safety distance	
	m	ft
6.6 kV	3 m	10ft
33.0 kV	4 m	14ft
66.0 kV	5 m	17ft
154.0 kV	8 m	27ft
275.0 kV	10 m	33ft

⚠ WARNING: Failure to follow these safety precautions may lead to a serious accident.

7. PRECAUTIONS DURING OPERATION

PREVENT WORK EQUIPMENT FROM HITTING

- When operating the machine in a narrow space or where there are some obstacles around, use care that the machine does not hit against the belt conveyor.

SECURE GOOD VISIBILITY

- When operating the machine in a dark area, light the working lamp and the head lamp, or make the area bright by installing lighting facilities if necessary.
- When the visibility is poor due to fog, snow or rain, stop operating the machine until it recovers so that you can operate it without difficulty.

CAREFUL OPERATION ON SNOW

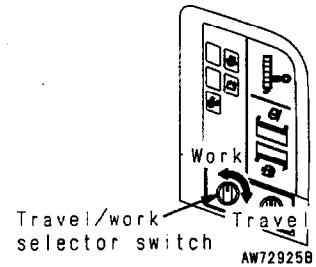
- When traveling on a snow-covered or icy road inclined slightly, reduce the speed and avoid a quick start, sudden stop and quick turning to prevent it from slipping sideways.
- Remove snow very carefully because it is hard for you to find the road shoulder and installations under the snow.

LARGE TIPPING POSSIBILITY ON LOOSE GROUND

- Since grounds near a cliff, shoulder and deep ditch are loose, avoid approaching there. Due to weight and vibration of the machine, the ground may collapse and the machine may tip over or fall. After a rain or blasting, the ground has become loose. Operate the machine very carefully.
- Piled soil and the ground near a ditch are loose and may collapse due to weight and vibration of the machine, and the machine will be inclined.
- Install the head guard to the machine before operating the machine in an area in danger of falling rocks.

PARKING OF MACHINE

- Park the machine on a flat ground. When you have to park it on a slope, block the tracks to stop the machine completely.
- When parking the machine on a public road, arrange fence, flag, lighting or other warning sign around or on it as clearly as other vehicles can recognize it and as far as they do not obstruct other traffic.
- When leaving the machine, stop the work equipment certainly, set the Travel/Work Selector Switch to the "Work" position, stop the engine and shut all locks. Be sure to take off the key from the machine.
Parts to be locked → See "12.13 LOCKING".



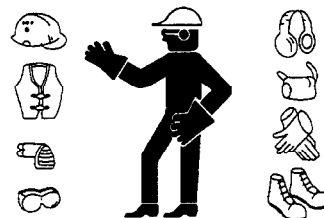
▲ WARNING: Failure to follow these safety precautions may lead to a serious accident.

7. PRECAUTIONS DURING OPERATION

7.3 CRUSHER (CRUSHING) OPERATIONS

BASIC OPERATION 1: SURROUNDING CHECK

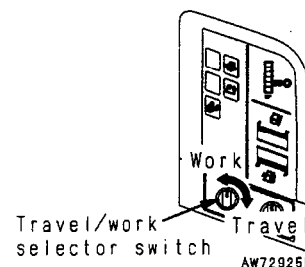
- As a safety measure for the surroundings, install screens around the machine beforehand.
- Crusher workers must wear protective glasses and a dust-proof mask as well as a helmet.



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BASIC OPERATION 2: SETTING TRAVEL/WORK SELECTOR SWITCH TO "WORK" POSITION

- Set the Travel/Work Selector Switch to the "Work" position and switch on the crusher motor.
- If the selector switch has been set to the "Travel" position, the crusher does not start even if the crusher motor switch is pressed.



BASIC OPERATION 3: JOINT AND SAFE OPERATION WITH A HYDRAULIC EXCAVATOR

- The operator must jointly operate together with a loader and hydraulic excavator. Perform safe operations by giving mutual signals and observing the following rules.
 - ① The hydraulic excavator operator should arrange the machine in a position from which incidental workers in the hopper and the sorting worker at the belt conveyer can be seen. (Refer to the figure.)
 - ② The operator should stand in a position from which the bucket of the hydraulic excavator and the operator can be seen.
The next loading operation should be started with the operator's signal.

(Refer to the figure shown on the next page.)