

3.4 Bamboo Poles and Timber

3.4.1 As illustrated in Diagram 3.4.1, bamboo poles used for scaffolding or other purposes should be carried similarly to other long loads, that is in a vehicle of sufficient length so that the bamboo can be placed horizontally along the length of the floor of the vehicle, and without overhanging any parts of the vehicle. The following is also relevant: -

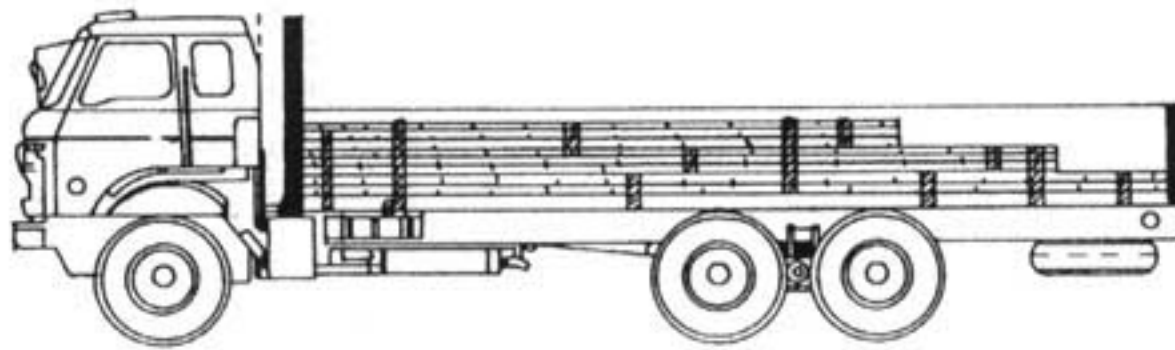
i) Poles should be tightly secured in bundles with poles in individual bundles having approximately the same dimensions and diameters. Bundles should be bound at both ends and at least one intermediate point. Where poles vary in diameter throughout their length, it may be advantageous to arrange the poles alternately, so that the bundle formed has roughly the same overall diameter at both ends.

ii) Bundles should be stacked in contact with the head board, with bundles having the largest diameter and longest poles at the bottom. The whole load should be adequately secured to the vehicle, but providing the load is not higher than the head board, tail board or side boards, securing the bundles together should generally be sufficient. However if it is necessary for the tail board to be down to allow the load to extend over it, it will be necessary to lash the bundles to the vehicle to prevent any rearward movement of the load. Using any part of the tail board or its hinges as anchorage points for lashings is however not acceptable.

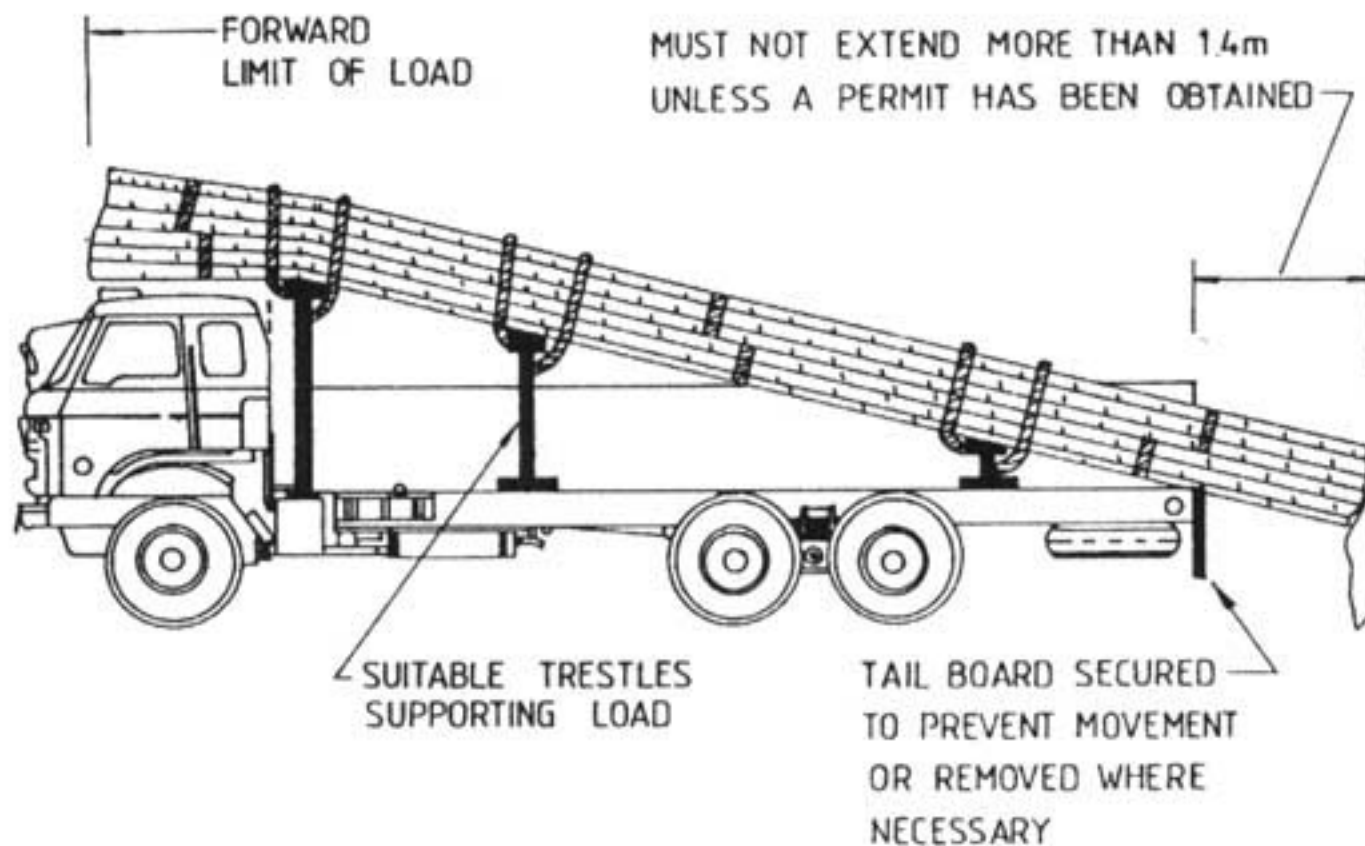
iii) It is preferred that bamboo poles are not carried such that they are supported by the head board, but where this cannot be avoided the following is relevant:

a) it should be ensured that the head board has a sufficient load capacity to support the load;

b) even though the regulations may permit loads to extend in front of the cab, in the case of bamboo poles which are liable to bend, the load should not extend further forward than the foremost portion of the driving cab roof in order to ensure that the driver's vision is not obscured;



BAMBOO POLES SHOULD PREFERABLY BE LOADED HORIZONTALLY ALONG THE FLOOR OF THE VEHICLE, IN APPROPRIATE SIZED BUNDLES, ARRANGED WITH THE LONGEST AND HEAVIEST AT THE BOTTOM OF THE LOAD. IF LOAD IS BELOW SIDE AND TAIL BOARDS SECURING BUNDLES TOGETHER SHOULD PROVIDE SUFFICIENT RESTRAINT.



WHERE BAMBOO POLES HAVE TO EXTEND OVER THE HEAD BOARD, THEY SHOULD NOT BE POSITIONED ANY FARTHER FORWARD THAN THE FRONT OF THE CAB, AND THE WEIGHT OF THE LOAD SHOULD BE SUPPORTED BY SUITABLE TRESTLES FIRMLY FIXED TO THE VEHICLE. THE LOAD SHOULD BE SECURELY LASHED TO THE HEAD BOARD AND TRESTLES AND NOT TO THE TAIL BOARD.

TRANSPORTING BAMBOO POLES

DIAGRAM 3.4.1

c) the load must be securely lashed to the head board to prevent any forward movement, and also to trestles firmly attached to the vehicle and provided to support and distribute the weight of the load throughout its length. On a sided vehicle where the load does not extend beyond the tail board in the raised position, the tail board can be considered as providing partial restraint but other means of restraint will also be required. If the load extends across the tail board in the lowered position, no part of the tail board or its hinges may be used as anchor points for lashings.

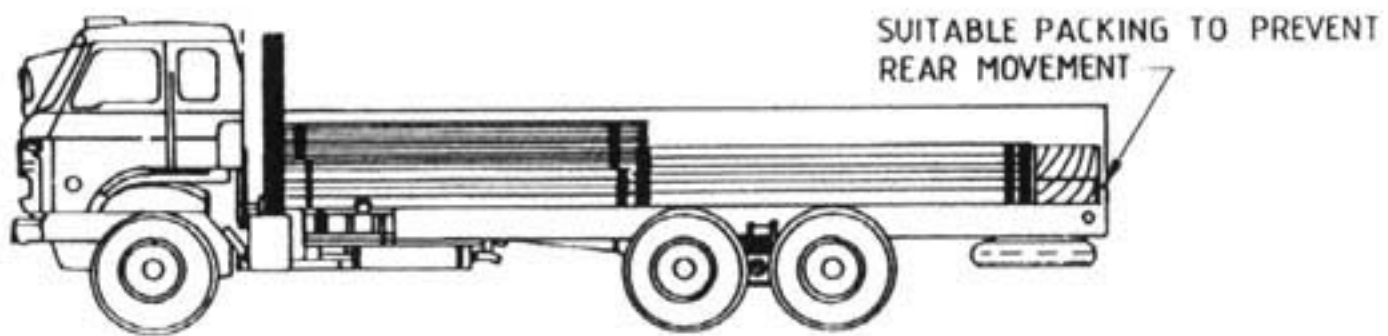
3.4.2 As shown in Diagram 3.4.2, sawn timber should wherever practicable be placed against the head board, but if this is not possible all restraint will need to be applied by lashings. For particular types of sawn timber the following is relevant: -

i) Bulk packaged sheets such as plywood or chip board are generally banded or strapped or wired at each end and these should be checked to see that they are secure. If the wires or straps are damaged or insecure, other means of restraint will be necessary. The packaged sheets should be laid flat on the platform of the vehicle. If the load is not higher than the tail or side boards, the weight of the packages, and the sides of the vehicle should provide sufficient restraint, however if the load is above the side and tail boards, additional lashings securing the load to the vehicle will be necessary. Suitable packing or baulking may be necessary to prevent the load from sliding.

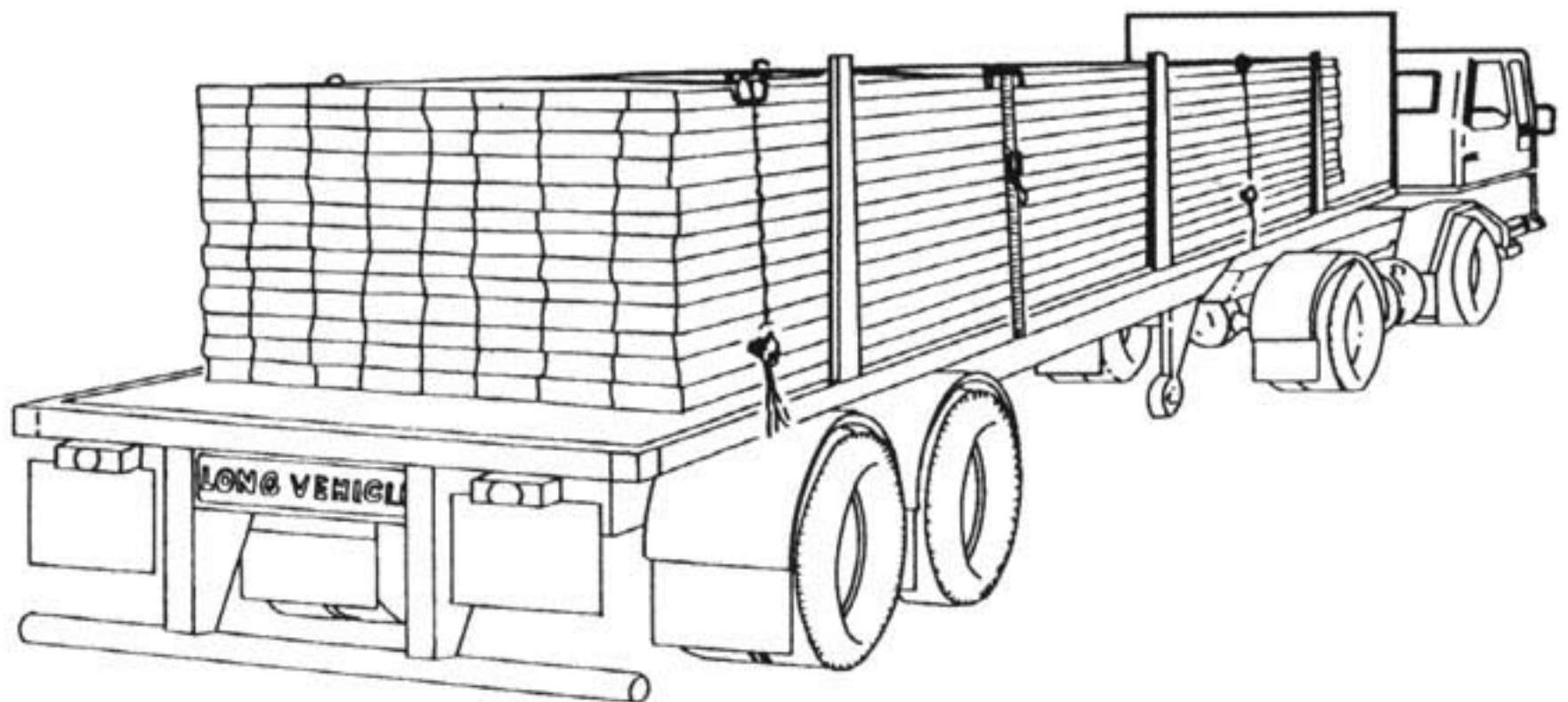
ii) Long sawn timber can present particular problems in that the outside of the load tends to lift and to spread sideways causing the load to belly outwards. To avoid this, the vehicle should be fitted with side stanchions that reach the height of the load. It is essential that the stanchions are capable of resisting any outward movement of the load.

3.4.3 The carriage of large whole trees, whether live trees or unsawn trunks, is generally a specialized operation normally using pole vehicles. However in the Territory, as most trees are relatively small, these should be able to be accommodated on normally available vehicles for which restraint precautions described in preceding paragraphs will be adequate.

3.4.4 Round timber imported from abroad should be loaded similarly to cylindrical loads; that is placed longitudinally and securely lashed in position, either individually or in groups.



PACKAGED SHEETS OF PLYWOOD OR SIMILAR SHOULD BE LAID FLAT AND SHOULD PREFERABLY NOT BE LOADED ABOVE SIDE OR TAIL BOARDS. ADDITIONAL LASHINGS WILL BE REQUIRED IF LOAD PROTRUDES ABOVE SIDE OR TAIL BOARDS.



VEHICLE FITTED WITH SIDE STANCHIONS TO PREVENT LATERAL MOVEMENT OF SAWN LENGTHS OF TIMBER

TRANSPORTING TIMBER

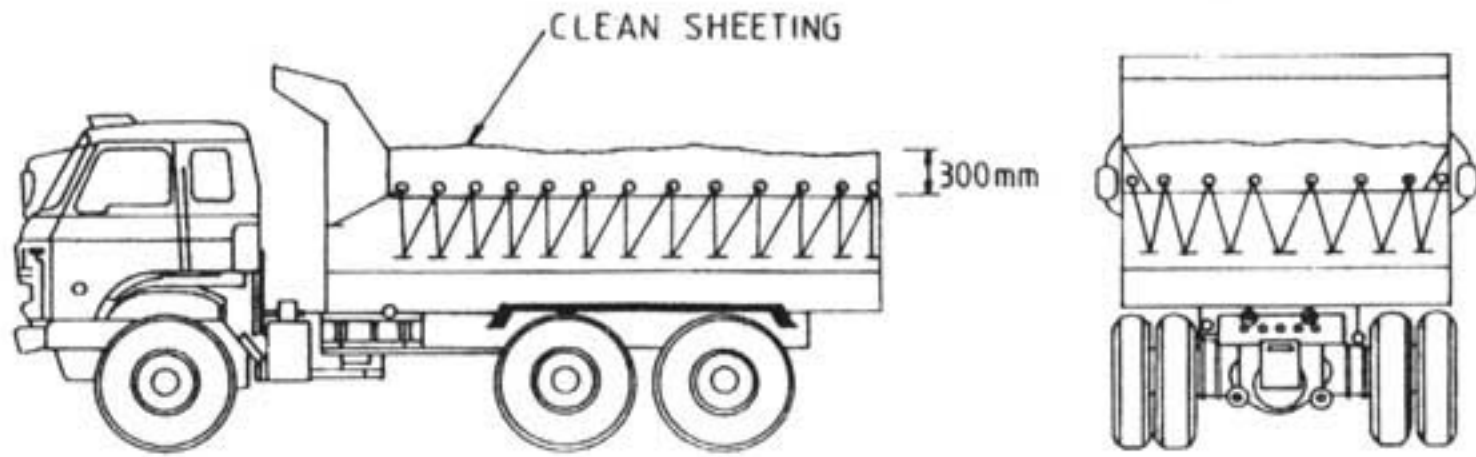
DIAGRAM 3.4.2

3.5 Loose Bulk Loads

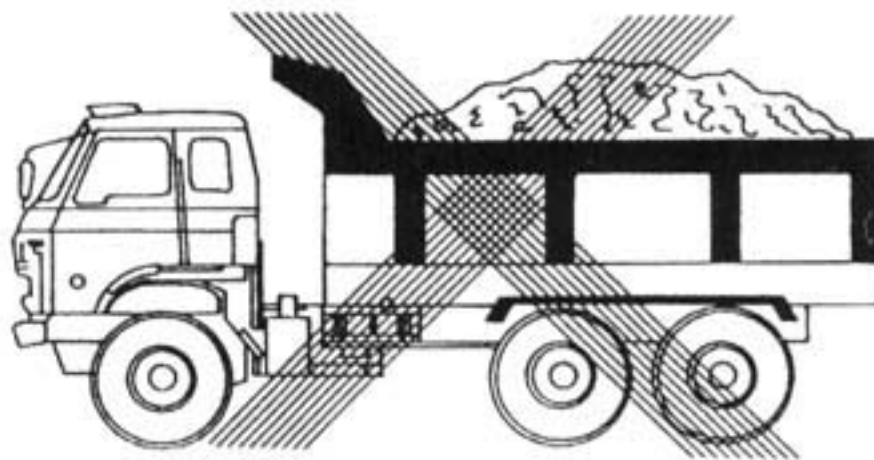
3.5.1 Loose bulk loads are those loads such as sand, ballast, aggregate, waste etc. which cannot be conveniently packaged, and which are usually transported in open topped vehicles.

3.5.2 Shedding of loose bulk loads generally occurs because of leakage through gaps in the bodywork, or material being blown from the top of the load compartment. To avoid these problems occurring, account should be taken of the following: -

- i) The load compartment should be kept in good condition, and any drop sides and tail board to which damage or distortion can easily occur should be regularly inspected and maintained.
- ii) Chassis attachment points, hinges, pins, brackets, tail board locking mechanisms and drop side fasteners should be secure and in good condition.
- iii) The body sides should be of sufficient height to completely contain the material, and hence reduce the likelihood of any of the load from falling or being blown off.
- iv) Body height extensions should only be used where they are of the type that are purpose made and can be attached to the existing body by specially provided fixings for this purpose. Height extensions which rely upon the load itself to support them are not acceptable. It may be necessary when body extensions are used to have transverse tie chains at the top of the extensions to prevent sideways movement.
- v) As shown in Diagram 3.5.1, all loads must be covered to prevent loads from falling or being blown off from the top, and the covers must extend over the side and tail boards by at least 300 mm and not just cover the load itself. For materials such as sand, ash, metal swarf etc. clean sheeting material must be used as covers, however where the load consists of larger items such as scrap metal, waste etc., nets may be used. For liquid sludge or similar, metal covers to prevent spillage must be used but in these cases, the covers do not need to extend over the sides providing they can be adequately secured by other means.
- vi) Loose bulk loads of any description must not be loaded above the head board, side boards or tail board.



LOOSE BULK LOADS MUST ALWAYS BE COVERED, AND THE COVERS MUST EXTEND OVER THE SIDE AND TAIL BOARDS AND MUST BE FIRMLY SECURED.



NOT ACCEPTABLE

LOOSE BULK LOADS MUST NOT PROTRUDE ABOVE SIDE OR TAIL BOARDS EVEN IF COVERED. LOOSE MATERIAL MUST BE LEVELLED OFF.

TRANSPORTING LOOSE BULK LOADS

DIAGRAM 3.5.1

3.5.3 Large skips are sometimes used for the collection of waste or similar materials and if these skips cannot be transported by purpose designed vehicles, then when loaded onto any other type of vehicles, they must be secured to that vehicle by lashings and if necessary, other restraint devices so that any movement of the skip relative to that vehicle is prevented. Reliance on the side or tail boards to achieve this is not acceptable. The skip itself must also be covered when being transported, similarly to that described in paragraph 3.5.2(v).

3.6 Pallets

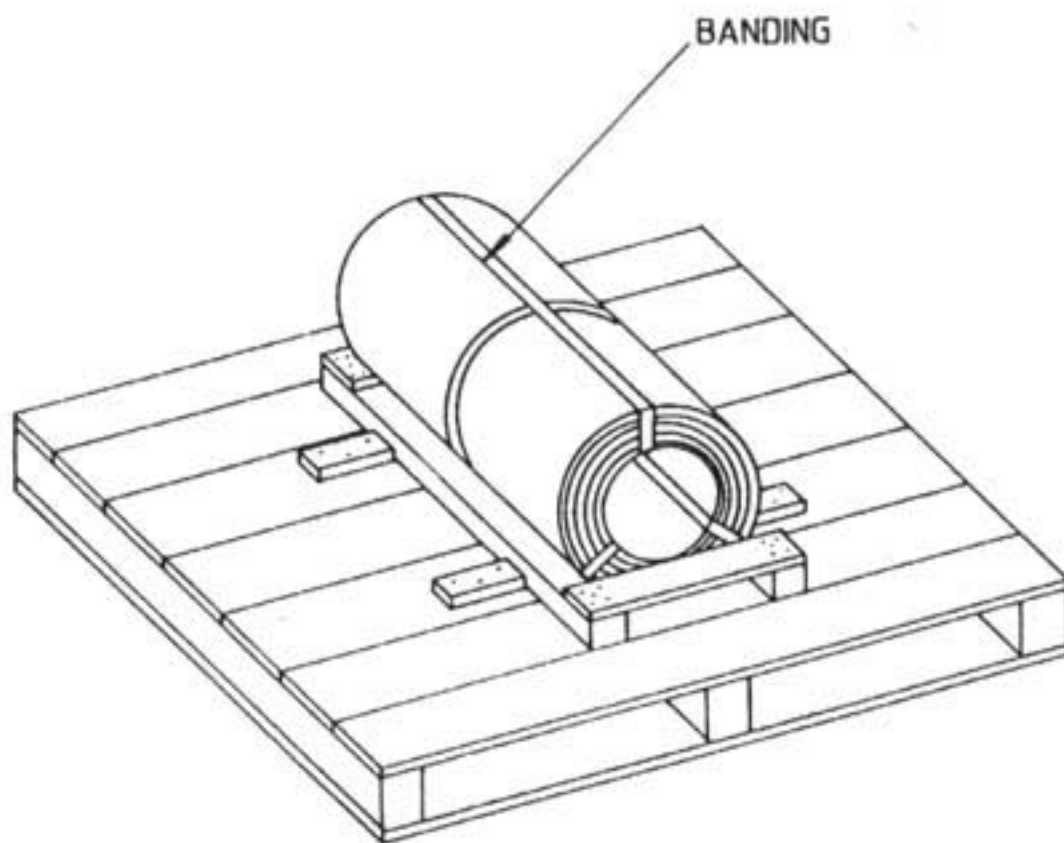
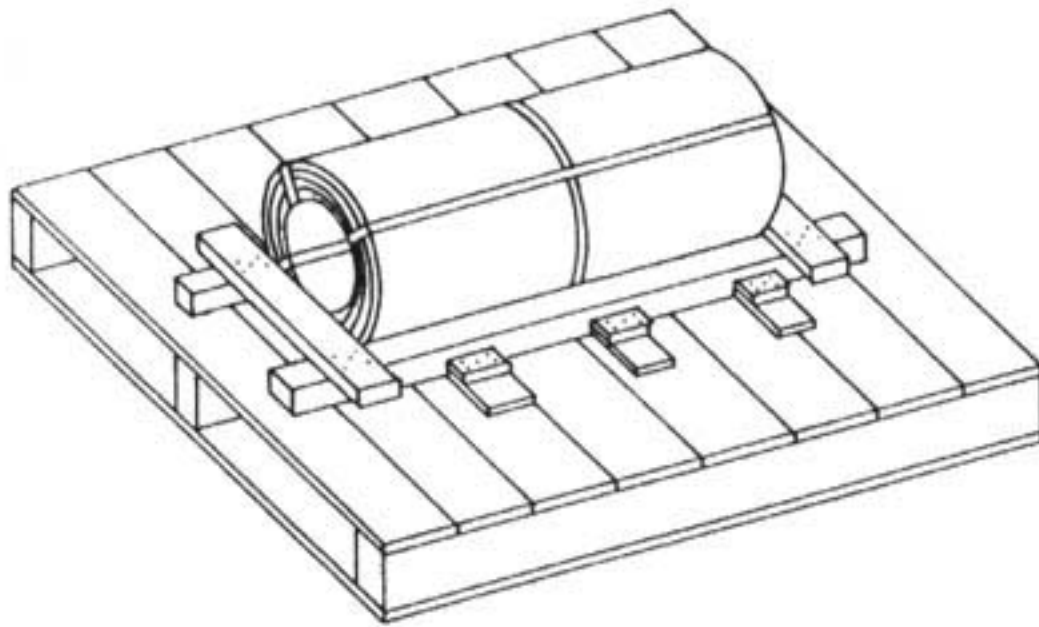
3.6.1 In respect of the transport of palletised goods, it is first necessary to consider the stability of the items packed on the pallet, and secondly the method of securing the pallet and its goods to the vehicle platform.

3.6.2 Diagram 3.6.1 illustrates the type of restraint required for securing coils of wide metal sheets to a pallet. For other loads, banding alone is often used but it should be noted that the banding, because of its limited strength, only secures the pallet to the goods but not necessarily the goods to the pallet. Therefore additional lashings or other restraint measures will be necessary to ensure that both the pallet and the goods are secured to the vehicle platform.

3.6.3 Although Diagram 3.6.2 illustrates the type of restraint needed for vertical wide metal sheets, a similar type of restraint will generally be needed for all other palletised goods. The method of restraint actually used however will need to take into account the type of goods being transported and in this respect, that the motion of the vehicle will not dislodge the goods and thus cause the restraint system to fail. Bagged items, for example, settle under vibration and this may cause strappings to be loosened if they have not been properly tightened. Palletised soft drinks or similar are often carried on specially provided vehicles, where the loading platform is inclined at an angle of 9 degrees towards the centre. Whilst this does prevent the general movement of the load sideways, further restraint in the form of lashings or similar should also be provided in order that during transit, the load can be prevented from falling off under all operating conditions.

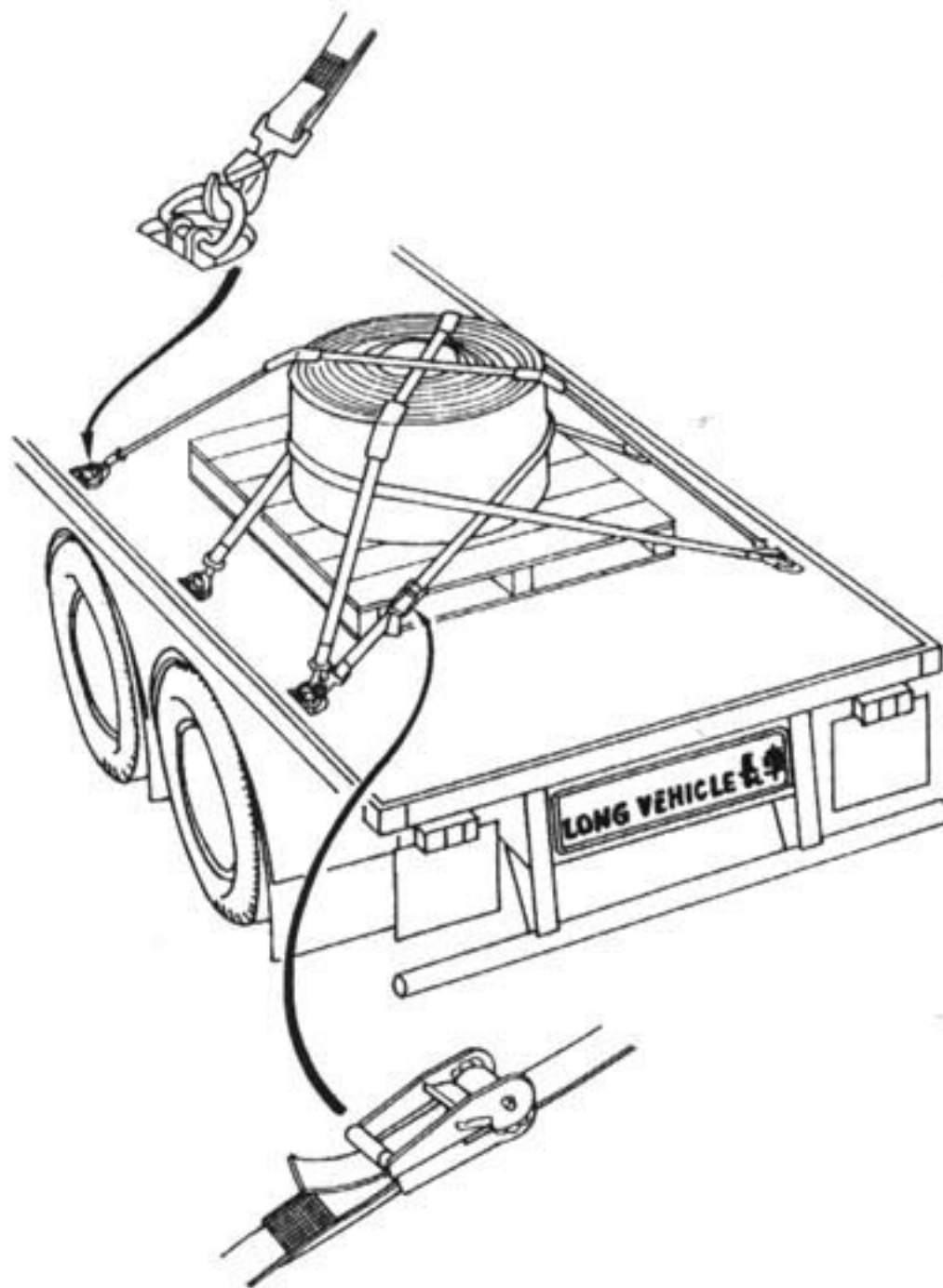
3.6.4 There will be a wide variation in the weight and size of pallets and their loads, and because of this, the situation will often arise where the full loading space cannot be utilized as either the permitted gross vehicle weight or axle weight of the vehicle would be exceeded. For these circumstances therefore it is essential that the pallets and their loads are adequately secured in order to avoid them moving when braking or cornering, as tight packing will not be possible in these cases.

3.6.5 Before any goods are loaded onto any pallet, the pallet should be inspected to ensure that it is not defective and can withstand the load that will be applied.



SECURING GOODS TO PALLET

DIAGRAM 3.6.1



SECURING PALLET AND GOODS
TO VEHICLE PLATFORM

DIAGRAM 3.6.2

3.6.6 If sided vehicles, or vehicles with van bodies are used to transport palletised loads it is not sufficient to rely on the sides of the vehicle to restrain the loads and the loads must be lashed or wedged to prevent any movement. If there is any space between the load and the sides, and the pallets are not secured, then sufficient momentum could be developed for the load to break through the side or sides when the vehicle is braking or cornering.

3.6.7 Stacking of palletised loads is acceptable in order to utilize fully the capacity of the vehicle. However the upper pallet layers must be positioned so that they are stable and adequately secured to prevent them falling from the vehicle. Additionally, unless the upper pallets are directly supported by the lower pallets, the goods on the lower pallets must have sufficient structural strength to withstand the weight of the upper pallet without becoming distorted.

3.6.8 Before transporting any palletised loads, a check should be made to ensure that the following are complied with: -

- i) that the arrangement of pallets on the vehicle does not cause the permitted gross vehicle weight or the axle weights to be exceeded;
- ii) that the sides of the vehicle alone are not the only means to restrain the pallets and additional means of preventing horizontal and vertical movement have been provided;
- iii) that pallets are positioned so that the load is balanced across the vehicle;
- iv) that where the load space is not fully utilized, pallets have been placed along the longitudinal centre line of the vehicle and butted up to one another;
- v) that where pallets are stacked on open platform vehicles, restraining lashings or nets have been provided to prevent movement of each layer of pallets carried. Sheets or covers are not sufficient for this purpose;
- vi) that if the vehicle has a roller loading system, precautions have been taken to ensure the pallets are adequately restrained and cannot move in any direction across the vehicle; and

vii) that if part of the load is required to be removed in transit, the remaining pallets will not cause the maximum axle weight to be exceeded or the lateral stability to be impaired.

3.6.9 Types of restraint equipment suitable for securing palletised loads are: -

- i) Chains
- ii) Steel wire
- iii) Fibre rope
- iv) Webbing lashings
- v) Webbing or rope nets

3.6.10 If using metal restraining devices, care is necessary to ensure the load will not be damaged or destroyed, causing the slackening of the restraint system.

3.6.11 The most appropriate restraint for palletised loads will depend on the type and size of the vehicle, the position and number of anchorage points, and the size, weight and number of pallets in the load. Even so the following principles should be followed whatever method is used: -

- i) vertical and tipping motions should be prevented by a lashing placed across the top of the load;
- ii) lashings should be positioned to prevent movement of the pallets in any direction;
- iii) the pallet lashings should not be attached to or pass under the strapping or binding used to secure the pallet to the goods; and,
- iv) where pallets are stacked, cross lashings must be such that each pallet of the top layer has at least one cross lashing.