FORKLIFT TRUCK
LEARNER WORKBOOK

TRAINER'S MARKING GUIDE WITH MODEL ANSWERS

TLILIC0003
Licence to operate a forklift truck

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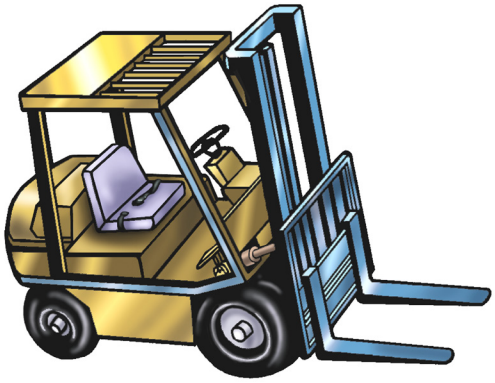
Contents

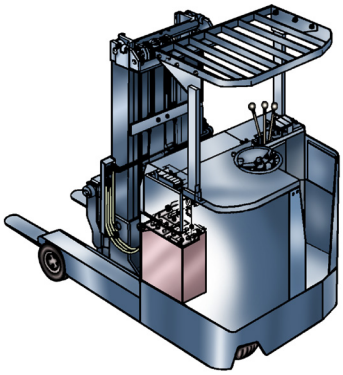
What is a forklift truck?

A forklift is a powered industrial truck used to lift and move loads. It has a mast and an elevating load carriage with a pair of fork arms or other load-holding parts.

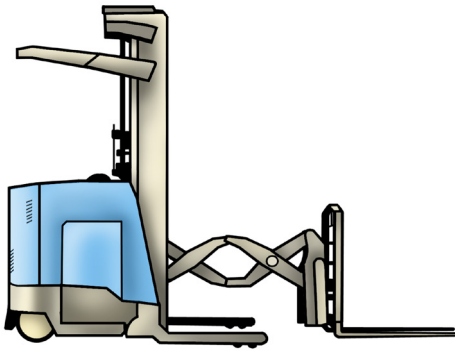
As you can see below, there are different types of forklifts. The most common forklift is the counterbalance truck.



Counterbalance forklift truck



Reach truck (non-counterbalance) forklift



Double-deep reach truck

Truck mounted forklift truck

Rough terrain forklift truck

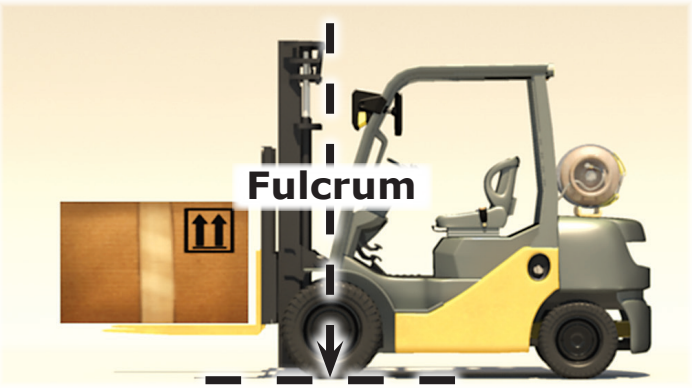
Articulated narrow aisle forklift truck

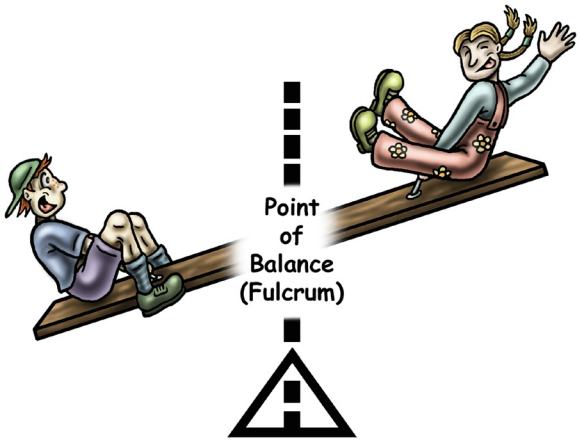
Point of balance (fulcrum)

The most common forklift is the counterbalance type.

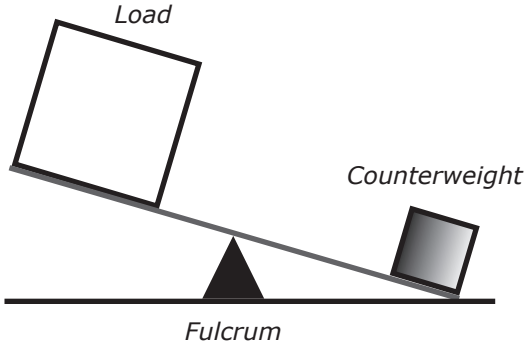
This means they carry the load on the front mounted tynes and use all the weight behind the front wheels to counterbalance the load.

The point of balance on a forklift is called the fulcrum. Think of it as a vertical line through the axle of the front wheel, where the line meets the ground.





Think of a counterbalance forklift truck as being like a see-saw. If you put too much weight on one end it tips over.



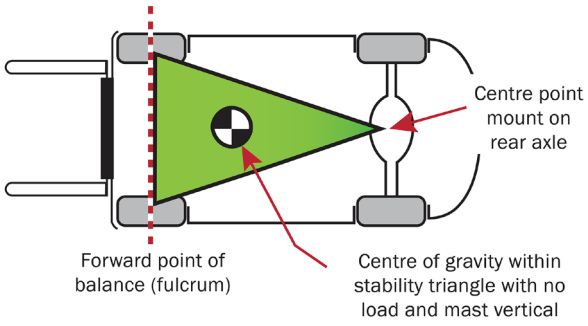
All the weight behind the point of balance acts as a counterweight.

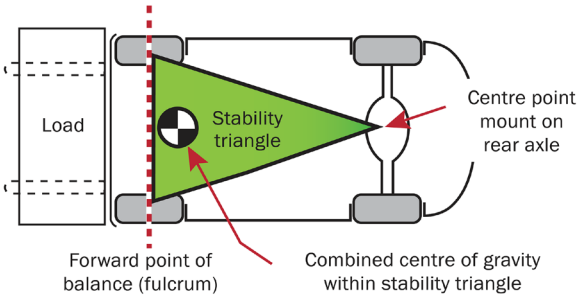
The stability triangle

A forklift has a three-point suspension that is called the **stability triangle**.

The stability triangle is formed by the front axle (drive wheels touching the ground) and the centre point mount in the middle of the rear (steering axle).

The forklift centre of gravity must stay within the stability triangle

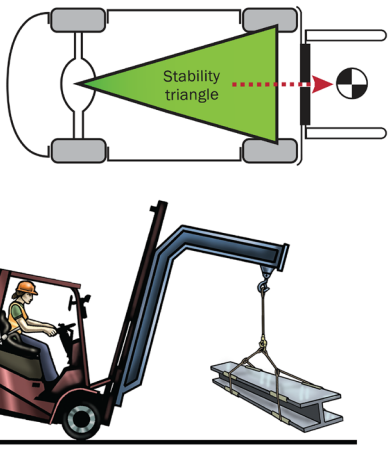




ALWAYS KEEP THE CENTRE OF GRAVITY INSIDE THE STABILITY TRIANGLE

The centre of gravity in the stability triangle is like a ball floating in water and can easily move. The centre of gravity moves by the driver lifting, lowering, tilting, turning, accelerating, braking, and driving over uneven ground. Any of these movements done too quickly can send the centre of gravity **outside the stability triangle.**

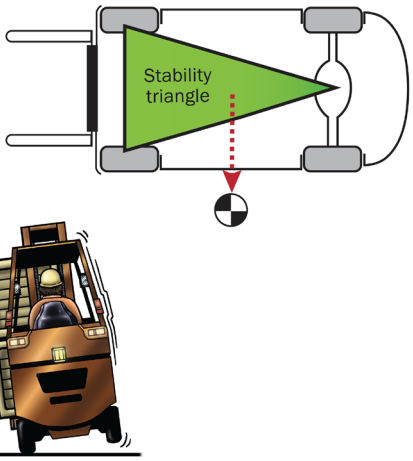
If the centre of gravity goes outside the fulcrum (forward point of balance) then the forklift will tip lengthways (longitudinal tipping).



Some causes include:

- Overloading the forklift
- Braking too hard
- Sudden tilting forward of a high load
- Shifting load centre.

If the centre of gravity goes outside either side of the triangle the forklift will tip over sideways (lateral tipping).



Some causes include:

- Driving too fast (especially without a load)
- Turning too fast
- Turning on an incline
- Travelling with a raised load.

Chapter 1

Plan Work

Trainers please note:
The answers in this book are in no way conclusive and are to be used as a guide only. Use your own knowledge and experience to correct the variation of answers that may be given by learners.

Theory Training Task 1

Performance Criterion: 1.5

a) Give examples of hazards you should look for **before** you begin work.

Answer my include:

Above head height

- powerlines
- overhead pipes
- trees
- buildings
- clearance height
- other obstructions

Ground level to eye level

- other equipment
- machines
- people and pedestrians
- things in the path of travel
- blind corners
- enclosed or poorly ventilated spaces
- dimly lit areas
- other obstructions

Ground level (and below)

- if the surface is stable and level
- if the surface is strong enough to support the weight of the forklift and loads
- if cables have been left lying around
- for spills or wet surfaces
- for any debris or rubbish
- drain/pit lids
- service covers/trenches
- loading dock edges

b) Tick any of these hazards you may have come across in past or present workplaces.

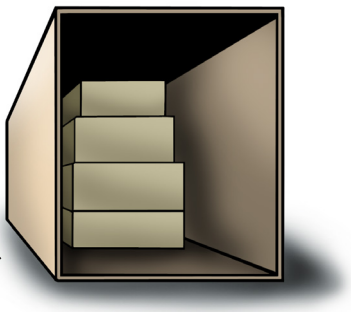
Trainers: encourage your learners to place a tick beside hazards they have seen in their past or present places of employment.

Theory Training Task 20

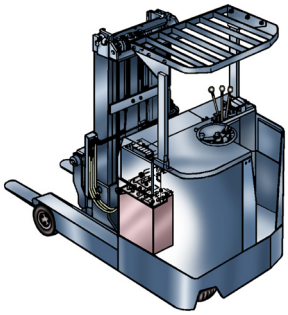
Performance Criterion: 1.2, 1.3

a) Draw a line to match the forklift truck with the work area you think it is best suited for.

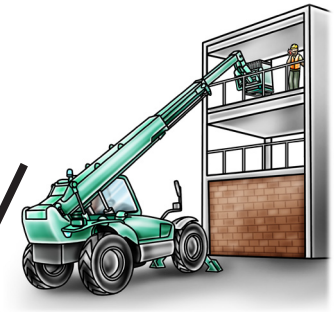
A four wheel drive (4WD) forklift



Enclosed space

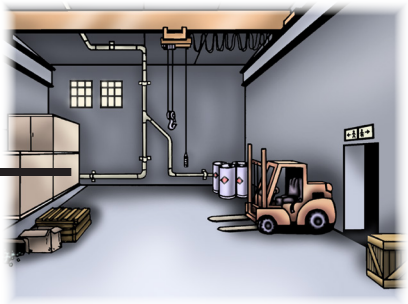


A battery (electric) powered forklift

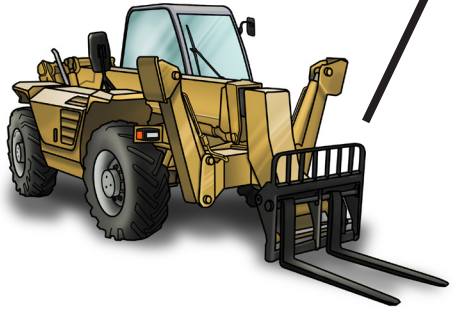


Elevated load destination

LPG powered forklift



Indoor work area



Telehandler or reach truck

Rough terrain

Performance Criterion: 1.4

Plan your path of movement

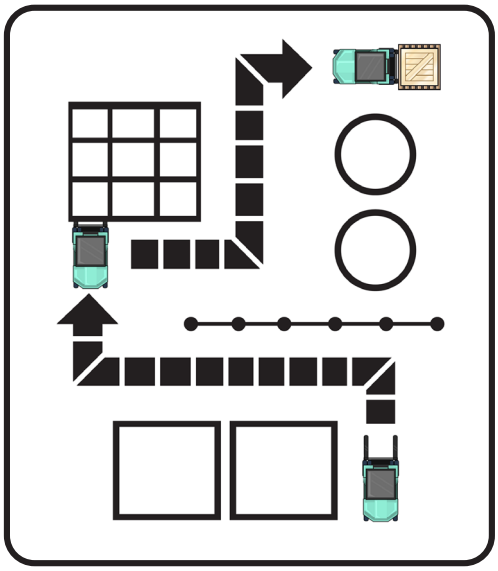
Before you start the job, look at the work area and plan the path you will take. This helps lower the chance of injuring workmates or damaging equipment and property.

Theory Training Task 22

Performance Criterion: 1.4

a) Why is it important to decide on an agreed travel plan/path before moving a load?

A travel plan will help prevent accidents and injury. Other workers will know to stay out of your way if you let them know of your work plan.



b) Give an example of something you need to think about when planning your travel path. Explain your answer.

Answer may include:

Where you have to stop.

Where you need to slow down.

Where to use the horn.

Will you need to use reverse?

What is a safe travel speed?

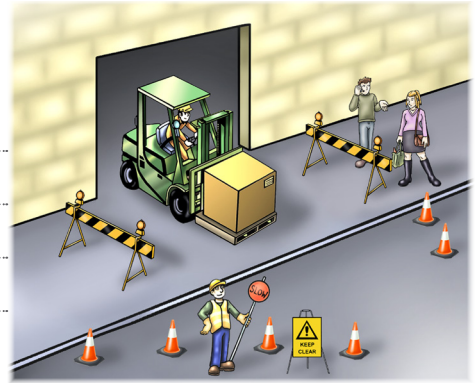
Is the ventilation adequate?

Theory Training Task 23

Performance Criterion: 1.5

List some steps you can take to reduce risk to other people, machinery and equipment.

- **Let people know you are working in the area**
- **Post signs**
- **Put up barricades**
- **Use a flag person**



Theory Training Task 24

Performance Criterion: 1.1, 1.4

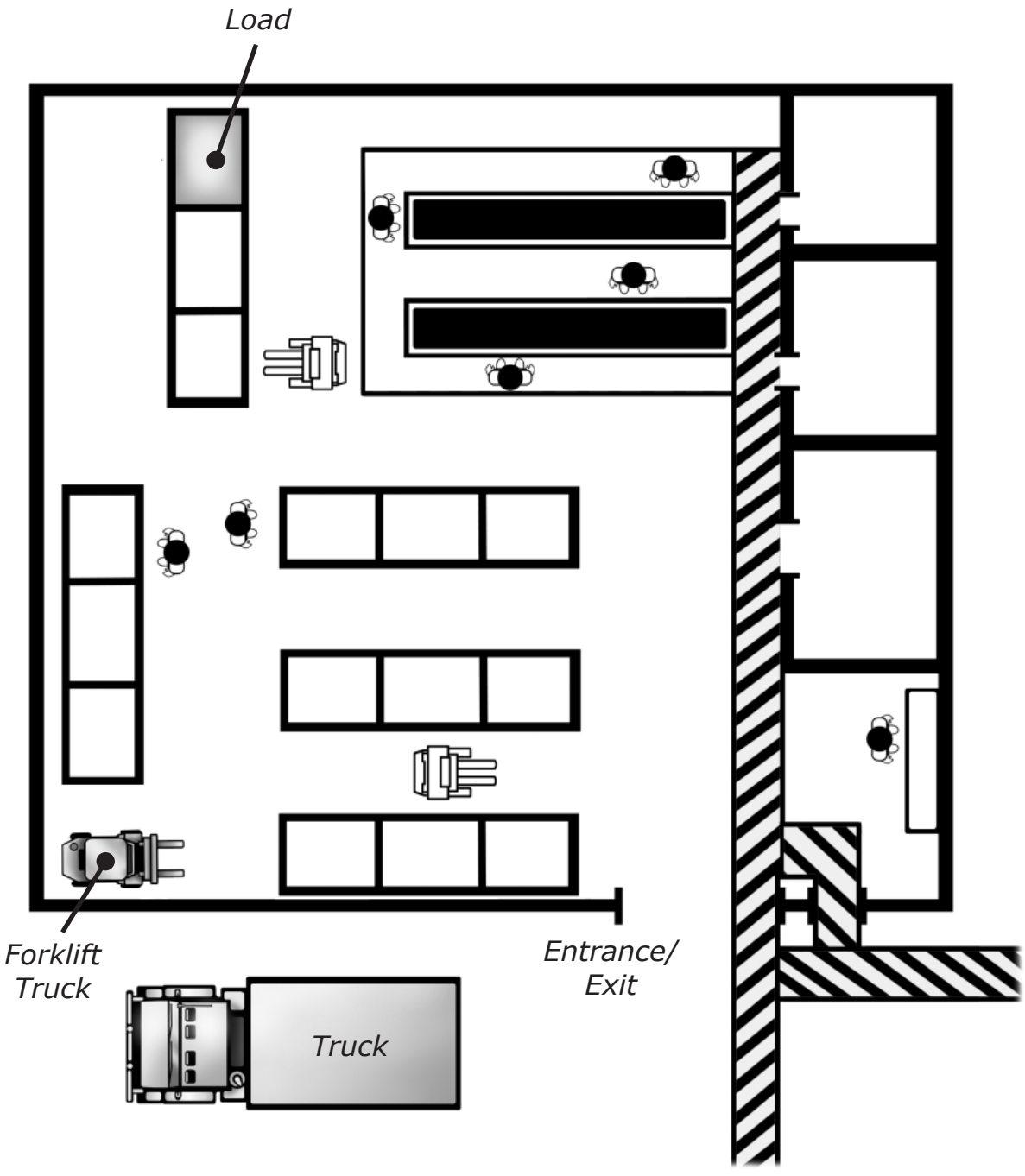
Inspect the picture below.

a. Draw a line to show a safe path for you to drive the forklift truck to the load.

b. Draw another line to show how you would move the load to the truck.

c. Place a small circle where you might use your horn to warn people of your approach.

Key	
	Other equipment
	Racking/Shelving
	People
	Pedestrian walkway



Chapter 2

Conduct Routine Checks

Trainers please note:
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Performance Criterion: 2.6

Do a visual check

Before you use a forklift truck, do a visual check to make sure there aren't any problems. You or a workmate could be injured or killed if you have an accident caused by a faulty forklift.

Theory Training Task 31

Performance Criterion: 2.6

a) What is the purpose of a daily inspection checklist?

To keep a record of maintenance and faults of a forklift truck.

b) List any three (3) checks that would be listed on a daily inspection checklist.

Trainer's: This answer covers an extensive list. Please use your discretion when correcting this question.

Theory Training Task 32

Performance Criterion: 2.6

It is important to do a **visual check before** using a forklift truck. Place a tick next to the things you should be checking to ensure it is safe to use.

- [x] For any leaks
- [ ] The colour of the forklift
- [x] Safety devices are fitted and not damaged
- [ ] The seat is made out of comfortable leather
- [x] Data plate is fitted and readable
- [x] There is no Danger Tag attached
- [x] Logbook and manuals are available
- [ ] That snacks are onboard in case you get hungry
- [x] Any damage

Theory Training Task 33

Performance Criterion: 2.6

Look at the diagram below. Describe the **structural checks** you would make and what you would look for when completing a visual check of the forklift.

Part name:

Mast assembly

Check for:

Damage

Leaks

Lift and tilt system is okay

Part name:

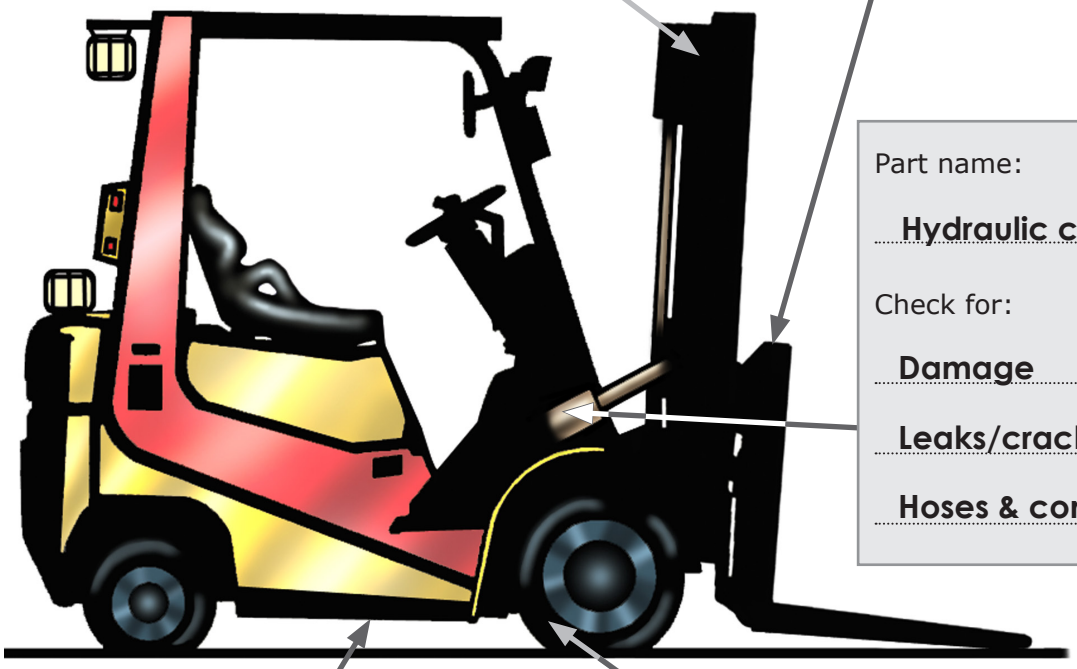
Forks/attachments

Check for:

Damage

Security

Data plate



Part name:

Hydraulic cylinders

Check for:

Damage

Leaks/cracks, bent rams

Hoses & connections

Area:

Under forklift

Check for:

Damage

Leaks

Attached debris

Part name:

Tyres

Check for:

Damage/wear

Pressure

Wheel nuts fitted and tight

Theory Training Task 34

Performance Criterion: 2.6

Look at the safety devices below. List what you would check for when inspecting these parts.

Windscreen and wipers

Check for:

- Damage
- Cracks
- Cleanliness

Load backrest guard

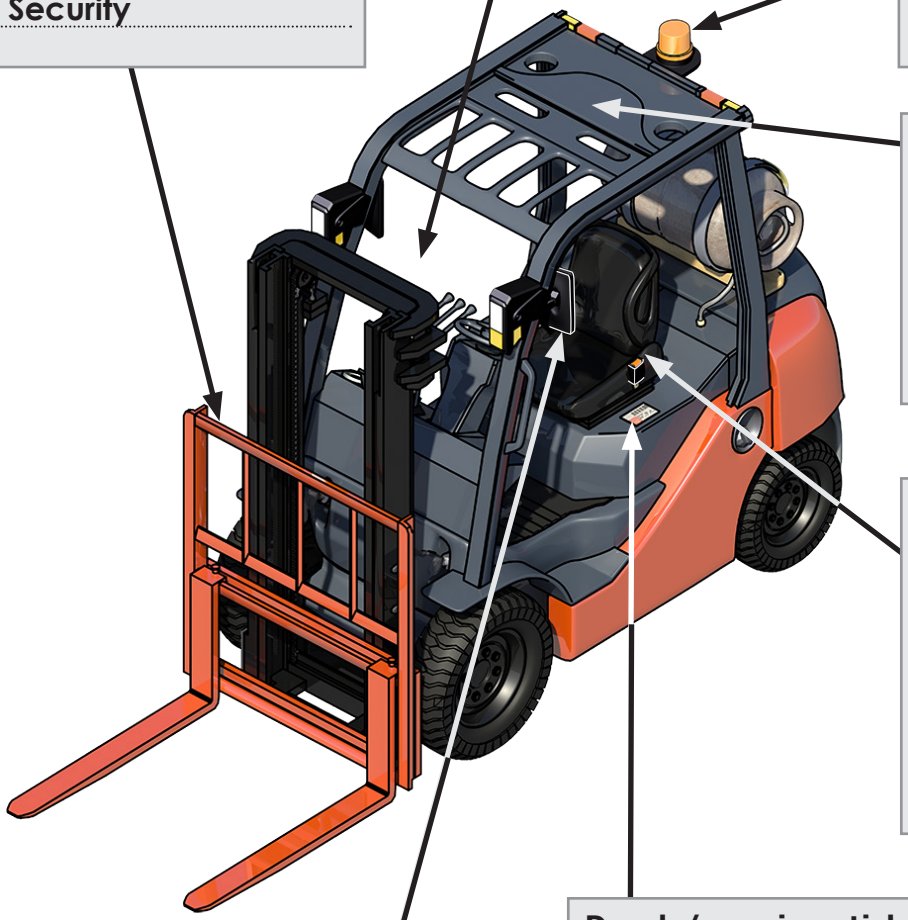
Check for:

- Any damage
- Security

Warning light

Check for:

- Working order



Overhead guard

Check for:

- Any damage
- Security

Seat and seatbelt

Check for:

- Working order
- Any damage/wear
- Security

Mirrors

Check for:

- Damage/wear
- Cleanliness
- Adjusted for best vision

Decals/warning stickers

Check for:

- Any damage/wear
- Readable