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Assess the condition of each Daywalk bolt before use. Discard bolts with visible signs of damage, including (but not limited to):

- Bending, damage or deformation of the threaded rod, washer plate or base plate
- Missing or damaged roll pins or spring washer
- Cracked or damaged welds, base plate or thread body
- Damaged or stripped threads on the bolt or nut
- Galvanisation or coating peeling off or exposed base metal
- Variation in the thread pitch in diameter or width for the nut or thread body
- Sharp or flaky threads on the nut or thread body

Bolts are recommended by the manufacturer to be single use only.



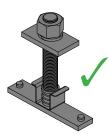
# 13-PMGG2320-2320 Medium Duty Steel Pallet User Guide

## This Guide

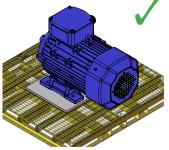
- Covers singular items secured to an Daywalk 5t rated medium duty steel pallet (SKU 13-PMGG2320-2320) by Daywalk securing bolts, transported by road in Australia
- Meets the requirements of the Performance Standard forces specified in Schedule 7 of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation 2018
- · Does not cover restraint of the combined pallet and item on the truck

## Key Elements

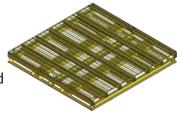
- Equipment must be in good working order
- Damaged pallets should be inspected by a competent person to confirm their structural capacity before use
- Ensure all pallet bearers are in contact with the deck of the truck
- Place rubber with minimum coefficient of friction of 0.6 and minimum load capacity of 6.0 N/mm<sup>2</sup> between the item and pallet
- Rubber must have capacity to withstand load without failing (i.e. crushing, tearing or disintegrating etc.)
- X No low friction surfaces (i.e. steel on steel)
- Rubber may be required between the pallet and the deck of the truck to permit application of adequate restraint
- V Use Daywalk securing bolts to attach the itemto the pallet
- Bolts must be tightened to the required torque specified in Table 4
- Mounting points on the item must be strong enough to withstand the applied forces (Performance Standard + bolt torque)
- Do not apply lashings over the item this will apply additional load to the pallet and may overload it
- Use spreader plates where required to increase the load capacity of the pallet



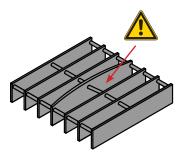
Daywalk securing bolt



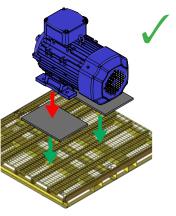
Spreader plate



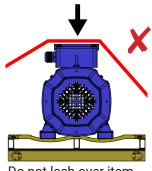
Daywalk 5t Rated Medium Duty Pallet



Damaged load bars



Rubber between pallet and item



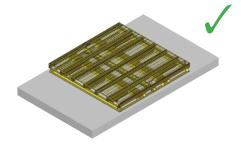
Do not lash over item

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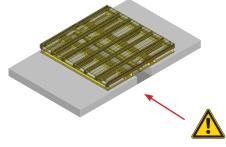


#### How to Use

Place the pallet on a rigid surface and ensure all bearers of the pallet are supported

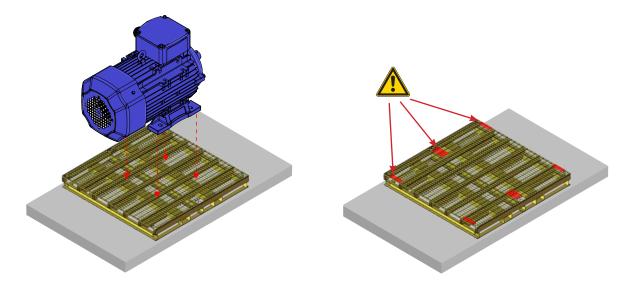


All bearers supported

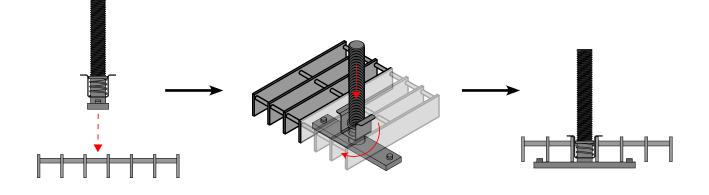


Middle bearers unsupported

- Identify locations where securing bolts can be placed to secure the item to the pallet. The item should be placed such that the centre of gravity is centred on the pallet.
- The load capacities identified in this document do not apply to the load bars adjacent to the lashing points contact Daywalk for more information



Insert bolt between mesh, rotate and hold in place with the spring clip at each location

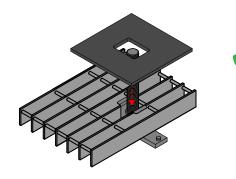


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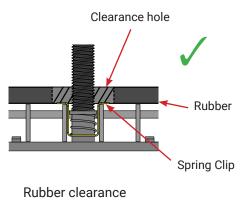


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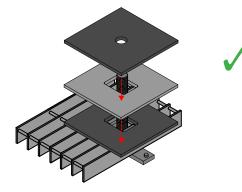
- Place rubber over bolt at each location
- Rubber must have a hole cut in it to clear the spring clip



Rubber strip over bolt

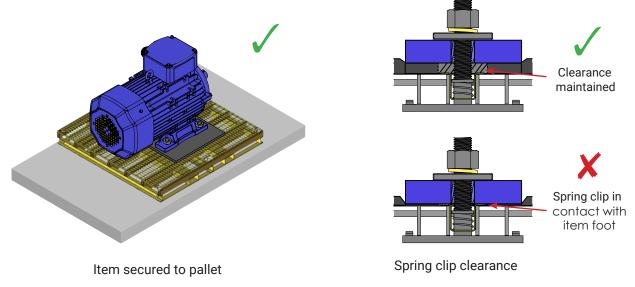


If spreader plates are required, place spreader plate followed by another piece of rubber over bolt at each location



Spreader plate

- Load item onto pallet and secure by tightening bolts to the required torque
- Rubber must have capacity to prevent contact between the item (or spreader plate) and the spring clip under the applied load

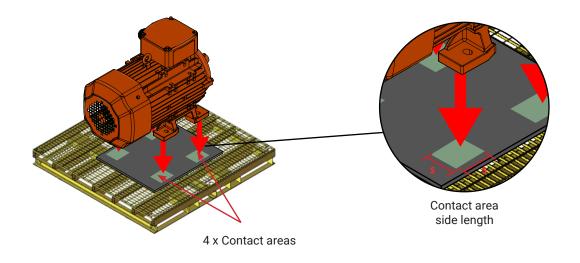


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## Load Capacity - Forklift Lift

- The load capacity of the pallet depends on the total number of contact points and the area of each
- Load capacity is also affected by the stability of the item Table 1 must be read in combination with Tables 2 and 3
- The capacity of the pallet is determined by identifying the relevant value from each Table (1, 2 and 3) and taking the lesser of the three
- Only lift the pallet with forklift tynes in the tyne pockets do not locate tynes in any other position
- X Medium duty pallets are not suitable for crane lifting



#### Table 1: Maximum Load Capacity (not for crane lift)

| Contact Area Side Length (S) | Number of<br>Contact Areas |        |        |        |  |
|------------------------------|----------------------------|--------|--------|--------|--|
|                              | 2                          | 3      | 4      | 6      |  |
| 125 - 150mm                  | 1105kg                     | 1655kg | 2210kg | 3315kg |  |
| 151 - 175mm                  | 1590kg                     | 2390kg | 3185kg | 4780kg |  |
| 176 - 200mm                  | 2165kg                     | 3250kg | 4335kg | 5000kg |  |
| 201 - 225mm                  | 2830kg                     | 4245kg | 5000kg | 5000kg |  |
| 250 x 250mm spreader plate   | 4410kg                     | 5000kg | 5000kg | 5000kg |  |
| 400 x 150mm spreader plate   | 4200kg                     | 5000kg | 5000kg | 5000kg |  |
| 400 x 400mm spreader plate   | 5000kg                     | 5000kg | 5000kg | 5000kg |  |
| 500 x 350mm spreader plate   | 5000kg                     | 5000kg | 5000kg | 5000kg |  |

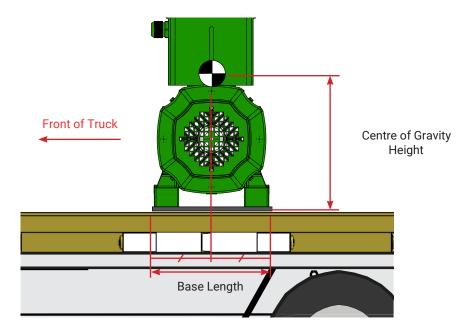
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#### Load Capacity - Load Stability

- The maximum load capacity of the pallet is also dependent on the stability of the item in the forwards and sideways directions (i.e. the base width, base length and centre of gravity height)
- Tables 2 and 3 specify the maximum pallet capacity based on load stability in the forwards and sideways directions respectively

Items may topple **forwards** if they have a narrow **base length** 



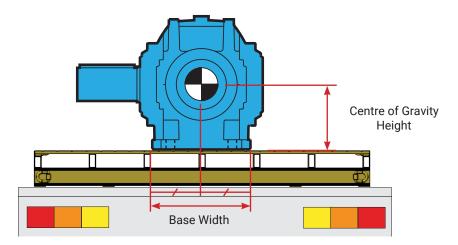
The maximum **forwards** toppling load capacity for items with a centre of gravity at the mid point of the base length is shown in Table 2

#### Table 2: CoG Limitations - Forwards Toppling

| Base Length   | Centre of Gravity Height (mm) |           |           |            |             |
|---------------|-------------------------------|-----------|-----------|------------|-------------|
|               | 200 - 400                     | 401 - 600 | 601 - 800 | 801 - 1000 | 1001 - 1200 |
| 400 - 500mm   | 440kg                         | 190kg     | 120kg     | 85kg       | 70kg        |
| 501 - 600mm   | 950kg                         | 285kg     | 170kg     | 120kg      | 90kg        |
| 601 - 700mm   | 3985kg                        | 440kg     | 230kg     | 155kg      | 120kg       |
| 701 - 800mm   | 5000kg                        | 715kg     | 320kg     | 205kg      | 150kg       |
| 801 - 900mm   | 5000kg                        | 1330kg    | 440kg     | 265kg      | 190kg       |
| 901 - 1000mm  | 5000kg                        | 3990kg    | 630kg     | 340kg      | 230kg       |
| 1001 - 1100mm | 5000kg                        | 5000kg    | 950kg     | 440kg      | 285kg       |
| 1101 - 1200mm | 5000kg                        | 5000kg    | 1625kg    | 585kg      | 355kg       |



Items may topple **sideways** if they have a narrow **base width** 



The maximum **sideways** toppling load capacity for items with a centre of gravity at the mid point of the base width is shown in Table 3

#### Table 3: CoG Limitations - Sideways Toppling

| Base Width    | Centre of Gravity Height (mm) |           |           |            |             |
|---------------|-------------------------------|-----------|-----------|------------|-------------|
|               | 200 - 400                     | 401 - 600 | 601 - 800 | 801 - 1000 | 1001 - 1200 |
| 400 - 500mm   | 5000kg                        | 530kg     | 265kg     | 175kg      | 130kg       |
| 501 - 600mm   | 5000kg                        | 1330kg    | 440kg     | 265kg      | 190kg       |
| 601 - 700mm   | 5000kg                        | 5000kg    | 795kg     | 395kg      | 265kg       |
| 701 - 800mm   | 5000kg                        | 5000kg    | 1860kg    | 620kg      | 370kg       |
| 801 - 900mm   | 5000kg                        | 5000kg    | 5000kg    | 1060kg     | 530kg       |
| 901 - 1000mm  | 5000kg                        | 5000kg    | 5000kg    | 2390kg     | 795kg       |
| 1001 - 1100mm | 5000kg                        | 5000kg    | 5000kg    | 5000kg     | 1330kg      |
| 1101 - 1200mm | 5000kg                        | 5000kg    | 5000kg    | 5000kg     | 2925kg      |



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#### Required Bolt Torque

The required bolt torque for Daywalk bolts is shown in Table 4

Exceeding the bolt torques specified below may damage the rubber between the item and the pallet

A spring washer must always be placed between the nut and washer plate to prevent loosening during transport



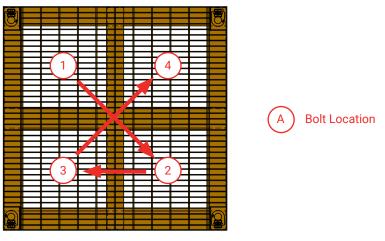
| Item Weight   | Number of<br>Bolts |       |       |       |  |
|---------------|--------------------|-------|-------|-------|--|
|               | 2                  | 3     | 4     | 6     |  |
| 0 - 1000kg    | 30 Nm              | 20 Nm | 20 Nm | 20 Nm |  |
| 1001 - 2000kg | 55 Nm              | 40 Nm | 30 Nm | 20 Nm |  |
| 2001 - 3000kg | 85 Nm              | 55 Nm | 45 Nm | 30 Nm |  |
| 3001 - 4000kg | 110 Nm             | 75 Nm | 55 Nm | 40 Nm |  |
| 4001 - 5000kg | 140 Nm             | 95 Nm | 70 Nm | 50 Nm |  |

#### Table 4: Required Bolt Torque

## Bolt Torque Sequence

Bolts should be torqued in a 'criss-cross' sequence over multiple passes to ensure all bolts achieve the required torque

Incrementally increase the applied torque with each pass until the required torque is achieved



Example Bolt Torque 'Criss-Cross' Sequence

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