

**DRAFT**  
**GUIDELINES FOR GRANTING OF**  
**EXEMPTION PERMITS FOR THE**  
**CONVEYANCE**  
**OF ABNORMAL LOADS AND FOR**  
**OTHER EVENTS**  
**ON PUBLIC ROADS**

**TRH 11**

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# FOREWORD

The need for the Provinces to adopt a uniform policy on the conveyance of abnormal loads has been felt for some years. In 1970 a committee was therefore appointed to draw up recommendations for a policy regarding the conveyance of abnormal loads. A committee, the Abnormal Loads Committee, functioned as a sub-committee of the Committee of State Road Authorities.

The recommendations of the Abnormal Loads Committee were accepted by the National Transport Commission and the Committee of State Road Authorities and were approved by the then Administrators of the Cape, Natal, Orange Free State, Transvaal and South West Africa in October 1973.

During 1974 the NITRR of the CSIR, on behalf of the Abnormal Loads Committee, published a document titled “The Conveyance of Abnormal Loads (TRH11, 1974)” which contained recommendations on dimensional and mass limitations as well as escort requirements for abnormal vehicles.

In 1996 the Abnormal Loads Technical Committee was reconstituted under the Roads Coordinating Committee (RCC) of the Committee of Land Transport Officials (COLTO).

Experience gained in the administration and application of these guidelines has resulted in this draft of the Guidelines for the Granting of Permits for the Conveyance of Abnormal Loads.

**Chairman: Abnormal Loads Technical Committee**

## SYNOPSIS

The rules and conditions which apply to the transport of abnormal loads and vehicles on public roads and the detailed procedures to be followed in applying for exemption permits are described and discussed. Legal axle load limits and the restrictions imposed on abnormally heavy loads are discussed in relation to the damaging effect on road pavements, bridges and culverts. The general conditions, limitations and escort requirements for abnormally dimensioned loads and vehicles are also discussed and reference is made to speed restrictions, power/mass ratio, mass distribution and general operating conditions for abnormal loads and vehicles.

Provision is also made for the granting of permits for all other exemptions from the requirements of the Road Traffic Act and the relevant Regulations.

## SINOPSISIS

Die reëls en voorwaardes wat van toepassing is op die vervoer van abnormale vragte en die gebruik van abnormale voertuie op openbare paaie en die besonderhede oor die prosedures wat gevolg word wanneer daar aansoek gedoen word om 'n vrystellingspermit, word beskryf en bespreek. Wettige lasbeperkings en die beperkings ten opsigte van abnormale vragte en voertuie word bespreek met betrekking tot die skadelike uitwerking van voertuiglaste op padplaveisels, brue en duikers. Die algemene voorwaardes, beperkings en begeleidingsvereistes vir vragte en voertuie met abnormale afmetings word ook bespreek en daar word verwys na spoedbeperkings, kragmassaverhoudings, massaverspreiding en die algemene bedryfsvoorwaardes vir abnormale vragte en voertuie.

Voorsiening word ook gemaak vir die toestaan van permitte vir alle ander vrystellings van die bepalings van die Padverkeerwet en die toepaslike Regulasies.

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## GLOSSARY

This glossary is intended to supplement the definitions contained in the Road Traffic Act of 1989 and Regulations, and the Road Transportation Act of 1977. Existing definitions are therefore not repeated.

**Abnormal load** means a material object which, due to its dimensions and/or mass, cannot be transported on a vehicle or vehicles without exceeding the limitations of either dimension or mass contained in Chapter III, Part Three and Part Four of the Road Traffic Regulations.

**Abnormal vehicle** means a vehicle or a combination of vehicles which, by virtue of its dimensions or mass, or a combination of both, does not comply with the requirements of Chapter III Part Three and Part Four of the Road Traffic Regulations.

**Administrative Officer** means a person appointed by the carrier and who, as far as the abnormal load or vehicle is concerned, is responsible for all deeds and actions of the carrier to whom a permit has been granted.

**AV Number** means a reference number which has been allocated to a vehicle, or a combination of vehicles, and which has been entered in a Register of Abnormal Vehicles approved by the Provincial Authorities.

**Bridge** means any structure designed to carry vehicular traffic and which spans a gap of more than 6 m.

**Dolly** means any of the following:

- (a) a trailer with one or more axles designed or adapted generally or specifically for supporting the rear end of a self-supporting load; or
- (b) a converter dolly which is a trailer with one or more axles equipped with a fifth wheel, a drawbar and other parts necessary to convert a semi-trailer to a trailer or
- (c) an adapter dolly, which is a semi-trailer with one or more axles equipped with a kingpin, a fifth wheel and other parts necessary for attaching it to the rear end of a truck-tractor between a truck-tractor and a semi-trailer.

**Drawbar trailer** is a trailer that is attached to a drawing vehicle by a drawbar.

**Driver** means, in addition to the definition contained in the Road Traffic Act, any person who controls or activates the steering mechanism of any steerable axle or axle unit of a trailer or semi-trailer.

**Dual tyre spacing** means the distance from the centre of the tread of one tyre to the centre of the tread of the closest tyre similarly mounted on a 4 wheel axle.

**Dual wheel** means two tyres, mounted on separate rims, rigidly attached at the ends of a four tyre axle

**Effective width** means the dimension used in calculating loads on bridges, and is determined by adding 1,2 m to the width of a vehicle measured to the outside of the tyres. If the distance between adjacent tyres exceeds 1,2 m, such excess must be deducted from the effective width.

**Escort** means a person in a separate escort vehicle accompanying an abnormal load/vehicle for the purpose of assisting other road users and giving timely warning of the presence of an abnormal load/vehicle.

**Self-escort** means an escort provided by the operator of an abnormal load vehicle, who has no authority over other road users.

**Accredited escort** means an escort provided by the road traffic authorities or other accredited organization.

**Equivalent single wheel mass (ESWM)**, means the isolated single-wheel load which, operating at 520 kPa cold tyre pressure would produce the same effect in a particular pavement as that produced by all the wheels in that group.

**Extendable semi-trailer** means a semi-trailer constructed with a telescopic chassis to enable the overall length and wheelbase to be increased as required.

**Fifth wheel** means a device fitted to a truck-tractor, adapter or converter dolly in order to permit articulation between the said unit and a semi-trailer.

**Guidelines** means the guidelines for the conveyance of abnormal loads, maintained by the Abnormal Loads Technical Committee consisting of official representatives from all nine provinces, the Road Freight Association, the SA Association of Road Transport Consultants, the Association of Abnormal Load Carriers, CSIR, the National Department of Transport

**Indivisible load** means a load which cannot, without disproportionate effort, expense or risk of damage, be divided into two or more loads for the purpose of transport on public roads.

**Kingpin** means the attaching pin on semi-trailer or adapter dolly which matches the fifth wheel on the truck-tractor, adapter or converter dolly, coupling the vehicles together.

**Payload** in relation to an axle, vehicle or combination of vehicles, means the mass of those goods being carried by the axle, vehicle or combination of vehicles, and includes any special equipment required for securing a particular load.

**Permit** means an abnormal load/vehicle or other exemption permit issued by a Roads Authority in terms of Section 139 of the Road Traffic Act (Act 29 of 1989), authorising the movement on or use of a public road for an event or of an abnormal load/vehicle/ combination of vehicles subject to such terms and conditions and the payment of such fees as may be imposed.

**Person in charge** means the person responsible at an event or the person appointed by the carrier operating an abnormal vehicle or operating a vehicle carrying an abnormal load, to accompany such a vehicle or load in order to supervise operations and ensure compliance with the permit conditions. He must assume full responsibility on behalf of the carrier while the vehicle is on the road.

**Power/mass ratio** means the ratio between the nett power of the engine(s) in the hauling vehicle(s) and the gross mass of the vehicle(s) or combination of vehicles .

**Register of abnormal vehicles** means a record of abnormal load vehicles, details of which have been submitted to, and which have been accepted by the Provincial Authorities as being suitable for the conveyance of abnormally heavy loads.

**Rigid vehicle** means a single vehicle with two or more axles or groups of axles operating independently.

**Self-supporting load** means a load which, because of its design and construction, is used as part of the structure of the vehicle or combination of vehicles.

**Sequence number** means a reference number which has been allocated to a single vehicle or to a component vehicle of a combination and which has been entered in the Register of Abnormal Vehicles by the Provincial Authorities.

**Steerable axle** means an axle which may be steered either manually or automatically. A **steerable axle group** is steerable in the sense that it is capable of moving the vehicle laterally in a controlled manner.

**Steerable dolly** means a dolly equipped with a turntable to enable it to pivot.

**Steering ratio** means the ratio of the load on the active steering axles of a rigid vehicle, truck-tractor or drawing vehicle to the sum of all actual axle loads of the vehicle or combination, whichever is applicable.

**Tag axle** means a non-powered, independently-suspended axle in an axle unit.

**Wheeltrack** means the measurement to the outside of the outer wheels of the narrowest axles of a vehicle.

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# CHAPTER I

## INTRODUCTION

### 1.1 GENERAL OVERVIEW

To protect the investment in roads as well as for reasons of road safety and traffic management, the permissible dimensions and masses of vehicles operating on public roads are limited by the Road Traffic Act and Regulations

Under special circumstances a need may arise for activities that may not be allowed under normal conditions (such as mass sporting events) or it may be necessary to accommodate vehicles or loads that are practically unable to comply with the provisions of the Road Traffic Act and Regulations. In such cases the Act empowers roads authorities to issue exemption permits under strictly controlled conditions in terms of firm guidelines as set out in this document and the provisions of Section 139 of the Road Traffic Act (Act 29 of 1989) which reads as follows:

*the vehicle and load may be exempted from provisions of this Act*

An Administrator may, subject to such conditions and upon payment of such fees or charges as he may determine, authorise in writing, either generally or specifically, the use of a public road or the use of a vehicle which does not comply with the provisions of the Act or the conveyance on a public road of passengers or any load otherwise than in accordance with the provisions of this Act.

**A permit for road usage or to convey an abnormal load or the use of an abnormal vehicle is a privilege and not a right and it is not the intention of this policy to circumvent the Act and Regulations.**

It is advisable to obtain prior approval in principle from the authorities before arranging an otherwise illegal event or before an abnormal vehicle or load is purchased, imported or constructed.

### 1.2 OPERATING CONSIDERATIONS AND THE ADMINISTRATION OF ABNORMAL LOADS AND VEHICLES

In view of the unusual size and mass of abnormal vehicles and the loads they carry, it is essential that particular attention be paid to the personnel operating abnormal vehicles, to the vehicles themselves and to obtain insurance against expenses incurred in case of damage to public property.

## **1.2.1 PERSONNEL**

All personnel employed for the operation of abnormal vehicles and loads must be fully conversant with their duties and responsibilities.

The following personnel are required for and associated with the transportation of abnormal loads (the same persons may fulfil one or more of these functions):

- the owner or his authorised representative and
- the driver and/or the person in charge.
- escorting personnel

The requirements of each of these are as follows:

### **1.2.1.1 The Owner of the Vehicle**

- a) Full responsibility for the application of the permit and compliance with the permit conditions, lies with the owner, even if he is represented by an agent.
- (b) He must be capable of passing a test, compiled by the Issuing Authority, on the Road Traffic Act and Regulations (Act 29 of 1989) and on Guidelines for the Conveyance of Abnormal Loads as laid down in the TRH 11.
- (c) He must be registered with the Provincial Authorities as the owner of the vehicle.
- (d) He must be able to certify that the driver is qualified to drive the vehicle.

### **1.2.1.2 The Driver and/or the Person in Charge**

- (a) He must have an unendorsed driver's licence of the appropriate category.
- (b) He must be in possession of a professional driving permit as required in terms of Section 41 of the Road Traffic Act (Act 29 of 1989).
- (c) He must be conversant with the conditions of the permit.
- (d) He must be capable of passing a test, compiled by the issuing authority on the Road Traffic Act and Regulations and on the Guidelines for the Conveyance of Abnormal Loads as laid down in TRH 11.

### **1.2.1.3 Escorting Personnel**

The permit conditions may include the necessity for escorting vehicles that may either, as stipulated on the permit, be private or accredited.

### **1.2.2 INSURANCE**

Before a permit is granted, the applicant may be required to produce evidence that adequate insurance cover has been provided against accidental or wilful damage which may be caused to public services or structures or to private property, either above or below ground. Adequate cover is considered to be not less than R500 000, unless the Administration concerned considers the abnormality to be such that a lesser, or no insurance cover is required.

### **1.2.3 ROADWORTHINESS OF VEHICLES**

It is most important that abnormal load vehicles be in good mechanical condition. Under the Road Traffic Act public motor vehicles are required to possess a certificate of roadworthiness renewed annually. However, at present (June 1999) vehicles used as abnormal load vehicles do not require such a certificate unless it is specifically required as a special permit condition. The person in charge may be required to certify before the commencement of the journey that the vehicle is in a roadworthy condition.

It is anticipated that after the Act has been changed, all vehicles, including those with an exemption permit, will be required to have a valid certificate of fitness unless it is specifically exempted from this requirement in the permit.

In the case of a roadworthy certificate being sought for an articulated vehicle for which an AV number has been issued, the applicant must provide the vehicle examiner with details of the vehicle(s). It will be incumbent on the applicant to satisfy the examiner that when two or more vehicles in a combination of vehicles, for which AV numbers have been issued, are coupled together, the braking and electrical systems of the individual vehicles are compatible and efficient. Also, when there is more than one brake line connecting the brake system of one vehicle to another, it must not be possible to connect the brake line incorrectly.

It is one of the primary functions of accredited escorts to inspect every aspect of a vehicle and the permit before commencement of any journey to ensure the safety and roadworthiness of the vehicle.

### **1.2.4 REGISTRATION OF VEHICLES**

Exemption permits for the conveyance of abnormal vehicles and loads will be granted as a rule only when the vehicles to be used have been approved for this purpose and entered in a "Register of abnormal vehicles or vehicles used for conveyance of abnormally heavy loads". Before a vehicle is entered in this Register, its owner must submit full details of the vehicle to the relevant provincial authorities and, if required, calculations of its load capacity. The vehicle will then be entered in the Register for that province and a sequence number and/or an AV number allocated to it.

The object of granting permits is not to extend the capacity of normal vehicles. When a load can be carried legally (or be over the legal limit to a lesser extent) by a more suitable vehicle, then permits (and registration of vehicles) will not be permitted except in exceptional cases involving dimensional abnormality. Vehicles with twin rear axles fall within this category.

The owner will be advised as to the maximum load for which a permit will normally be granted. All component vehicles, ie truck tractors, dollies, semi-trailers and trailers or other types of abnormal vehicle will initially be registered separately and be referred to by their licensed registration numbers and by a sequence number. Matched vehicles will then be registered on request as abnormal vehicle combinations.

Any semi-trailer or trailer may be matched with a number of truck tractors of the same or better specification as stated on the registration sheet under the same AV registration number.

For conventional articulated vehicles, standard forms may be obtained from the relevant issuing authority and these forms must be completed and submitted by the owner or his agent. For unconventional vehicles these forms cannot be used, but full details of the vehicle's allowable loads, as discussed in section 2 must nevertheless be submitted with a schematic sketch of the vehicle showing all the vital dimensions.

Vehicles are normally AV registered in the province where they are licensed. When the need arises, registration may be done in another province. However, all vehicles in a particular combination have to be registered in the same province. In the case of an articulated vehicle the registration of the trailer takes precedence. Any re-registration is fully charged for except when such re-registration is forced on the owner by the authorities such as by changing the number plate system. When the vehicle is altered in any way or ownership has been changed or the operator is changed, it should be re-registered and such changes be reflected in the Register.

### **1.3 LAW ENFORCEMENT**

Clause 139 of the Road Traffic Act allows roads authorities to grant exemption permits for vehicles and loads that cannot reasonably comply with the requirements of the Act. The permits are granted in accordance with the official TRH 11 document, "Guidelines for the Conveyance of Abnormal Loads" as periodically amended.

Traffic officials are at all times and in spite of exemption permits that may have been issued, responsible for the safety of the public and may at their discretion suspend activities deemed to be dangerous or potentially damaging to road infrastructure.

It is compulsory that the driver of such a vehicle should have the permit available with the vehicle. The permit will state the exact abnormality that is permitted with regard to dimensions and allowable axle masses. The permit becomes completely invalid and should be confiscated if any permit condition is not complied with.

Particular attention should be given to:

- the registration numbers of the vehicle and the trailer (if any)
- the period of validity
- the description of the load (if any)
- the route
- the dimensions of the vehicle and the load (if any)

- the condition of the vehicle (check for the condition of the tyres, the safety of the load, presence of oil leaks, whether the hydraulic control pipes are connected, etc)
- compliance with other conditions such as maximum allowable speed, presence of escorting vehicles, warning lights and flags, permission to travel after dark or during weekends, etc)

After a permit is declared to be invalid, the abnormal vehicle or vehicles transporting abnormal loads should, as far as possible, be weighed and charged for legal infringements like any normal vehicle. The stability of such a vehicle should be similar to other freight vehicles and there is no reason why they should not be parked off when the need arises.

Where vehicles are parked off due to overloading or other transgressions, the operator may be allowed to apply for a permit to proceed legally. This permit can be obtained from the province where the vehicle was apprehended. However prior to granting such a permit, the recommendation of the traffic official in charge has to be obtained. Such a permit does not stop the official from proceeding with the normal prosecution for the offence that was committed before the permit was granted. The cost of such a permit will be calculated on the full distance of the journey from origin to destination.

## **1.4 APPROVAL OF PROPOSED CONDITIONS AND ROUTES**

Permits may be granted for road usage other than that foreseen in the relevant Act if it can be shown to be unavoidable or in the public interest. Examples of such events are sporting events, public displays, processions, geological surveys, etc.

It is the responsibility of the applicant to show that the proposed conditions at an event or the proposed route and operational procedures of abnormal vehicles or loads are suitable for the intended use.

Prior permission has to be obtained by the applicant from the traffic officials involved when their presence will be required. It is advisable that the traffic officials should be approached at least 72hrs before the event. Under conditions as specified in section 4.2b(iv) of this document, permission may also be required from Telkom, Eskom and other public utilities.

The applicant may also at his own cost, be required to prove that bridges and other structures are capable of accommodating the vehicles or loads for which the exemption permits are applied.

# CHAPTER II

## PERMITS

### 2.1 GENERAL RULES

The limits recommended in this document are intended to serve as a guide to the Permit Issuing Authorities.

However, each Administration has the right to refuse a permit application or to modify the conditions under which a permit is granted. It is understood that:

- (a) A permit is issued at the sole discretion of the Issuing Authority. The permit application may be refused because of the condition of the road, the culverts and bridges, the nature of other traffic on the road, abnormally heavy traffic during certain periods or for any other reason. Application forms for permits are obtainable from the Issuing Authorities. Examples of application forms are shown in Appendix F.
- (b) A permit can be withdrawn if the vehicle upon inspection is found in any way not fit to be operated.
- (c) During certain periods, such as school holidays or long weekends an embargo may be placed on the issuing of permits. Embargo lists are compiled annually and are obtainable from the Issuing Authorities, see Appendix D. Special motivation will be required for exemption from embargo day requirements.

### 2.2 TYPES OF PERMITS

Permits can be divided into five basic types, viz:

- (i) **Permits for Special Events** : issued for events that were duly motivated and after it is shown by the applicant that the traffic officials have given their consent (if the presence of traffic officials is required). The time, duration, extent and locality of such an event has to be clearly shown in the application.
- (ii) **Trip Permits** : issued for a single trip or a number of similar trips and for which fees are calculated according to distance travelled. For all trip permits, the periods of validity given in Table 1 will apply.

**TABLE 1****Permit Validity Periods**

| Distance, km  | Number of days |
|---------------|----------------|
| Less than 100 | 2              |
| 101 - 250     | 3              |
| 251 - 500     | 4              |
| 501 - 750     | 5              |
| More than 750 | 6              |

(iii) **Route-Period Permits** : issued for a period of one week to twelve months and which are valid for a prescribed route. The fee depends on the period, the length of the route and the type of vehicle. Route-period permits are usually not issued in respect of loads that require traffic officer escorting.

(iv) **Area-Period Permits** : issued for a period of one week / up to twelve months and are valid within a prescribed area. The fee depends on the period, the area within which the permit is valid and the type of vehicle and will be calculated on a distance basis as set out in Table 2, unless acceptable evidence is submitted that a lesser distance will be travelled in the specific period.

The permit area need not be in the geometric centre of the area, but depending on the discretion of the local office, it could be a circular area of 100km diameter or a similar or equivalent area, indicating specific centres rather than specific geometric shapes or specific distances.

Conditions under which period permits may be issued are:

- (i) unladen abnormal vehicles, that may carry its escort vehicles and its dolly on the empty leg journey
- (ii) car carriers
- (iii) legal vehicles that were registered prior to the **new** length regulations and with a wheelbase between 9 m and 10 m where the overall length did not exceed 17 m, provided the full licence fee is paid
- (iv) mobile cranes
- (v) carriers of own equipment (eg Department of Water Affairs) with the proviso that period permits for this category be approved by each of the provinces affected in the application and that complete list of equipment to be carried, is supplied with all such permit applications.

Permits

TRH 11 – '99

**Table 2**

**Distance Table for Area and Period Permits, in km**

| Vehicle category                                                              | Operational area | Validity period of permit |         |          |          |           |
|-------------------------------------------------------------------------------|------------------|---------------------------|---------|----------|----------|-----------|
|                                                                               |                  | 1 week                    | 1 month | 3 months | 6 months | 12 months |
| Articulated vehicles                                                          | Fixed routes     | 600                       | 2 000   | 5 000    | 9 000    | 18 000    |
|                                                                               | Province         | 800                       | 2 400   | 6 400    | 12 000   | 24 000    |
|                                                                               | RSA              | 1 200                     | 4 000   | 10 000   | 20 000   | 30 000    |
| Emergency repair Vehicles                                                     | Province         | -                         | -       | -        | 3 000    | 5 500     |
| Emergency repair Cranes                                                       | Province         |                           |         |          | 2 000    | 3 500     |
| Cranes and drilling rigs                                                      | 15 km radius     | 50                        | 150     | 400      | 600      | 1 000     |
|                                                                               | 30 km radius     | 100                       | 300     | 700      | 1 200    | 2 000     |
|                                                                               | 50 km radius     | 150                       | 450     | 1 050    | 1 800    | 3 000     |
|                                                                               | 100 km radius    | 250                       | 750     | 1 750    | 3 000    | 5 000     |
|                                                                               | Province         | 500                       | 1 800   | 4 000    | 6 000    | 10 000    |
|                                                                               | RSA              | 1 000                     | 2 400   | 6 000    | 10 000   | 15 000    |
| Unladen vehicles and carriers of road construction and agricultural Equipment | 25 km radius     | -                         | 200     | 500      | 850      | 1 500     |
|                                                                               | 50 km radius     | -                         | 350     | 850      | 1 500    | 2 500     |
|                                                                               | 100 km radius    | -                         | 500     | 1 200    | 1 800    | 3 000     |
|                                                                               | Province         | 500                       | 1 800   | 4 000    | 6 000    | 10 000    |
|                                                                               | RSA              | 1 000                     | 4 000   | 8 000    | 12 000   | 20 000    |

The above figures will be used unless otherwise determined by the Issuing Authority. Proof of actual distance travelled in previous years will be required before reductions could be considered.

Period permits will normally only be issued for the transportation of indivisible abnormal loads with dimensional abnormalities not requiring more than one self-escort (no mass exemption will be granted except in specially considered and motivated instances at the discretion of the issuing office / authority).

Examples of such loads would be oversize containers, mining and construction equipment, multiple car carriers, emergency recovery items and multiple items, each having individual dimensional abnormalities (such as steel bars). A comprehensive list of items to be

carried has to be supplied by the applicant. The packaging of the load must provide for the easy inspection of the load with regard to the nature and divisibility thereof.

**NB:** Single containers that conform to ISO or SABS standards including imported containers, are regarded as indivisible.

Period permits are abnormal load permits and do not permit the carrying of normal loads that could be transported conventionally. If there is a special need to carry conventional commercial loads on a vehicle that is abnormal in any respect, then an ordinary permit application has to be made for a single trip. This allows the permit office to use its discretion in this matter.

(v) **One - Off Permits** : intended for those vehicles that are not likely to require a further permit in the near future. The issuing of permits to vehicles that have not been AV registered is not encouraged. However, where practical and reasonable, it is expedient to do so under certain conditions such as where:

- a vehicle has to be moved to the nearest point of exit from the country for export purposes or vice versa
- a vehicle (such as a stationary crane or crusher) needs to be moved from one site to another with the object of remaining there for a considerable period of time
- a vehicle is contracted to be used, but an AV registration has not been done and will take a while to be processed – rather than stopping such a vehicle from generating revenue, a temporary clearance can be given under this heading for a limited period, normally not exceeding 10 days.

## 2.3 PERMIT FEES

Abnormal vehicles may do more damage to road pavements and underground services, induce more severe stress in structures and interfere more with traffic flow than legal vehicles. For that reason a fee will generally be levied to compensate for the costs incurred through the use of public roads by vehicles which do not comply with the requirements of the Road Traffic Act and Regulations and for the cost of accredited escorts where required.

The fee will be made up of one or more of the following.

- (a) Administrative fee for administration costs.
- (b) Fee comprising massload, road usage and other costs.
- (c) Escort charges.

Permit fees will normally be levied per kilometre on a distance basis. For area-period permits the average distance travelled by various types of vehicles will be taken into account when calculating the fee.

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These permit fees are determined according to tariff tables that are not bound into this publication. These tables are available from the provincial issuing offices. The fees payable are revised and approved annually by the roads authorities. The 1999 / 2000 fee structure is shown as an example in section 2.5.

### **2.3.1 Registration Fees**

Provision is made for two types of registration fees to be paid to the Issuing Authorities in terms of Section 1.2.4. These are:-

- (a) registration of single vehicles or each separate vehicle of each combination, and,
- (b) registration of a combination of vehicles.

Issuing officials will accept copies of approved calculations from other provinces.

### **2.3.2 Mass Fee for Abnormally Heavy Vehicles**

Before any permit is granted covering an exemption from the requirements of Chapter III Part Four of the Road Traffic Regulations in respect of Loads on Vehicles, a mass fee must be paid. This fee is based on the mass load of the vehicles axles, wheel configuration tyre pressures and the total distance in kilometres to be travelled between the origin of the vehicle load and its destination.

### **2.3.3 Road Usage Fee for Abnormally Dimensioned Vehicles**

If the load and/or vehicle is wider than 3 m or longer than 25 m, a road usage fee is levied. This fee consists of width and length components.

### **2.3.4 Minimum Fee**

Where a permit is granted for an exemption for which a fee is not specified, or where the massload and road usage fee chargeable in terms of sections 2.3.2. and 2.3.3 amount to less than the prescribed minimum fee only the minimum fee will be payable. Where the massload and road usage fees exceed the minimum fees the massload and road usage fees will be payable.

### **2.3.5 Other Costs**

- (a) Costs for the Protection of Structures

In order to ensure the safe passage of an abnormal load or vehicle it may be necessary to investigate, re-build, strengthen or otherwise protect bridges or other structures, or to provide bypasses or drifts. It is the responsibility of the applicant to prove that all proposed procedures and equipment are

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suitable for the purpose. Any work that may be required will be the responsibility of the applicant and permits shall not be granted until such work and preparations have been completed to the satisfaction of the Issuing Authority. The cost of repairs of any damage due to the operation will be payable by the applicant.

- (b) Prevention of damage to structures

Loads which exceed the legal limit but which, for reasons of national importance, have to be carried, may cause damage to bridge structures and may require the expenditure of funds to strengthen or protect, either temporarily or permanently, existing structures before the load may pass over it. Costs involved in precautionary measures will be payable by the applicant.

(c) Fees for temporary or permanent road alterations, diversion of traffic and other costs

A fee may be charged, based on the actual or estimated cost for any special works whether of a temporary or permanent nature required to allow the load to pass, for diversion of traffic when special measures are required or for any other costs caused by the passing of the load.

### **2.3.6 Accredited Escorts Fees**

Where traffic officers act as accredited escorts, escort fees are levied on a fixed distance fee per traffic officer escort vehicle with minimum amounts per escorting duty. Distances are measured on the same basis as for mass and road usage fees, i.e the distance travelled by the load. In the case of trips that mainly follow routes through urban or industrial areas, the fee may at the discretion of the issuing office, be levied on a time basis.

Only one trip is allowed per permit even if there is more than one similar trip to be made by the operator.

### **2.3.7 Re-payment of Permit Fees**

The repayment of permit fees as set out in sections 2.3.2, 2.3.3, 2.3.5 and 2.3.6 will only be considered if the original permit is handed in at the issuing office before the commencement date of the permit. If the permit can only be returned after the permit commencement date, the request must be supported with an affidavit from the carrier or owner of the freight. An administration fee will be deducted from the permit fee.

## **2.4 CARRIERS EXEMPTED FROM FEES**

The following carriers are exempted from the payment of permit fees:

- (a) Road authorities such as provincial roads departments, and local authorities within their areas of jurisdiction. Contractors building roads for these authorities are exempted only with regard to the movement of plant on the construction site.

- (b) Members of sporting bodies conveying sporting equipment with minor dimensional excesses not requiring flags as specified in section 5.1.1.

## **2.5 PERMIT FEE STRUCTURE**

Permit fees are adjusted annually after consideration by the Abnormal Loads Technical Committee. The new fees have to be confirmed by each Province individually from the beginning of the

following financial year. It is important that the permit fees should be set and applied uniformly throughout the country.

#### Mass Fee, S:

The calculation of the mass fee is based on an involved set of relationships between tyre pressures, wheel spacing and axle loading. As a result the total accountable damage (TAD) factor is calculated by means of a computer program based on current engineering practice. Allowance is made for the fact that most vehicles have paid up licenses for normal legal loads. A fee of R0,02 / km per axle is set as a minimum.

The mass fee, S, is calculated on the assumption that the damage done to a typical road pavement can be expressed as equivalent single wheel mass load elevated to the power of 4,0 and that the total accountable damage, TAD, is the difference between the estimated damage and the allowable damage that is accounted for by the normal license fees and fuel tax.

Therefore  $S, \text{ R/km} = M \times \text{TAD}$

Where  $S =$  mass fee  
 $M =$  mass factor (as proposed annually by the Abnormal Loads Committee)  
 $\text{TAD} =$  total accountable damage factor

The factor M, is based on the production price index (PPI) of August 1996 based on a value of R0,180/km and is adjusted annually in accordance with the latest available PPI figures.

#### Road Usage Fee, T:

The calculation of the road usage fee is based on the extent to which the dimensions of the vehicle and the load exceed the normal legal dimensions and is also adjusted annually in accordance with the changes in PPI.

Therefore  $T, \text{ R/km} = W + L$

where  $T, \text{ R/km} =$  road usage fee  
 $W, \text{ R/km} =$  width fee  
 $L, \text{ R/km} =$  length fee

#### Width Fee, W:

$$W = K \left[ \frac{(\text{width})^{4,7}}{w} - 1 \right]$$

#### Length Fee, L:

$$L = K \left[ (\text{length})^{4,0} - 1 \right]$$

|       |        |   |                                                                                    |
|-------|--------|---|------------------------------------------------------------------------------------|
| Where | K      | = | congestion factor (as proposed annually by the Abnormal Loads Technical Committee) |
|       | width  | = | maximum total width of the vehicle and load                                        |
|       | w      | = | 3,0 m                                                                              |
|       | length | = | maximum overall length of the vehicle and load                                     |
|       | u      | = | 25,0 m                                                                             |

The following is the fee structure as proposed by the Abnormal Loads Technical Committee for implementation between the period of 1 April 1999 to 31 March 2000.

| (Previous year fees are shown in brackets)                                                                                                                                                                                                                                                                      |               |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------|
| i. Minimum permit fees                                                                                                                                                                                                                                                                                          | R 45-00       | ( R 37-00)                     |
| ii. 1 month area/period permit fee                                                                                                                                                                                                                                                                              | R 50-00       | ( R 37-00)                     |
| iii. 3 month area/period permit fee                                                                                                                                                                                                                                                                             | R 100-00      | ( R 75-00)                     |
| iv. 6 month area/period permit fee                                                                                                                                                                                                                                                                              | R 200-00      | ( R 131-50)                    |
| v. 12 month area/period permit fee                                                                                                                                                                                                                                                                              | R 400-00      | ( R 186-50)                    |
| v. Fax fees                                                                                                                                                                                                                                                                                                     | R 25-00       | ( R 22-50)                     |
| vi. Certified permit copy                                                                                                                                                                                                                                                                                       | R 28-50       | (unchanged)                    |
| vii. AV registration fee                                                                                                                                                                                                                                                                                        | R 200-00      | ( R 150-00)                    |
| viii. Minimum non-recoverable permit fee                                                                                                                                                                                                                                                                        | R 75-00       | (unchanged)                    |
| ix. Changes on permit (maximum of 2)                                                                                                                                                                                                                                                                            | R 40-00       | ( R 37-00)                     |
| x. Mass factor, M                                                                                                                                                                                                                                                                                               | R 0,213 / km  | ( R 0,210)                     |
| xi. Congestion factor, K                                                                                                                                                                                                                                                                                        | R 0,0191 / km | ( R 0,190)                     |
| xii. Provincial escorting fee/ vehicle/km                                                                                                                                                                                                                                                                       | R 2,75 / km   | ( R 2,50 / km)                 |
| xiii. Minimum escorting fee                                                                                                                                                                                                                                                                                     | R 120-00      | ( R 116-00)                    |
| xiv. 1 month area/period permit fee                                                                                                                                                                                                                                                                             | R 50-00       | ( new category, empty vehicle) |
| xv. 3 month area/period permit fee                                                                                                                                                                                                                                                                              | R 100-00      | ( new category, empty vehicle) |
| xvi. 6 month area/period permit fee                                                                                                                                                                                                                                                                             | R 200-00      | ( new category, empty vehicle) |
| xvii. 12 month area/period permit fee                                                                                                                                                                                                                                                                           | R 400-00      | ( new category, empty vehicle) |
| (The mass factor, M, is based on a value of R0,18 / km and the congestion factor, K, on a value of R0,01615/km based on the August 1996 Production Price Index (namely 100,0) and adjusted annually. The proposed factors are based on the latest available figures for July 1998 (118,5) and then rounded off. |               |                                |

The fees for area / period permits are shown per province and if it is required to operate in more than one province then the amount will be multiplied by the number of provinces involved.

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## CHAPTER III

### LOAD LIMITATIONS

The maximum load that a road vehicle or combination of vehicles will be allowed to carry legally or under permit on a public road is limited by:

- the capacity of the vehicles as rated by the manufacturer;
- the load which may be carried by the tyres;
- the damaging effect on pavements;
- the structural capacity on bridges and culverts;
- the power of the prime mover(s);
- the load imposed by the driving axles and
- the load imposed by the steering axles.

In this section the legal limits permitted by the Regulations are given, as well as the corresponding limits allowable under permit. In both cases, the lowest allowable load determines the maximum load which may be carried legally or under permit respectively.

### **3.1 MANUFACTURER'S RATINGS**

#### **(a) Legally Permissible**

Regulation 364 limits the maximum allowable gross vehicle mass.

#### **(b) Maximum Allowable under Permit**

No permit will be granted if the manufacturer's rating is exceeded.

### **3.2 TYRE LOADING**

Overloading of tyres may lead to tyre failure and may cause an accident endangering and delaying other road users.

#### **(a) Legally Permissible**

Regulation 363 stipulates that the limitations on the massload of wheels as laid down in the South African Bureau of Standards Recommended Practice 1550 and ARP007 shall apply, or if the South African Bureau of Standards Recommended Practice 1550 and ARP007 does not contain the tyre data, then the design capacity as specified by the manufacturer must be adhered to.

#### **(b) Maximum Allowable under Permit**

For vehicles operating under permit the allowable loads given in the South African Bureau of Standards Recommended Practice 1550 and ARP007 or by the manufacturer must not be exceeded. The speed restrictions must be rigidly adhered to and the wheels and rims must be of adequate strength.

### 3.3 PAVEMENT LOADING

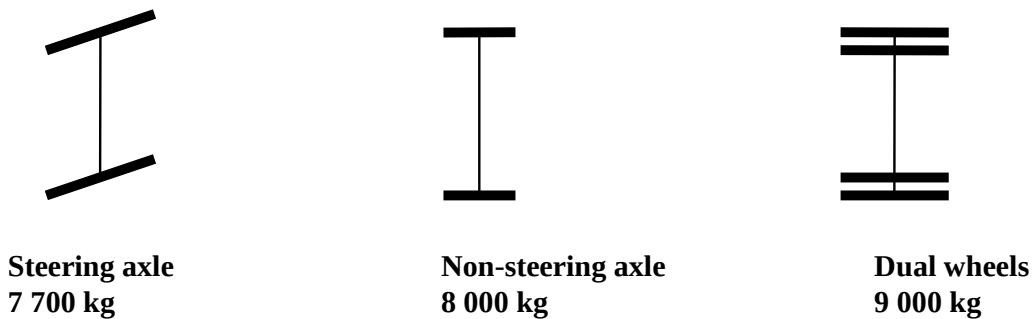
Every vehicle wheel causes some structural damage to the pavement. The total damage to a pavement caused by a vehicle is determined by the tyre pressure, magnitude of the individual wheel loads and the spacing between the wheels. The closer the spacing of the wheels the greater the resultant stresses in the road pavement. The concept of the equivalent single wheel massload (ESWM) deals with this effect.

#### (a) Legally Permissible

Regulation 365 stipulates that the axle mass loads shall not exceed those given in Figure 1.

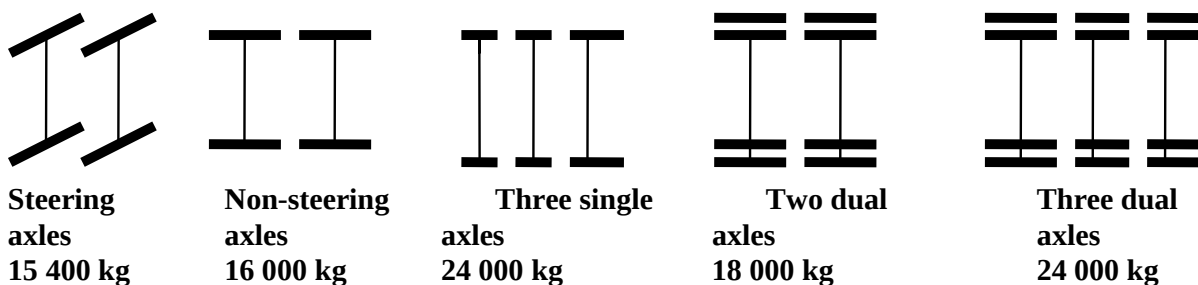
**FIGURE 1**

**Maximum Legal Loads on Axles**



**FIGURE 2**

**Maximum Legal Loads on Axle Groups**



**(b) Maximum Allowable under Permit**

The maximum axle load allowable under permit will depend on the manufacturer's rating for the axle or axle unit and the abnormal bridge calculation.

**(c) Registration of Vehicles with ESWM exceeding 6500 kg**

An ESWM of up to 6500 kg may be allowed, but beyond that special consideration has to be given to the application before such a permit is granted or such a vehicle is AV registered.

An example of special conditions would be multiple axle (not two-axle) mobile cranes that have been in the country for some time.

Under no circumstances may the manufacturer's ratings be exceeded for vehicle components such as tyres, axles and kingpins.

**3.4 LIMITATIONS IMPOSED BY BRIDGES AND CULVERTS**

Although it is the road pavement which limits the allowable load that may be carried by individual wheels or axles, bridges and culverts limit the load which may be carried by combinations of two or more axles. These limits are determined by the design and present condition of the structure, and by the wheel configuration of the vehicle.

The restrictions that have been set for groups of axles are as follows: (bridge formula)

**(a) Legally Permissible**

Regulation 365A stipulates that the maximum legal massload in kg on a group of axles may not exceed the value based on the formula:

$$\text{Total Axle Massload of Group of Consecutive Axles} = 18000 + 2100 \times L$$

where L is the distance between centre lines of extreme axles in metres (to the next highest tenth of a metre)

**(b) Allowable under Permit**

It is necessary to calculate the maximum stresses which a particular heavy load will cause to be exerted on the component members of critical spans and to compare these with stresses for which the bridge was designed in order to check whether the load may be permitted to cross the bridges en route. Accurate calculations are complicated, laborious, time consuming and will not normally be called for in the case of vehicles, or combinations of vehicles, where the gross mass of the vehicle and/or combination does not exceed 125 000 kg or 18,0 kN / sq m (taking effective area into account).

For vehicles or combinations of vehicles of gross mass less than 125 000 kg, each group of axles must not exceed the values given in Table 3. Unless specifically stated in the permit, no vehicle travelling under an abnormal load permit shall cross any bridge if the gross mass or the axle massload exceeds the maximum permitted for that bridge by an appropriate road traffic sign.

It is the responsibility of the applicant to ensure that the load can safely be carried by all bridges and other structures at the time of the proposed journey. Proof will be required that a recent investigation had been undertaken for the load or a similar or greater load.

**TABLE 3****ALLOWABLE LOAD ON MULTI AXLE GROUPS, kg****LIMITATIONS IMPOSED BY BRIDGES AND CULVERTS**

| Distance between outer axles of group (m) | Effective width, m |       |       |       |       |       |       |       |       |       |       |       |       | Tracking required |
|-------------------------------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|
|                                           | 3.5                | 3.6   | 3.7   | 3.8   | 3.9   | 4     | 4.1   | 4.2   | 4.3   | 4.4   | 4.5   | 4.6   | 4.7   |                   |
| 1.2                                       | 30050              | 30900 | 31800 | 32560 | 33500 | 34350 | 35200 | 36100 | 36950 | 37800 | 38650 | 39514 | 40373 | 30900             |
| 1.5                                       | 31600              | 32500 | 33400 | 34300 | 35200 | 36100 | 37000 | 37900 | 38800 | 39700 | 40600 | 41500 | 42400 | 33900             |
| 1.8                                       | 33100              | 34050 | 35000 | 35950 | 36900 | 37850 | 38800 | 39750 | 40700 | 41600 | 42550 | 43500 | 44450 | 36300             |
| 2.1                                       | 34650              | 35600 | 36600 | 37600 | 38600 | 39600 | 40550 | 41550 | 42550 | 43550 | 44550 | 45500 | 46500 | 38800             |
| 2.4                                       | 36150              | 37200 | 38200 | 39250 | 40300 | 41300 | 42350 | 43400 | 44400 | 45450 | 46500 | 47500 | 48550 | 41300             |
| 2.7                                       | 37700              | 38750 | 39850 | 40900 | 42000 | 43050 | 44150 | 45200 | 46300 | 47350 | 48450 | 49500 | 50600 | 43050             |
| 3                                         | 39200              | 40300 | 41450 | 42550 | 43700 | 44800 | 45920 | 47050 | 48150 | 49300 | 50400 | 51500 | 52650 | 44800             |
| 3.3                                       | 40700              | 41900 | 43050 | 44200 | 45400 | 46500 | 47700 | 48850 | 50050 | 51200 | 52350 | 53500 | 54700 | 46500             |
| 3.6                                       | 42250              | 43450 | 44650 | 45850 | 47050 | 48300 | 49500 | 50700 | 51900 | 53100 | 54300 | 55500 | 56750 | 48300             |
| 3.9                                       | 43750              | 45000 | 46250 | 47500 | 48750 | 50000 | 51250 | 52500 | 53750 | 55000 | 56250 | 57200 | 58750 | 50050             |
| 4.2                                       | 45300              | 46600 | 47900 | 49150 | 50450 | 51750 | 53050 | 54350 | 55650 | 55950 | 58250 | 59500 | 60800 | 51750             |
| 4.5                                       | 46800              | 48150 | 49500 | 50850 | 52150 | 53500 | 54850 | 56200 | 57500 | 58850 | 60200 | 61550 | 62850 | 52450             |
| 4.8                                       | 48350              | 49700 | 51100 | 52500 | 53850 | 55250 | 56600 | 58000 | 59400 | 60750 | 62150 | 63550 | 64900 | 54100             |
| 5.1                                       | 49850              | 51300 | 52700 | 54150 | 55550 | 57000 | 58400 | 59850 | 61250 | 62700 | 64100 | 65550 | 66950 | 54700             |
| 5.4                                       | 51400              | 52850 | 54300 | 55800 | 57250 | 58700 | 60200 | 61650 | 63100 | 64600 | 66050 | 67550 | 69000 | 55200             |
| 5.7                                       | 52900              | 54400 | 55950 | 57450 | 58950 | 60450 | 63500 | 65000 | 66500 | 68000 | 68018 | 69529 | 71041 | 55650             |
| 6                                         | 54450              | 56000 | 57350 | 59100 | 60650 | 62200 | 63750 | 65300 | 66850 | 68400 | 70000 | 71530 | 73085 | 56000             |

( i ) Table 2 is based on the formula - Allowable Load (kg) =  $EW(6.850 + 0.00145 \times \text{distance between outer axles of group})$  where EW ,the effective width , and the distance between outer axles of group are in mm. This is subject to limitations imposed by the heavy stepped line to the right of the table.

( ii ) Interpolation is permitted but not extrapolation.

(iii ) Where loads exceed the maximum unrestricted values given in the last column, vehicles will be subject to special tracking requirements and structures will be temporarily closed to other road users.

**(c) Limitations on Distance Between Axle Groups**

Whenever the spacing between the first axle of the leading group and the first axle of the trailing group of two groups of axles is less than 5m, the axles must be considered as one group when applying the load limitations of Table 3. For multiple trailer/semi-trailer combinations, where the spacing between the last axle of the leading trailer/semi-trailer and the first axle of the following trailer/semi-trailer is less than 7m, the allowable axle loads in Table 3 shall be reduced by 10% per 1 m reduction of this distance with a lower limitation of 5m, below which the axles must be considered as one group. Hauler-trailer combinations of gross mass exceeding 125 000kg require special investigation.

**(d) Tracking Requirements and other Road Users**

When determining the maximum allowable load, consideration must be given to other traffic which may be present on a bridge. Moreover, very heavy load combinations should travel along a path which minimises overstressing.

Vehicles or combinations of vehicles in which the allowable axle group loading exceeds the value in the extreme right hand column of the appropriate line of Table 3 shall proceed so that the centre of the load shall not be more than 1,0 m from the centre line of a bridge with a length exceeding 60 m. In such cases, the structure will be temporarily closed to all other road users. This condition must be clearly stated as a permit condition by the Issuing Authority. It requires the services of at least one accredited escort.

**(e) Bridge Clearance Waived if UDL is less than 18 kN / sq m**

The Committee agreed that the bridge clearance restrictions could be waived when the gross combination mass of a vehicle does not exceed 1250 kN and the uniformly distributed load (UDL) does not exceed 18 kN / sq m provided the route is specified by the applicant.

**3.5 LIMITATIONS IMPOSED BY THE PRIME MOVER  
(Power / Mass Ratio)**

It is important that legally loaded as well as abnormally loaded vehicles be adequately powered so that a reasonable travel speed can be maintained and unnecessary traffic congestion is avoided.

**(a) Legally Permissible**

Regulation 364 requires that the gross vehicle mass in kilograms of the vehicle and/or combination shall not exceed a figure arrived at by multiplying the net power in kW at sea-level delivered to the transmission(s) of the vehicle(s) by following factors:

- (i) in the case of the drawing vehicle being a tractor by 400,
- (ii) in the case of any other vehicle by 240.

**(b) Allowable under Permit**

- (i) For abnormal vehicles and/or combinations of less than 23 000 kg gross vehicle mass, the provisions of Section 3.5(a) will apply.
- (ii) For abnormal vehicles and/or combinations exceeding 23 000 kg the net engine power at sea-level of the hauling vehicle(s) delivered to the transmission shall not be less than the following:

$$\text{Minimum net power, kW} = 50 + \frac{\text{gross combination mass in kg}}{500}$$

except that in the case of mobile cranes, and other similar specialised self propelled vehicles, the allowable gross vehicle mass shall not exceed a figure arrived at by multiplying the net power at sea-level delivered to the transmission of the vehicle by 300.

When more than one hauler is used to pull an abnormal load, each hauler must have a GCM rating of at least 54000 kg and an engine power of at least 220 kW and the haulers must be compatible in performance.

### **3.6 MASSLOAD ON DRIVING AXLES**

To ensure sufficient traction, a minimum ratio of massload on driving axles to total vehicle massload is specified.

**(a) Legally Permissible**

Regulation 364 states that the massload carried on the driving axles shall be not less than 20% of the gross mass of the vehicle and/or combination.

**(b) Allowable under Permit**

The massload carried on the driving axles shall not be less than 20% of the gross mass of the vehicle and/or combination, except in the case of haulers pulling drawbar trailers in easy level country on dry roads, when 15% may be considered. In all other cases, 20% will also be required for the latter type of vehicle.

### **3.7 MASSLOAD ON STEERING AXLES**

To ensure steerability, minimum standards of loads on steering axles are laid down in Regulation 366.

**(a) Legally Permissible**

The Regulations state that the load on the steering axles compared to the actual gross combination mass of the vehicle may not be less than:

- (i) 11 % in the case of articulated vehicles

- (ii) 20 % if the vehicle is not an articulated vehicle or of individual vehicle units
- (iii) 30 % if the vehicle is fitted with steering axle units

**(b) Allowable under Permit**

The massload carried on the steering axles shall not be less than 15% of the gross mass of the drawing vehicle(s).

# CHAPTER IV

## DIMENSIONAL LIMITATIONS

A load of abnormal dimensions may cause an obstruction and danger to other traffic. For this reason all loads must, as far as possible, conform to the legal dimensions. Permits will only be considered for indivisible loads, i.e loads that cannot, without disproportionate effort, expense or risk of damage, be divided into two or more loads for the purpose of transport on public roads.

### 4.1 Width

#### (a) Legally Permissible

Regulation 353 stipulates that goods vehicles with a gross vehicle mass of 12 000 kg or more may operate on a public road with an overall width of not more than 2,6 m. No other vehicle shall exceed 2,5 m in width.

Regulation 436 stipulates that the overall width of certain agricultural and road construction machines shall not exceed 4,5 m and 3,5 m respectively if operated on a public road.

#### (b) Allowable under Permit

Limits depend on factors such as topography, road width, traffic volume and obstructions. Special provision must be made (See Chapter V) if the vehicle width exceeds 3,5 m.

### 4.2 Height

#### (a) Legally Permissible

Regulation 354 sets a limit of 4,3 m on the overall height of a road vehicle, together with its load, measured from ground level.

#### (b) Allowable under Permit

The principal factors limiting the permissible height of abnormal loads are the clearances under any overhead bridges or cables on the route, and the stability of the vehicle and the load. It is the responsibility of the applicant to find a suitable route and to prove the suitability of the route with the application.

Where the height of the vehicle or its load exceeds:

- (i) 4,3 m, the clearance of every overhead obstruction must be established by the applicant before the vehicle passes under it. (Note that the clearance under a transmission line is not simply the clearance between the conductor and the ground, but that a safety factor should be allowed for depending on the voltage).

- (ii) 4,7 m, a vehicle shall be provided to drive ahead of the abnormal vehicle. A gauge of non-conducting material shall be fitted to the top of this vehicle. The height of the gauge shall be 100 mm higher than the highest point of the abnormal vehicle or load. It is also required of the operator to give a written confirmation that he knows the particular route and has recently gone through it and should any structural damage occur he will then be held responsible for any financial implications that have resulted.
- (iii) 5,5m, permission must be obtained from TELKOM and at 5,8m, permission must be obtained from ESKOM prior to applying for a permit, unless a lower limit is specified by either organization for a specific area or route.

### **4.3 Length**

#### **(a) Legally Permissible**

Regulation 351 sets the following limits on the length of road vehicles:

- (I) 12,5 m for any single vehicle (excluding a semi-trailer);
- (ii) 18,5 m for an articulated vehicle and
- (iii) 22,0 m for any other combination of vehicles

#### **(b) Allowable under Permit**

- (i) The overall length of rigid vehicles such as mobile cranes, foundation diggers and semi-trailers, including any projection, shall not exceed 23 m
- (ii) articulated vehicles shall not exceed 26 m including any load projection
- (iii) combinations of vehicles comprising a truck-tractor, dolly and semi-trailer shall not exceed 28 m including any load projection

Where abnormally long vehicles could have difficulty in travelling around the sharp curves on some roads, particularly in mountain passes, on freeway ramps, over certain roads with short vertical curves and a few bridges, it will be necessary to further limit the allowable overall length of the abnormal vehicle.

For the transportation of long loads of up to 20,0 m in length, vehicles of a conventional type without steerable rear axles, or vehicles incorporating non-steerable dollies or extendible trailers may be used. In the case of non-steerable axle units, the longitudinal distance between the extreme axle centres of any axle group must not exceed 4,2 m.

For the transportation of loads from 20,0 m to 25,0 m in length or for wheelbases exceeding 14,5 m, steerable rear axles or dollies must be used.

For loads longer than 25,0 m all rear axle units must be fully steerable. Alternatively a steerable dolly with a turntable capable of 180 degree rotation can be used. With this type of vehicle, a rear projection of the load is not desirable and loads should be supported near the end.

Abnormally long loads should be transported by vehicles specifically designed for the conveyance of such loads. Exceptions may be made at the discretion of the Administrator in small centres where vehicles suitable for the transport of long loads are not available. On the other hand, an abnormally long vehicle must not be used to transport a load which does not require a vehicle of such length.

In the case of vehicles prohibited from operation due to exceeding a legal overall length limit, a period permit could, at the discretion of the permit issuing office be granted for a period not exceeding 3 months provided an undertaking is obtained from the owner / operator that the situation will be rectified within that period.

## **4.4 Front Overhang**

### **(a) Legally Permissible**

Regulation 356 limits front overhang:

- (i) For vehicles where the distance from the front end of the vehicle to the backrest of the driver's seat at seat-level is less than 1,7 m, to the lesser of -
  - 60% of the wheelbase, or
  - 6,2 m less half the wheelbase.
- (ii) where this distance is more than 1,7 m, to the lesser of -
  - 60% of the wheelbase, or
  - 5,8 m less half the wheelbase.
- (iii) to 1,8 m for a semi-trailer.

### **(b) Allowable under Permit**

In the case of vehicles such as mobile cranes and foundation diggers, the actual front or rear overhang shall not exceed the following measurements in metres.

| Wheelbase                          | 3   | 4   | 5   | 6 or more |
|------------------------------------|-----|-----|-----|-----------|
| * Allowable front or rear overhang | 3.9 | 4.6 | 5.2 | 6.0       |

\* From the centre of the front or rear axle to the furthest point of the overhang section of the vehicle.

The above-mentioned overhang values may be increased by 50% if the increased overhang section is at a height not less than 2,5 m above the road surface. In the case of special vehicles such as

mobile cranes drilling rigs the front overhang of the furthest point of the central unit (the boom) must always be within the outer minimum turning circle of the vehicle.

## **4.5 Rear Overhang**

### **(a) Legally Permissible**

Regulation 356 limits the rear overhang of goods vehicles, measured from the rearmost axle, to 60% of the wheelbase.

### **(b) Allowable under Permit**

The rear overhang of an abnormal vehicle, measured from the rearmost axle, may not exceed 2 m or 70% of the wheelbase, whichever is the greater, subject to the restriction on load projection stipulated in section 4.7.

## **4.6 Front Load Projection**

### **(a) Legally Permissible**

Regulation 357 limits the load projection to 300 mm beyond the front end of the vehicle.

### **(b) Allowable under Permit**

No abnormal load shall project more than 1 m beyond the front end of the drawing vehicle.

## **4.7 Rear Load Projection**

### **(a) Legally Permissible**

Regulation 359 states that a load projecting more than 300mm beyond the rear end of the vehicle shall be suitably indicated with warning devices and Regulation 357 states that no load shall project more than 1,8 m and that the combined length of the load and the vehicle shall not exceed the limits given in 4.3 of this document.

### **(b) Allowable under Permit**

(i) Vehicles with a rear overhang of more than 50% of the wheelbase :

rear projection of the load may not exceed 0,5 m.

(ii) Vehicles with a rear overhang of less than 50% of the wheelbase :

rear projection of the load measured (a) behind the centre of the rearmost axle unit, and (b) behind the rear end of the vehicle, may not exceed the values given in Table 4.

**TABLE 4****Allowable Rear Load Projection, m**

| Wheelbase, m | Beyond centre of rearmost axle unit (a) | Beyond rear end of vehicle (b) |
|--------------|-----------------------------------------|--------------------------------|
| 3            | 3.9                                     | 2.6                            |
| 4            | 4.6                                     | 2.9                            |
| 5            | 5.2                                     | 3.2                            |
| 6            | 6.0                                     | 3.5                            |
| 7            | 6.0                                     | 3.7                            |
| 8            | 6.0                                     | 4.0                            |
| 9            | 6.0                                     | 4.3                            |
| 10 and more  | 6.0                                     | 4.5                            |

Where the height of the load above the road surface is not less than 2,5 m, the projection may be increased by 20% or 750 mm whichever is the lesser.

**4.8 Wheelbase****(a) Legally Permissible**

Regulation 355 limits the wheelbase of

- (i) semi-trailers to 9,0 m unless written proof is provided that the turning performance of the vehicles conform to that of a vehicle with a 9m wheelbase
- (ii) all other vehicles (except bus-trains) to 8,5 m
- (iii) bus-trains to 15,0 m

**(b) Allowable under Permit**

No wheelbase shall exceed 14,5 m unless steerable rear axles or dollies are used.

**4.9 Turning Radius****(a) Legally Permissible**

In terms of Regulation 355 the turning radius of any vehicle shall not exceed 13,1 m.

**(b) Allowable under Permit**

The maximum turning radii of vehicles will be determined by the geometry of the routes along which these vehicles travel. Municipal escort(s) may be required in cases where both the width and turning radius of a vehicle are excessive.

#### **4.10        Stability of Loaded Vehicles**

In the case of a loaded vehicle with a height/wheeltrack ratio greater than 2 or a load width/wheeltrack ratio greater than 1,8 or a load that is unsymmetrically loaded, the carrier may be required to produce calculations done by a professional engineer showing that the loaded vehicle is adequately stable under all conditions of road travel.

## CHAPTER V

# THE MARKING AND ESCORTING OF ABNORMAL VEHICLES

It is possible to transport wide and long loads safely, provided they are adequately marked and/or escorted. The warning devices and escorts that are required will depend on the length, width, height and overhang of the abnormal load or vehicle. (See Figure 3 page 44.)

### 5.1 DESCRIPTION OF WARNING DEVICES AND BOARDS

To alert oncoming traffic, headlamps emitting passing beams must be displayed on all escort vehicles and on the front vehicle of any abnormal vehicle combination requiring warning devices. Over and above the passing beams, and depending on the degree of abnormality of the vehicle or load, one or more of the following warning notices or devices may be called for.

#### 5.1.1 Flags

The extremities of the vehicle or load must be identified by a display of bright red flags to indicate the overall length and width of the vehicle or load. Each flag must be securely attached to the load or to a staff on the vehicle. The flags must be placed at the extreme corners of the vehicle or load, must measure at least 600 mm x 600 mm, must be clean and free to flutter.

#### 5.1.2 Abnormal Vehicle Warning Board

An abnormal vehicle warning board must be displayed at the front and rear ends of the abnormal vehicle, except in the case of mobile cranes where it may be displayed on the rear only. The warning boards must be at least 2 000 mm wide and 300 mm high and must be painted white with red retro-reflective letters of the modified series E letters as per Schedule 3 of the Road Traffic Regulations, at least 200 mm high. On the one end of the vehicle must be displayed the word 'ABNORMAL' and on the other end the word 'ABNORMAAL'. These warning boards must be removable, collapsible or coverable. Alternatively, warning boards complying with an SABS approved specification may be displayed. These boards may not be displayed when the vehicle travels under normal conditions.

#### 5.1.3 Escort Vehicle Warning Board

A warning board must be fitted to the roof of the escort vehicle and must be at least 1 200 mm long by 400 mm high, and bear in retro-reflective red modified series E letters, at least 120 mm high, on a white background the words:

'ABNORMAL LOAD AHEAD' on the one side of the board, and  
'ABNORMALE VRAG VOOR' on the other side of the board.

The warning board must be removable, collapsible or coverable and must not obscure the amber flashing lights. Alternatively, a warning board complying with an SABS-approved specification may be displayed.

#### 5.1.4 Amber Flashing Lights

An amber flashing light shall be fitted to the cab of the abnormal hauling vehicle, or on the front hauler if there is more than one hauling vehicle, as well as to the top of the escort vehicle(s). In the case of a mobile crane, an amber flashing light must be fitted to the foremost end of the front overhang so as to be visible from all sides, and a second amber flashing light must be fitted to the rear of the mobile crane. The front light may be fitted to the cab for daylight operations only.

#### 5.1.5 Marker Lamps and Retro-reflectors

Where required, the extremities of length and width of abnormal loads/vehicles must be indicated by marker lamps and retro-reflectors. Front-facing lamps must be green and retro-reflectors must be white. Rear-facing lamps and retro-reflectors must be red and side-facing lamps and retro-reflectors must be amber. The marker lamps and retro-reflectors referred to are in addition to the lamps and retro-reflectors specified in Chapter III Part Two of the Road Traffic Regulations.

#### 5.1.6 Speed Restriction Board

When a speed restriction board is required (see par. 5.2.4), it must be fitted above the warning board at the rear of the vehicle indicating the maximum speed allowable. The board must be circular (450 mm in diameter) with the allowable speed in black modified series E letters at least 150 mm high on a white background with a red border 37 mm wide. Alternatively, a speed restriction board complying with an SABS approved specification may be fitted.

## 5.2 WARNING DEVICE REQUIREMENTS

### 5.2.1 Long and Wide Loads

The requirements for abnormally long and wide loads are given in figure 1 or can be calculated using the formula:

$$\text{Road usage factor RUF} = 1,61757 \times 10^{-3} \times W^{4.7} + 7,5 \times 10^{-7} \times L^{3.76}$$

where W = overall load / vehicle width, m  
L = overall combination length, m

The warning boards described in section 5.1.2 shall be required for all abnormal loads.

For, RUF  $\geq$  0,54 : all warning devices are required as described in sections 5.1.1, 5.1.2, 5.1.4, and 5.1.5

### **5.2.2 Projections**

Regulation 359 stipulates that projections beyond the legal limits have to be indicated with warning devices. For loads that project more than 1,8 m beyond the rear of the vehicle, flags must be fitted to each side of the load, at the end of the projection.

### **5.2.3 Night Travel**

The provisions of section 5.1.5 will be enforced when the abnormal load is allowed to travel during times when lights are required. During unfavourable weather conditions the operator must either comply with section 5.1.5 or pull off the road.

### **5.2.4 Speed Restrictions**

Any abnormal vehicle/ load which is limited to a speed of 60 km/h and less when travelling on public roads must be fitted with a speed restriction sign prescribed in section 5.1.6.

### **5.2.5 Abnormal and Escort Vehicles where Warning Devices are not Required**

When abnormal vehicles and escort vehicles are not operating under a permit requiring the use of warning boards and flags they may not be displayed. Flashing and other lights must be extinguished.

## **5.3 ESCORTING OF ABNORMAL VEHICLES**

An abnormal vehicle is provided with escorts to warn the normal travelling public of the abnormal vehicle and to promote a safer flow of traffic in the face of possible disruption caused by the abnormal vehicle.

Unless specifically authorised, a private escort has no legal authority to control other traffic. However, when it is necessary to do so it shall always be done in a reasonable manner, bearing in mind that the safety and convenience of other road users shall always enjoy precedence over that of the abnormal vehicle.

#### **Three classes of escort are called for in the following sections:**

(i) One own-escort vehicle, to be provided by the carrier, which should be a passenger motor car or a light motor vehicle as defined in the RTA with a load capacity not exceeding 3,5 ton. The escort vehicle must be equipped with an amber flashing light and an abnormal vehicle warning board on the roof of the vehicle, positioned such that it is visible from all directions. The escort

but allowing normal overtaking when conditions allow. When the abnormality is caused by excessive front overhang, the escorting vehicle must travel in front of the abnormal vehicle.

- (ii) Two own-escorts, as described above, one travelling in front and the other behind the abnormal vehicle, travelling between 10 m and 50 m from the escorted vehicle.
- (iii) Accredited escorting, normally comprising two vehicles with accredited officials. One accredited escort may at the discretion of the issuing authority be replaced by an own-escort.

## **5.3.1 ESCORT REQUIREMENTS**

### **5.3.1.1 Length and Width**

The class of escort required will be determined by both the length and the width of the loaded vehicle, as shown in figure 3, or can be calculated using the formula:

**Road Usage Factor,  $RUF = 1,61757 \times 10^{-3} \times W^{4.7} + 7,5 \times 10^{-7} \times L^{3.76}$**

where            W = overall load or vehicle width, m  
                       L = overall load or vehicle length, m

|                  |                                                                             |
|------------------|-----------------------------------------------------------------------------|
| RUF ≤ 0,54       | no escorts required                                                         |
| RUF 0,54 to 0,94 | one own-escort required                                                     |
| RUF 0,94 to 2.73 | two own-escort required                                                     |
| RUF > 2,73       | two accredited escorts or one accredited escort and one own escort required |

An additional municipal escort may be required by local authorities in urban areas. Other factors such as topography, road width and traffic volume, may also influence escort requirements and Figure 3 should be used as a guide.

Under exceptional circumstances two or more accredited escorts may be required in addition to two own-escorts, at the discretion of the issuing authority. On dual roads, one or more of the accredited escorts may be dispensed with at the discretion of the issuing authority.

### **5.3.1.2 Height**

An own-escort is required to drive between 10 m and 50 m ahead of any vehicle exceeding 4,7 m in height. (see 4.2 (b) ii). An accredited escort may be required where the lifting of overhead wires or other arrangements may require the vehicle(s) to stop in the roadway.

### **5.3.1.3 Front Overhang**

Where the front overhang of mobile cranes and foundation diggers exceeds either of the following, one own-escort must be provided:

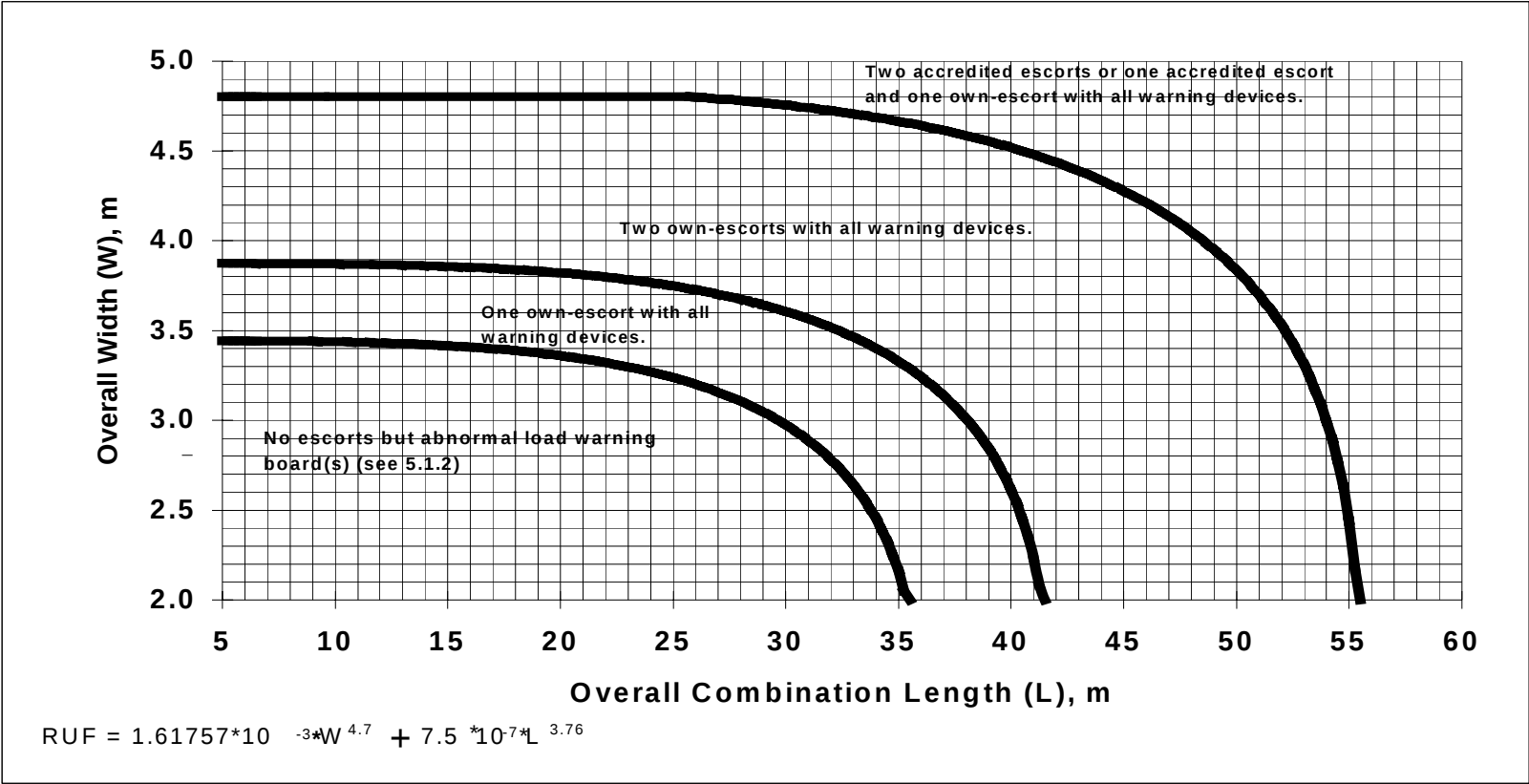
- : overhang exceeds 4,5 m measured from backrest of driver's front seat
- : overhang exceeds 6,5 m measured from front axle

Where the front overhang exceeds 8 m, an accredited escort may at the discretion of the Issuing Authority be required in addition to the own-escort.

### **5.3.1.4 Mass**

When tracking over bridges is required in terms of Table 3, at least one accredited escort is required.

FIGURE 3: Escort and Warning Requirements for Abnormal Vehicles



## CHAPTER VI

### SPEED RESTRICTIONS

The maximum speed at which an abnormal vehicle is permitted to travel on public roads is dependent on factors such as the load on the tyres, the load on bridges and the dimensions of the loaded vehicle.

#### 6.1 TYRE LOADING

It may become necessary to restrict the speed of an abnormally heavy vehicle to enable heavier loads to be carried safely on tyres. These restricted speeds are given in Table 6.

**TABLE 5**  
**Speed Restrictions due to Tyre Loading**

| Ratio $\frac{a - b}{a - c}$                                                                                                                           | Maximum speed, km/h |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 0,00 - 0,07                                                                                                                                           | 30                  |
| 0,08 - 0,21                                                                                                                                           | 40                  |
| 0,22 - 0,36                                                                                                                                           | 50                  |
| 0,37 - 0,50                                                                                                                                           | 60                  |
| 0,51 - 0,64                                                                                                                                           | 70                  |
| 0,65 - 1,00                                                                                                                                           | 80                  |
| where a = maximum gross load allowable under permit<br>b = actual gross load for which permit is issued<br>c = maximum legally permissible gross load |                     |

Table 5 is based on the South African Bureau of Standards Recommended Practice ARP 008/1989 which allows tyre loading capacity to be increased if the vehicle speed is limited to 30 km/h. For legally loaded vehicles no special speed restrictions are required and for intermediate loads intermediate speeds on a proportional basis may be permitted.

#### 6.2 BRIDGE LOADING

For abnormally heavy vehicles lower speeds are required over bridges in order to reduce the magnitude of the impact forces. The values of maximum speeds are given in Table 6.

**TABLE 6****Maximum Allowable Speeds over Bridges**

| Gross combination mass, kg |         | Maximum allowable speed on bridge, km/h |
|----------------------------|---------|-----------------------------------------|
| Not exceeding              | 50 000  | 80                                      |
|                            | 60 000  | 70                                      |
|                            | 70 000  | 60                                      |
|                            | 80 000  | 50                                      |
|                            | 90 000  | 40                                      |
|                            | 100 000 | 30                                      |
|                            | 110 000 | 20                                      |
|                            | 250 000 | 10                                      |
| Over                       | 250 000 | 5                                       |

(The maximum allowable speed over bridges will be as given in Table 6, unless otherwise stipulated in the abnormal vehicle registration certificate or permit.)

**6.3 SPEED RESTRICTIONS DUE TO ABNORMAL DIMENSIONS**

Regarding vehicles which are dimensionally excessive, the maximum speed should be related to the escort demanded, as shown in Table 7.

**TABLE 7****Maximum Allowable Speeds for Vehicles or Loads of Abnormal Dimensions**

| Permit conditions                       | Maximum allowable speed, km/h                         |       |
|-----------------------------------------|-------------------------------------------------------|-------|
|                                         | Rural                                                 | Urban |
| No warning devices or escort required   | 80                                                    | 50    |
| Warning devices required but no escorts | 70                                                    | 40    |
| One self-escort                         | 60                                                    | 40    |
| Two self-escorts                        | 50                                                    | 30    |
| Accredited escort(s)                    | To be decided by escorting official but not more than |       |
|                                         | 60                                                    | 40    |

Where vehicles or loads are both abnormally heavy and abnormally dimensioned, the lesser of the values given in tables 5, 6 and 7 must be used. The maximum speed for mobile cranes shall be as follows in both rural and urban areas:

Cranes mounted on truck-type chassis and all-terrain cranes: 60 km/h  
 Centre-mounted cranes: 20 km/h

## **6.4 RECORDING OF SPEED AND DISTANCE TRAVELLED**

The Issuing Authority may give instructions for a vehicle to be fitted with a device capable of providing a record of the actual speed and distance travelled in relation to time. The device must be maintained in good operating condition and must be in operation while the vehicle is in use.

The records must be shown to a traffic officer on demand at any time and on completion of the journey it may be required that this record be forwarded to the issuer of the permit. If the device indicates that the speed has exceeded that permitted by the permit, this shall constitute prima facie evidence of an infringement of the conditions under which the permit was granted. A log of all movement made under permit must be kept and a copy must be made available to the Permit Issuing Authority on request.

## REFERENCES

- 1 Road Traffic Act, 1989 (Act 29 of 1989) and Regulations as amended. Compiled by LN. Wessels, Johannesburg, Lex Patria, 1990.
- 2 Cross-border Road Transport Act 1998 (Act 4 of 1998).
- 3 South African Bureau of Standards Recommended Practice ARP 007 and 008/1989. Motor vehicle tyres and rims : Dimensions and loads. Pretoria, SABS, January 1989.
- 4 VAN VUUREN, D J. Die Toelaatbare Wiel- en Asmassas van Swaar Voertuie. (Permissible Wheel and Axle Masses of Heavy Vehicles). DSc thesis, University of Pretoria, 1972.

## **APPENDIX A**

### **STANDARD PERMIT CONDITIONS**

## STANDARD PERMIT CONDITIONS

Permit no.....

Ref no.....

### DOCUMENTATION

- 1a The official stamped permit, and the application form which forms part of the permit, shall be carried in the abnormal vehicle at all times, and shown on demand to any authorised officer.
- 1b Copies of the abnormal vehicle registration certificates shall be carried in the abnormal vehicle at all times, and shown on demand to any authorised officer.
- 2 The person in charge (who may be the driver) accompanying the abnormal vehicle/load, shall complete the control certificate overleaf before the journey is allowed to commence.
- 3 The applicant shall take due consideration that all dimensions, mass or other information as mentioned in the application are correct.
- 4 The abnormal vehicle shall be taken to the nearest mass meter and the massload of each axle or axle unit of the loaded vehicle shall be determined. The mass meter tickets shall be kept in the vehicle while the abnormal load remains on it. Thereafter a copy of this permit and the tickets, shall be forwarded to the issuing office.
- 5 The abnormal vehicle may be required to be fitted with a device capable of giving a visual record of the road speed and distance travelled in relation to time. The device shall be maintained in good condition and shall be in operation while the abnormal vehicle is in use. The records shall be shown on demand to a traffic officer at any time.

### MOVEMENT RESTRICTIONS

- 6 Abnormal vehicle/s shall not be allowed to obstruct or endanger any other traffic and shall, where necessary, be pulled off the road to allow other traffic to pass. The safety and convenience of other road users shall always receive precedence over that of the abnormal vehicle travelling under permit.
- 7 The height of every overhead obstruction crossing the roadway shall be determined before the abnormal vehicle/s or its load/s pass/es thereunder. If the height of any overhead wire is insufficient for the abnormal vehicle/s or its load/s to clear it, arrangements shall be made with the owner of the wire to have it raised to enable the load/s to pass. Under no circumstances shall the holder of this permit endeavour to raise any wires, except under the supervision of the owner.
- 8 While crossing any bridge, the abnormal vehicle shall travel at a uniform speed not exceeding that specified on the permit. The abnormal vehicle shall not be accelerated on the bridge, neither shall the brakes be applied, nor the gears be changed. The centre of the load shall not be more than 1,0 m (one metre) from the centreline of the bridge roadway.

- 9a The abnormal vehicle/s shall not be used on a public road on Saturdays, Sundays, or any other dates mentioned in the permit, unless otherwise specified on the permit.

Permits may be issued for weekend travel without obtaining prior permission from the Road Traffic Inspectorate; provided no more than one self escort is required for the purpose.

- 9b The abnormal vehicle/s shall not be used on a public road during the times when lights are required in terms of Regulation 289 of the Road Traffic Act 1989 (Act 29 of 1989), unless otherwise specified on the permit.

The conditions restricting travel after dark, during weekends and on embargo days, may be deleted for empty vehicles up to the legal length irrespective of wheel base. The final discretion will rest with each province.

## **WARNINGS**

- 10 Headlamps emitting passing beams shall be kept switched on, on all escort vehicles and on the front vehicle of any vehicle combination requiring warning boards.
- 11 The extremities of the abnormal load/vehicle shall be marked by the display of bright red flags to indicate the overall length and width of the abnormal vehicle or load. Each flag shall be securely attached to a staff, and measure at least 600 mm x 600 mm and shall be clean and free to flutter.
- 12a Warning boards attached to both the front and rear of the abnormal vehicle or load must be displayed. In the case of mobile cranes, a warning board must be displayed at the rear only. The warning boards shall be, at least 2 000 mm wide, 300 mm high and painted white.

The word ABNORMAL on the one side and ABNORMAAL on the other end of the abnormal vehicle, shall appear on the warning board(s) in red retro reflective material in letters of the modified E alphabet or DIN-B letters, at least 200 mm high.

Alternatively, a warning board or boards complying with an SABS-approved specification shall be displayed.

- 12b A speed restriction board, indicating the maximum speed allowed in terms of item 5 of the permit, shall be fitted above the rear warning board, as required in condition 12.a. The board must be at least 1250 mm in diameter with the allowable speed in black letters of modified series E alphabet, at least 150 mm high, on a white background with a red border 37 mm wide.

Alternatively, a board complying with a SABS approved specification may be fitted.

- 13a An amber flashing light shall be fitted on top of the cab of the hauling vehicle or on the front hauler if there is more than one. This light shall be in operation at all times when the abnormal vehicle is used on a public road.

- 13b An amber flashing light shall be fitted to the foremost end of the front overhang of a mobile crane so as to be visible from all sides, and a second amber flashing light shall be fitted to the rear of the mobile crane. For travel during daylight hours the front light may be fitted to the cab of the crane.
- 14 The extremities of length , width and height of abnormal loads/vehicles shall be indicated by marker lamps and retro-reflectors. Front facing lamps shall be green and retro-reflectors shall be white. Rear facing lamps and retro-reflectors shall be red and side facing lamps and retro-reflectors shall be amber. The marker lamps shall be switched on at the times specified in regulation 289 of the Road Traffic Regulations in terms of the Road Traffic Act 1989(Act 29 of 1989), and shall remain on during the stipulated periods, unless the abnormal load/vehicle is parked entirely off a public road. The marker lamps and retro-reflectors referred to herein are in addition to the lamps and retro-reflectors specified in regulations 319 - 325 of the Road Traffic Regulations in terms of the Road Traffic Act, 1989(Act 29 of 1989).
- 15a If escorting is required and the abnormal vehicle has to travel through a municipal area, excluding any bypass which does not offer direct access to adjoining properties, the chief municipal officer shall be informed, at least two hours beforehand, of the arrival of the vehicle. Details of the abnormality as well as the expected time of arrival must be furnished. The instructions of the chief traffic officer must be strictly adhered to.
- 15b Warning to oncoming traffic shall be given when the abnormal vehicle enters a junction and persons with red flags 600 x 600 mm shall stand approximately 100 m from both sides of the junction.
- 16a The holder of a permit shall if so required provide an approved escort vehicle with an amber flashing light fitted to the roof so as to be visible from all directions. Warning boards at least 1200 mm wide and 400 mm high, and bearing red retro-reflective letters of the modified series E alphabet at least 120 mm high on a white background with the wording ABNORMAL LOAD AHEAD on the one side and / ABNORMALE VRAG VOOR on the other side of the warning board shall also be fitted so as not to obscure the amber flashing light.
- Alternatively a warning board complying with SABS-approved specification may be displayed.
- The escort vehicle shall also carry, but not normally display two bright red flags measuring not less than 600 mm by 600 mm to be used where necessary to warn other traffic of the presence of the abnormal load. The escort vehicle shall travel between 10 m and 50 m behind the abnormal vehicle, or at a distance as directed by a traffic officer. The duty of the driver of the escort vehicle is to give timely warning to traffic of the presence of the abnormal load/vehicle.
- 16b Over and above the escort vehicle mentioned in 16.a. the holder of this permit shall provide a second similarly equipped escorting vehicle. This escort vehicle shall drive between 10 m and 50 m ahead of the abnormal vehicle or at such a distance as is directed by an accredited official.
- 16c The abnormal vehicle/s is/are to be escorted by accredited officials whose instructions shall be obeyed, unless such instructions are in conflict with the conditions laid down in the permit. The accredited official in charge as specified on the permit should be informed and confirmed at least 24 hours before commencement of the journey, and all arrangements regarding the escort must be made with this officer.

- 16d The holder of the permit shall provide an escort vehicle which drives ahead of the abnormal load/vehicle and on which a height gauge made of non-conducting material is fitted, with a height of 100 mm more than the maximum height of the abnormal load/vehicle.
- 17 All warning boards and flags shall be removed or otherwise obscured and flashing lights shall be extinguished on all vehicles not operating under a permit requiring the use thereof.

## **COMPLIANCE WITH EXISTING LEGISLATION**

18 The exemption permit does not exempt the holder thereof from complying with any legal requirements of the Road Traffic Act, 1989 (Act 29 of 1989) and the Regulations promulgated thereunder, other than the provisions stated in the permit.

## **RESPONSIBILITY**

- 19 The holder of this permit or his representative shall ensure that-
- (i) the driver of the abnormal vehicle is competent to drive the vehicle,
  - (ii) the driver, the person in charge and all self-escort are fully aware of their duties, and
  - (iii) the standard permit conditions and any other conditions of the permit are adhered to.
- 20 The holder of this permit shall appoint a person in charge (who may be the driver), who shall remain in attendance at all times during which the abnormal load/vehicle is operated on a public road. The person in charge must be a person who has received training in the duties and responsibilities entrusted to him, and shall be the representative and sole agent of the operating body in whose name the permit has been issued for the full period during which the abnormal load/vehicle is on a public road. This person alone shall be in charge of the abnormal load/vehicle, and shall be responsible for compliance with the standard permit conditions and any other conditions of this permit. He must be satisfied that the abnormal vehicle/s and their load/s thereon are in accordance with the details embodied in the permit, particularly in respect of mass and dimensions.
- 21 The holder of this permit shall be responsible for:-
- (i) the costs incurred in respect of any visible damage caused as result of the operation on the road of the abnormal vehicle/s or load/s, including the escort vehicle/s. For instance, an abnormal vehicle or load shall not operate on any public road with a tarred surface when such surface is 'bleeding' as a result of hot weather conditions.
  - (ii) the speedy removal of the abnormal vehicle whenever it causes an obstruction on any public road as well as for the expenses incurred to have the abnormal vehicle/s or load(s) removed.
  - (iii) costs incurred for any other reason resulting directly or indirectly from the presence of the abnormal vehicle/s or load/s on any public road as defined in Section 1 of the Road Traffic Act 1989 (Act 29 of 1989).

- 22 Operation of any abnormal vehicle/s and/or load/s under this permit shall signify that the holder of this permit indemnifies the Provincial Administration against any claims for damage which may arise from the presence of the abnormal vehicle/s or load/s on any public road.

## **CONTROL CERTIFICATE**

I, \_\_\_\_\_ the person in charge as set out in condition 21 of the standard permit conditions, hereby certify that:

- (i) I am fully conversant with all the conditions relevant to this permit and that I will comply with them in all respects;
- (ii) the abnormal vehicle/s is/are in roadworthy condition, that I have in particular examined the brakes, steering and tyres and found them in good condition and that all defects previously reported have been attended to, to my complete satisfaction; and
- (iii) the dimensions, mass and other information on the application form have been checked and are correct.

**Signature:** \_\_\_\_\_ **Date** \_\_\_\_\_

## **APPENDIX B**

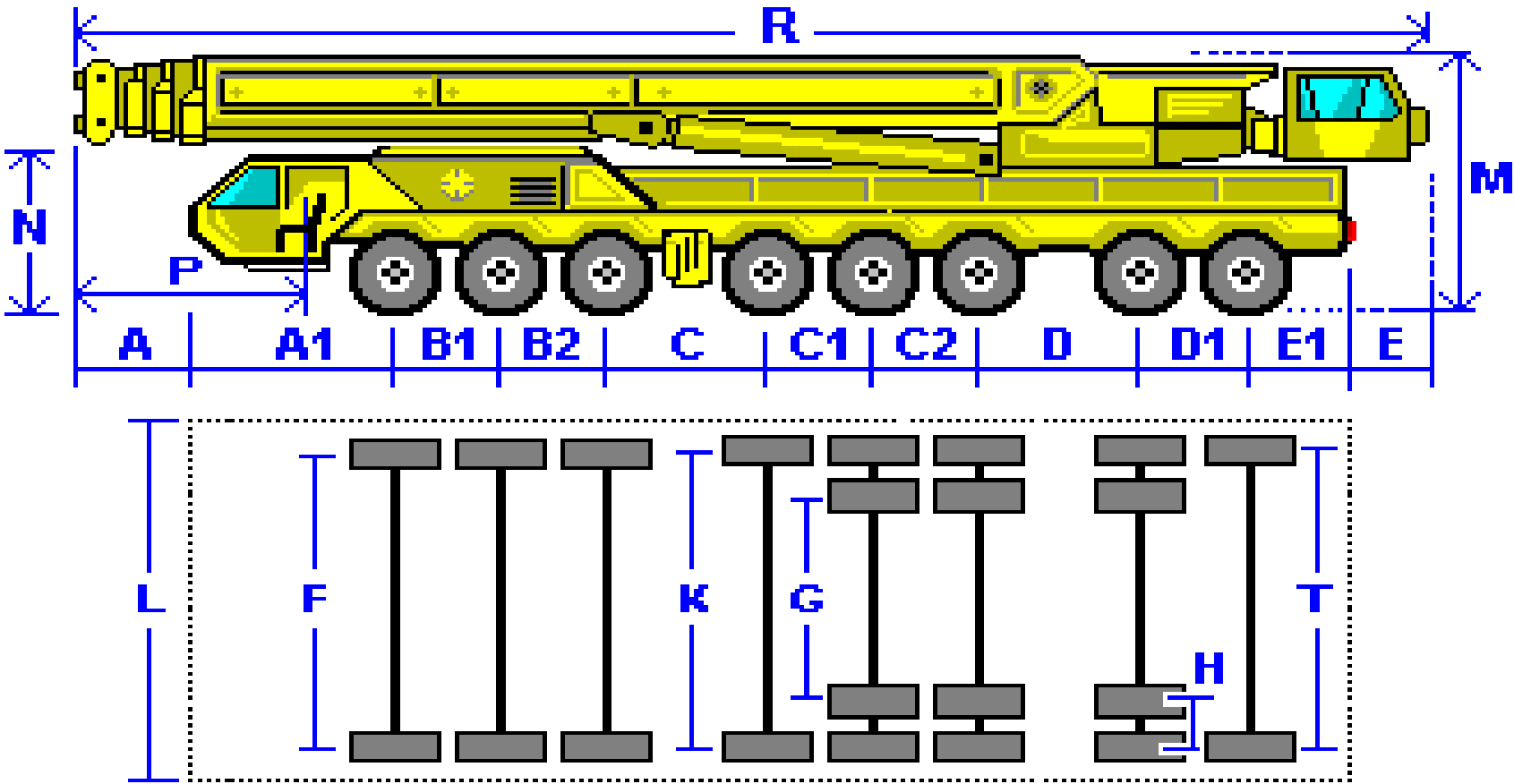
### **DIAGRAMS**

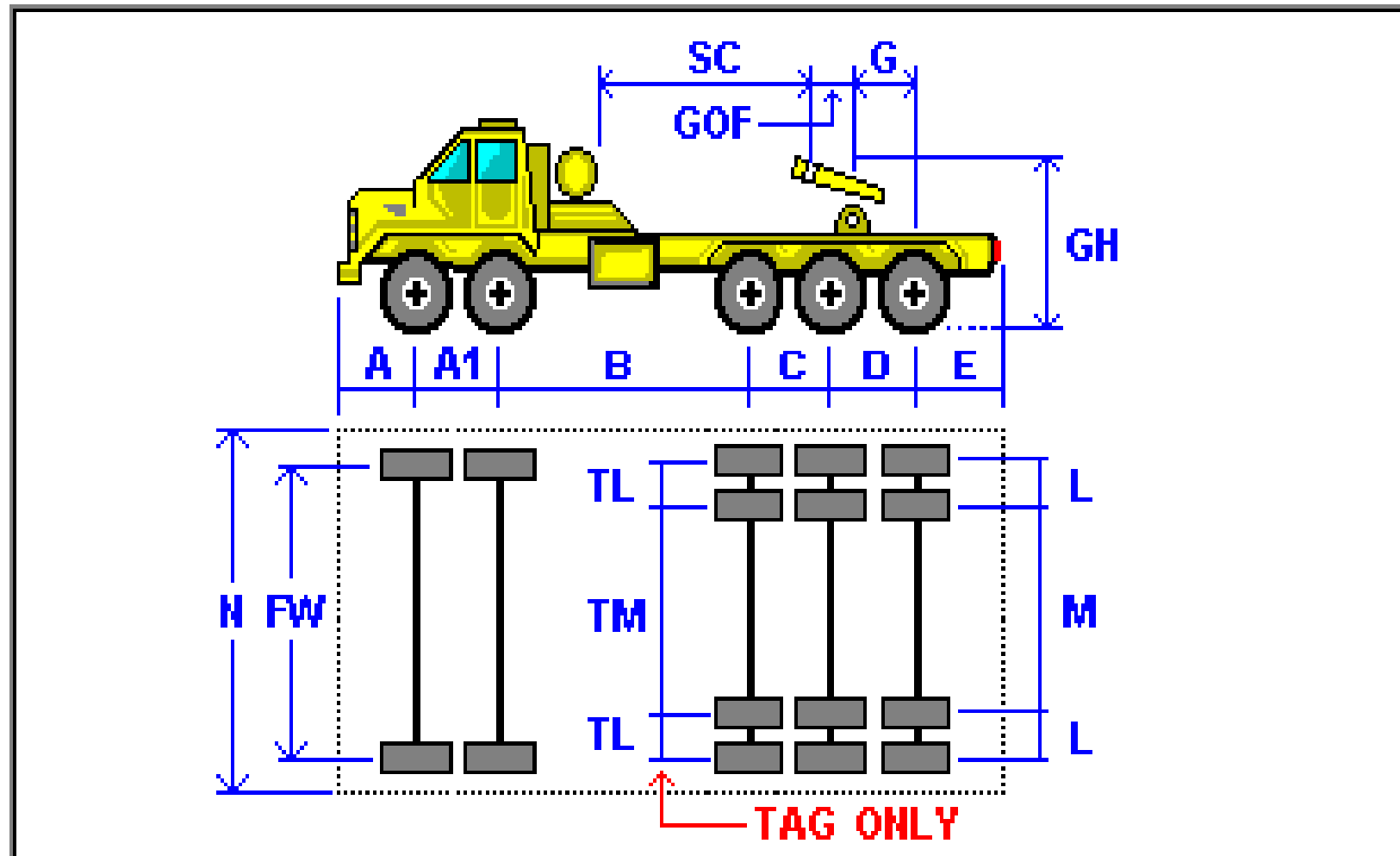
**A) CRANE**

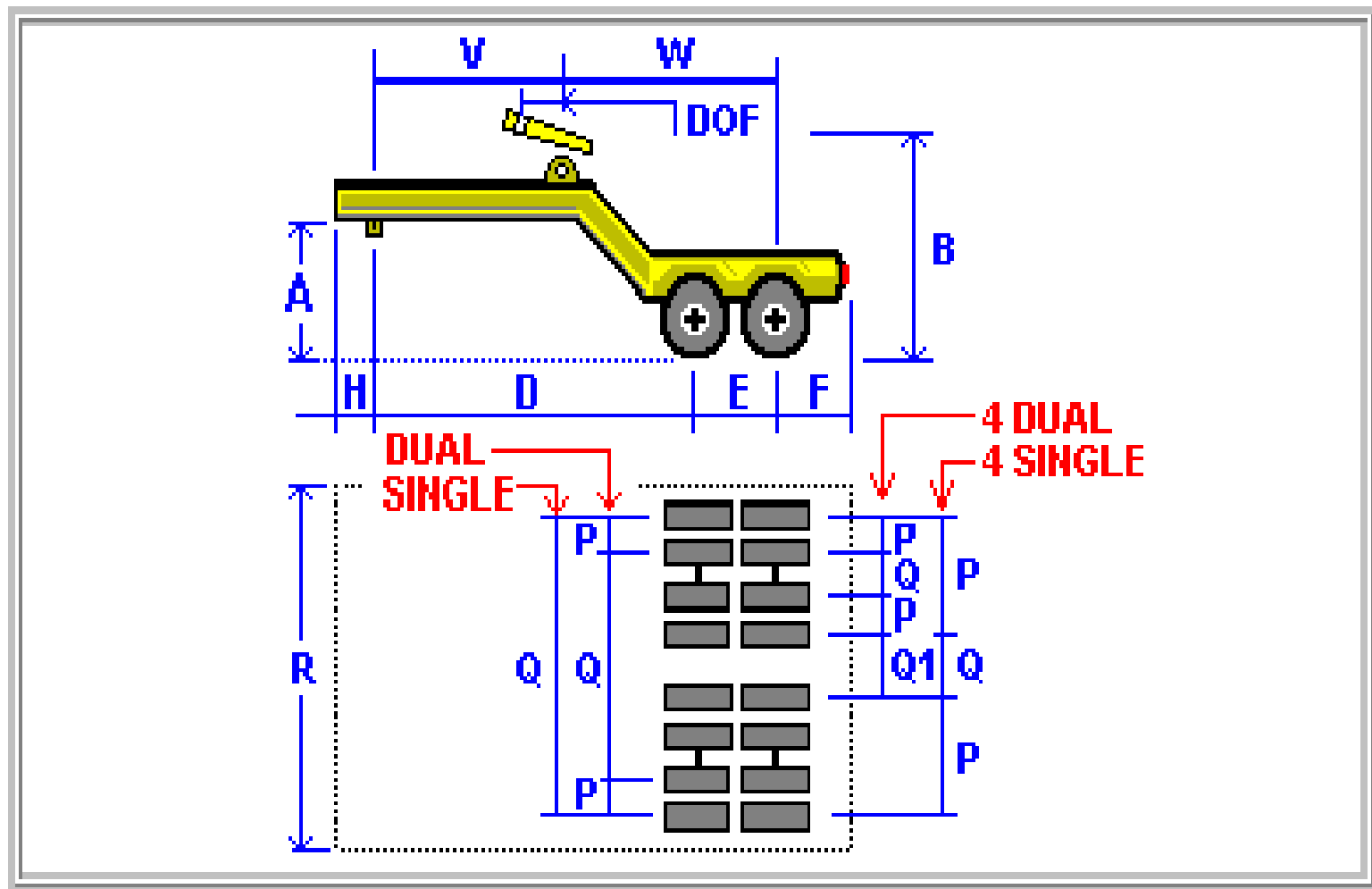
**B) DOLLY**

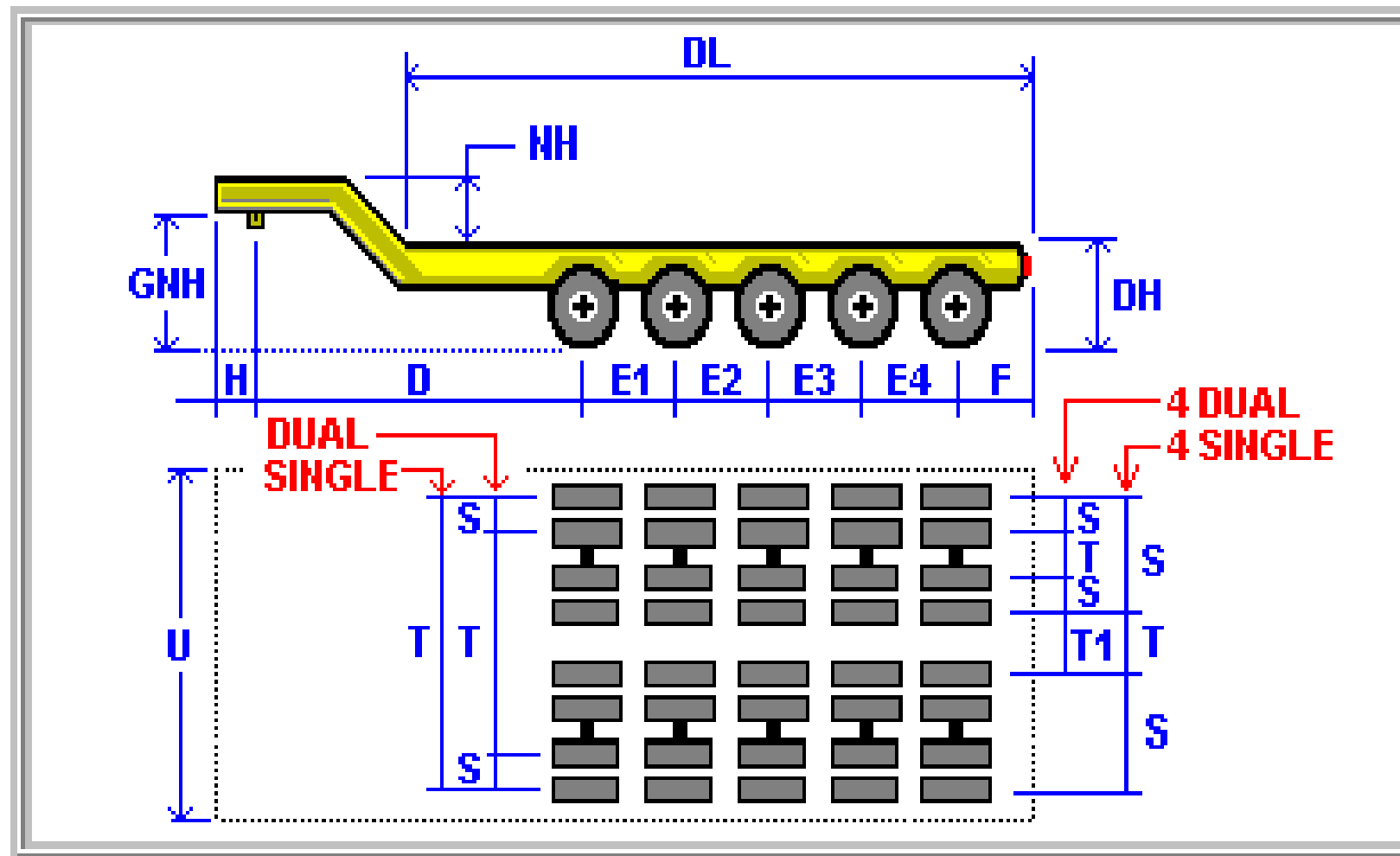
**C) TRUCK-TRACTOR**

**D) SEMI-TRAILER**









**APPENDIX C**

**GENERAL EXEMPTION APPLICATION FORM**

**APPLICATION FOR PERMISSION TO PARTICIPATE IN OR ORGANISE A RACE /  
SPORTING OR OTHER ACTIVITY ON A PUBLIC ROAD, IN TERMS OF SECTION 111  
OF THE ROAD TRAFFIC ACT, 1989 (ACT NO. 29 OF 1989)**

**PART A: REMARKS**

1. If the planned race / sport activity or other event as a whole will take place in the area of jurisdiction of one or more local authorities, prior permission from such local authorities must be obtained.
2. This application form, duly completed, with a detailed map / description of the route to be followed, must be submitted to the Head of Department, ..... at least six weeks prior to the date of the planned event failing which the planned event may not proceed.

**PART B: PARTICULARS OF APPLICANT**

1. Full name: .....
2. Capacity (eg Chairman / Secretary): .....
3. Organising Body: .....
4. Postal address: .....  
.....  
.....  
.....Postal Code:.....
5. Telephone number:      Work: ..... Code:.....  
Residence: ..... Code: .....

**PART C: PARTICULARS OF EVENT**

1. Type of event (eg walking / tour marathon / cycling race) and name thereof: .....
2. Start (place): ..... Finish (place): .....  
Date: ..... Date: .....  
Time: ..... Time: .....

(If the event is going to take place in stages, full particulars of the start and finish on a separate sheet.)

3. Full particulars of what is contemplated with the event:

.....  
.....

4. The route is indicated on the appended \* map / \* description thereof.

5. Number of participants: .....

6. Number of marshals:.....

Minimum number of marshals on duty at any one time: .....

**PART D: PARTICULARS OF PREVIOUS SIMILAR EVENTS (IF ANY)**

1. Permission has \* been granted / \* not been granted in the past to hold similar events.

2. Particulars: .....  
.....

**PART E: PERMISSION BY LOCAL AUTHORITIES AND / OR REGIONAL OFFICES OF THE PROVINCIAL TRAFFIC MANAGEMENT**

1. \* Applicable / \* Not applicable.

2. If applicable:

The necessary permission has been \* obtained / \* applied for from the following local authorities and / or regional offices of the ProvincialTraffic Management:

.....  
.....

**PART F: STATEMENT**

I, the undersigned , hereby declare that the planned eventshall not take place unless all necessary permission have been granted.

.....  
**Signature of applicant**

.....  
**Date**

(\*DELETE WHAT IS NOT APPLICABLE)

TRH – '99

## **APPENDIX D**

### **LIST OF EMBARGO DAYS**

**EMBARGO DAYS – 1999****Exemptions will not be granted in respect of abnormal vehicles and loads on weekends or any of the following days:****PROVINCES / ORGANIZATIONS**

| <b>MONTHS</b>    | <b>WC</b> | <b>NC</b> | <b>EC</b> | <b>KZN</b>                      | <b>FS</b> | <b>GP / NW / MP</b>                   | <b>NP</b>                              |
|------------------|-----------|-----------|-----------|---------------------------------|-----------|---------------------------------------|----------------------------------------|
| <b>Dec '98</b>   |           |           |           | 31(12h00)                       |           |                                       |                                        |
| <b>January</b>   |           |           |           | I, 11, 18;                      |           | 1, 8 (12h00);                         | 1, 2, 9 (12h00)                        |
| <b>February</b>  |           |           |           | _____                           |           |                                       |                                        |
| <b>March</b>     |           |           |           | 22, 25(12h00), 31(12h00)        |           | 22, 26(12h00)                         | _____                                  |
| <b>April</b>     |           |           |           | 1, 2, 5, 12, 13, 27;            |           | 1(12h00), 2, 5, 9(12h00)              | 3(12h00), 9(12h00), 10, 13, 27;        |
| <b>May</b>       |           |           |           |                                 |           |                                       | 1;                                     |
| <b>June</b>      |           |           |           | 16, 24(12h00), 30(12h00);       |           | 16, 25(12h00)                         | 16, 26(12h00)                          |
| <b>July</b>      |           |           |           | _____                           |           | 16(12h00)                             | 17(12h00)                              |
| <b>August</b>    |           |           |           | 9                               |           | 9                                     | 10                                     |
| <b>September</b> |           |           |           | 22(12h00), 23(12h00), 24;       |           | 23(12h00), 24;                        | 23(12h00), 24;                         |
| <b>October</b>   |           |           |           | 4                               |           | 1(12h00)                              | 2(12h00)                               |
| <b>November</b>  |           |           |           | _____                           |           | _____                                 | _____                                  |
| <b>December</b>  |           |           |           | 3(12h00), 8(12h00), 16, 24, 27; |           | 3(12h00), 16, 4(12h00), 25, 31(12h00) | 4(12h00), 16, 24(12h00), 25, 31(12h00) |

**PLEASE NOTE:** 1) KZN will not permit weekend travel for loads / vehicles which do not require traffic escorts on the following routes:

P231 – N2 Richards Bay via Pongola to Mpumalanga Border.

R34 – R33 Richards Bay via Vryheid and Paulpietersburg to Mpumalanga Border.

2) This excludes end of month weekends

3) No traffic officer escorts will be provided from 7 / 12 / 99 to 15 / 01 / 2000.

**APPENDIX E**

**LIST OF PROVINCIAL TRAFFIC CONTROL OFFICES**  
**IN GAUTENG**

**SPRINGS**

Tel.: 011-815 6532

P O BOX 54  
SPRINGS  
1566

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**HEIDELBERG**

Tel.: 0151-91490

66 Pretoria Street  
P/B H621  
HEIDELBERG  
2400

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**VEREENIGING**

Tel.: 016-422 5214

P/B X056  
VEREENIGING  
1930

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**PRETORIA**

Tel.: 012-330 0350

P/B X303  
PRETORIA  
0001

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**KRUGERSDORP**

Tel.: 011-660 3772

P/B X2044  
KRUGERSDORP  
1740

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**BRONKHORSTSPRUIT**

Tel: 01212-20449

**APPENDIX F**

**ABNORMAL LOAD / VEHICLE PERMIT APPLICATION FORM**