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# ■ Amusement Devices

■ A GUIDE FOR OWNERS AND OPERATORS

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**Important Note:**

All the publications in the Publications Archive contain the best guidance available at the time of publishing. However, you should consider the effect of any changes to the law since then. You should also check that the Standards referred to are still current.

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## ■ Introduction

The Amusement Devices Regulations 1978 made pursuant to the Machinery Act 1978.

The regulations were introduced to improve safety and give effect to the findings of a committee of inquiry that was set up to investigate a fatal Ferris wheel accident which occurred at Palmerston North in 1973.

Other fatal accidents involving amusement devices have included a small trailer-mounted Ferris wheel, a chair-o-plane and Can-Am cars.

Because of such accidents, there is still a need for Regulations to be in place. They are administered by inspectors of the Occupational Safety and Health Service (OSH) of the Department of Labour who have all the powers of inspectors of machinery including the right of entry and examination.

It is important that owners and operators of amusement devices familiarise themselves with the requirements of these regulations.

This booklet covers matters directly relating to requirements and duties of owners and operators of amusement devices to explain the provisions of these regulations. *It is intended to be a guide only and must be read in conjunction with the 1978 Regulations and the Machinery Act 1950. It is not to be treated as a substitute for the Regulations.*

Copies of the regulations and the Machinery Act 1950 may be obtained from GP Books Limited or their local agencies.

## ■ What is an amusement device?

The Machinery Act 1950 defines an amusement device as follows:

“Amusement device” means an appliance to which the motion of a prime mover is transmitted and which is used, or designed or intended to be used, for the amusement, recreation, or entertainment of persons being carried, raised, lowered, or moved by the appliance, or any part thereof while it is in motion; and includes the prime mover, transmission machinery, supporting structure, and any equipment used or intended to be used in connection therewith.”

In plain English, this means any mechanically-powered unit that is used for rider entertainment.

Traditionally, fairground machinery, e.g. merry-go-rounds, Ferris wheels, roller coasters, etc., were typical examples of amusement devices.

However, today we see a multitude of appliances that come within the “amusement device” definition. These include bumper boats, Can-Am cars, bumper cars, indoor go-kart operations, mini bikes (three and four wheel all terrain vehicles) and the like.

On a broader interpretation, activities such as parasailing, jet skiing, “magic carpet riding” and bungee jumping are amusement devices.

It should be noted that bungee jumping activities require registration when a mobile crane and platform are used. Where it is carried out from fixed structures such as bridges, towers, etc. registration under the regulations is not required but still has to be carried out in accordance with NZS 5848:1990 *Code of practice for bungee jumping*.

It is becoming increasingly popular to operate amusement devices from permanent locations such as fun parks and the like.

Until the mid-1980s the majority of amusement devices operated in New Zealand were of an “itinerant” nature. Amusement devices are regularly seen at locations such as school galas, A and P shows, shopping malls, large car parks, sporting venues, horse race meetings, etc.

## ■ Application for registration

■ All amusement devices must have a certificate of registration issued by the Department of Labour.

■ Registration application forms (Form 1 -Lab MA 1) can be obtained from the nearest Occupational Safety and Health Service office (see the list of branch offices at the back of this booklet).

Every application must be accompanied by:

- (a) At least two photographs, minimum size 150 mm by 100 mm, each showing the whole of the device and taken from different positions;
- (b) A certificate from a registered engineer (who holds a current practising certificate) confirming that the device has been examined in accordance with the regulations and can be operated safely;
- (c) The prescribed fee as at 1 October 1991 is \$30.00 plus GST = \$33.75.

■ A separate application is required for each device unless a number of individual machines, such as dodgems, Can-Am cars, mini bikes, etc., are used and operated within one enclosure, in which case one application will suffice.

## ■ Display of registration number

When a certificate of registration (Form 3 - Lab MA 2) has been issued, the registration number recorded on the certificate must be displayed on the device. This number is to be clearly legible, minimum size 100 mm high, made of durable material and fixed in a prominent place as close as possible to the operator's controls.

Where the device comprises a number of appliances covered by one registration, each appliance must display the registration number.

## ■ Period of registration

Normally registration is for a period of two years. However, the examining engineer may specify a lesser period.

## ■ Re-registration

When your registration certificate is about to expire you should take steps to renew the registration as follows:

- Complete an application form (Form 1 - Lab MA 1).
- Arrange for inspection by a registered engineer holding a practising certificate.
- Forward the application form, engineers certificate of examination, photos and the prescribed fee to the Occupational Safety and Health Service, Department of Labour, PO Box 3705, Wellington.
- Make sure that your application for renewal is received by the Department of Labour within one month of the engineer's examination.

NOTE: Don't leave your application till the last moment. If you require the certificate of registration for a specified date, make sure that your application is received by OSH at least 14 clear days before the date.

To ensure prompt processing, it is a good idea to check your application over before despatch. Where insufficient notice is given, there can be no assurance that applications will be processed to meet deadlines the owner may desire.

### ■ Permit to operate

Before a registered device is operated, the owner must apply to the appropriate local authority for a permit.

- The application to the local authority is to be made on Form 4 - Lab MA 3.
- The application is to be accompanied by the certificate of registration of the device; and
- The prescribed fee.

When the local authority is satisfied that the device has current registration and can be operated on the proposed site, without danger to operators, users and others in the vicinity, the permit will be issued.

Owners should note that if the device is resited, a new permit is necessary. Also, a local authority may cancel a permit if, in its opinion, the device to which it relates cannot be operated safely.

### ■ Alteration or damage

In every case where an amusement device is:

- (a) altered or repaired; or

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- (b) involved in any substantial mishap, e.g. collapsing, capsizing, etc.; or
- (c) repaired after suffering damage necessitating welding or the replacement of a load-bearing part (other than a bolt);

the owner must, before using the device again:

- notify the Occupational Safety and Health Service on Form 6 - Lab MA 6;
- obtain a certificate from a registered engineer confirming that the alteration or repair has been examined and that the device is still capable of supporting the maximum load that it was designed to support at the speed/s at which it was designed to move;
- forward this notice directly to the General Manager's Office, Occupational Safety and Health, Department of Labour, PO Box 3705, Wellington with the certificate of registration and the engineer's certificate of examination.

NOTE: An inspector may cancel the certificate of registration if

- the device has been involved in an accident; or
- if the inspector considers it has become unsafe following any repairs or alterations; or
- it has deteriorated to the stage where the inspector considers it to be unsafe.

## ■ Design and construction

When an engineer examines your device for the issue of a certificate of registration he/she is required to consider the following:

- Whether the device is soundly constructed of proper materials and free from obvious defects.

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- Whether a braking system is necessary, and if so, if it is suitable and effective. Where there is the possibility of accidental collision in the event of normal controls failing, that the device is equipped with a suitable and effective emergency braking system.
- That a governor capable of controlling the maximum safe operating speed is fitted, unless the device is capable of being driven above that speed.
- Where there is a risk of passengers being thrown out of a device, suitable restraints, of a type which cannot be inadvertently or accidentally released, are fitted.
- A visual indicator showing the speed is fitted to all rotating devices.
- That those parts of the device which passengers come in contact with are smooth, free from sharp, rough or splintered edges and corners and have no protruding studs, bolts, screws or other projections which are likely to cause injury.
- Devices operated on tracks are provided with antiroll-back apparatus which is automatically applied if the propelling mechanism fails.
- If the device is such that passengers are normally retained in position by dynamic forces, means are provided to ensure that they remain safe in the event of power or transmission failure.
- Where any part of a device moves around, over or under persons being carried on some other part of the device which remains stationary, the device is so equipped that such persons are prevented from coming into contact with any moving part.
- That the device is capable of supporting the maximum

load to which it may be subjected and of moving safely at the speeds at which it is designed to move.

### ■ **Protective fences or barriers**

- Where necessary, for the protection of the public, owners of amusement devices must ensure that suitable protective fences or barriers are erected to prevent persons entering or leaving a device except by the normal means of access or egress.
- All fences and barriers round a device must be kept in a good state of repair and maintained in that condition and free from obvious defects.

### ■ **Erection, repair and maintenance**

An owner of an amusement device must ensure that:

- The device is erected and operated in compliance with the conditions set out in the certificate of registration;
- All parts are properly aligned and not bent, distorted, cut or damaged in order to force-fit parts together;
- Worn or damaged parts are not used;
- Appropriate parts are lubricated during erection and at proper intervals thereafter;
- Fastening and locking apparatus is installed where required for safe operation, and is properly secured;
- Makeshift apparatus is not used;
- Suitable artificial lighting is installed, where necessary, for the safety of passengers;
- The device and all safety equipment and other fixtures

around it are kept in a good state of repair and maintained in such condition free from obvious defects.

Any welding of load-bearing parts is done by a welder appropriately qualified for the type of welding carried out;

Where split pins or taper pins are used in floating spindles, washers shall be fitted between the pins and adjacent rubbing surfaces. The correct pins shall be used at all times.

NOTE: If an inspector considers there is a defect or lack of maintenance he/she may require the owner to:

- carry out all necessary improvements to fulfil the conditions of the certificate of registration; and
- have the device further examined by a registered engineer. The inspector also has power to cancel the registration certificate in certain circumstances.

## ■ Inspections and record keeping

The owner of an amusement device must:

examine the device on each occasion it is erected to ensure it fully complies with the Amusement Devices Regulations 1978; inspect the device at least once each day, before it is used, to ensure that it is in a safe operating condition;

carry out a close visual examination of all parts during erection of the device to ensure no wear and/ or damage has occurred; and examine all fastenings, including nuts, bolts and split pins, after erection of the device and before its operation to ensure they are properly installed.

NOTE: An inspection must include the operation of control mechanisms, speed limiting apparatus, brakes, fastenings and other safety equipment including fences and barriers, to

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ensure that they are in a safe condition.

- The device and all safety equipment and other fixtures around it are kept in a good state of repair and maintained in such condition free from obvious defects;
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- ARCHIVE
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NOTE: An inspection must include the operation of control mechanisms, speed limiting apparatus, brakes, fastenings and other safety equipment including fences and barriers, to ensure that they are in a safe condition.

- Keep a register in which must be recorded a description of the device, the name of the owner, the registration number of the device, the date and details of inspections and examinations carried out and details of any alterations or repairs made to the device.

This register must be kept for a minimum of two years and is to be made available at all times for inspection by an Occupational Safety and Health Service inspector or an authorised officer of a local authority.

## ■ Training of operators

The owner of an amusement device must ensure every person who is permitted to operate or take charge of an amusement device:

- is 18 years of age or older;
- has been adequately instructed and told of the dangers and precautions necessary for the safe operation of the device;
- has received sufficient training to safely operate the device, including the safety of persons operating it and persons in its vicinity;
- has received directions on the safe loading of the device, the use and maintenance of all safety equipment, the safe

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operating speed and what to do in a emergency to protect passengers and the public;

- is properly supervised until proficient in operating the device.

## ■ Duties of operators

Devices must not be operated:

- in a reckless or negligent manner;
- faster then the safe operating speed;
- by persons under the influence of intoxicating liquor or drugs; and
- without ensuring that all safety apparatus is provided and able to be used.

## ■ Notification of accidents

Where any person is killed or suffers serious bodily injury as the result of an accident involving an amusement device, the owner of the device must notify the OSH inspector and the local authority in whose area the device was operating within 48 hours after the accident.

Notification forms (Form 7 - Lab MA 5) can be obtained from any OSH office.

## ■ Notification of incidents

The owner of the device must notify the OSH inspector and the local authority in whose area the device was operating within 48 hours after the incident where the device has:

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- capsized; or
  - collapsed; or
  - a load-bearing part has failed; or
  - a safety appliance has failed.

Notification forms (Form 7 - Lab MA 5) may be obtained from any OSH office.

### ■ Notification of change of ownership

Within one month of a change in the ownership of an amusement device, the former owner must notify the OSH inspector in writing on the name and address of the new owner.

This notification should be sent direct to the Inspector of Machinery, General Manager's Office, Occupational Safety and Health Service, Department of Labour, PO Box 3705, Wellington.

### ■ Other safety precautions

The Machinery Act 1950 and the New Zealand Standard NZS 9201 ch 10 : 1972 *Model General Bylaws* list certain safety precautions relating to operating amusement devices. Owners should familiarise themselves with these requirements. Some of the precautions and other general recommendations are as follows:

#### **(a) Guarding of machinery**

Machinery used in or with an amusement device must be adequately guarded. This includes the secure fencing of all moving parts of the prime mover, all parts of the transmission and all dangerous parts from which there is a risk of injury.

Advice on guarding is available from any office of the Occupational Safety and Health Service. Guards removed for maintenance purposes must be replaced before normal operation is resumed.

Where an inspector considers a device to be unsafe, he may require it to be stopped until the defect has been remedied.

**(b) Safe access**

Passenger loading and unloading platforms and similar facilities must be kept clear of debris, obstructions and slippery conditions.

**(c) Fire protection**

Suitable fire extinguishers should be provided to ensure reasonable and adequate fire control.

**(d) Loading**

Care should be taken to ensure that passenger loading is evenly distributed on rotating devices.

**(e) Electrical safety**

All electrical wiring equipment and apparatus used for amusement devices or lighting should conform with the Electrical Wiring Regulations 1976.

Where necessary, isolating transformers should be used in electrical supply link-ups to amusement devices.

**(f) Local authority requirements**

In addition to the "Permit to Operate", the local authority may require other issues to be addressed, particularly at indoor venues such as indoor go-kart operations, etc.

Such considerations would include:

- provision of emergency lighting
- fire fighting equipment

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- emergency evacuation procedures
  - dangerous goods (both storage and the safe use of)
  - alternative means of access and egress
  - emission of exhaust fumes, etc.
  - noise levels.

***(g) Other hazards***

Whenever conditions arise that cause unusual or extraordinary hazards to persons (high winds, torrential rain, etc.) owners should take every appropriate precaution to ensure safety. It may be desirable to stop the device while the abnormal condition exist.

***(h) Intoxicated persons***

No person who is obviously in a state of intoxication, or under the influence of drugs is to be allowed to operate any device. Nor should operators allow any person in this condition to ride any device.

**■ OSH branch offices**

Branch offices of the Occupational Safety and Health Service, Department of Labour are located at:

- |                    |                |
|--------------------|----------------|
| ■ Whangarei        | ■ New Plymouth |
| ■ Manukau City     | ■ Napier       |
| ■ New Lynn         | ■ Wellington   |
| ■ Penrose          | ■ Lower Hutt   |
| ■ Takapuna         | ■ Nelson       |
| ■ Hamilton         | ■ Christchurch |
| ■ Rotorua          | ■ Dunedin      |
| ■ Tauranga         | ■ Invercargill |
| ■ Palmerston North |                |