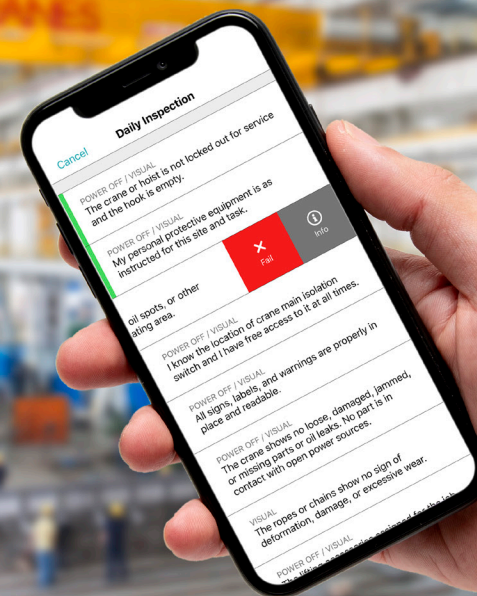


DIGITAL SERVICES

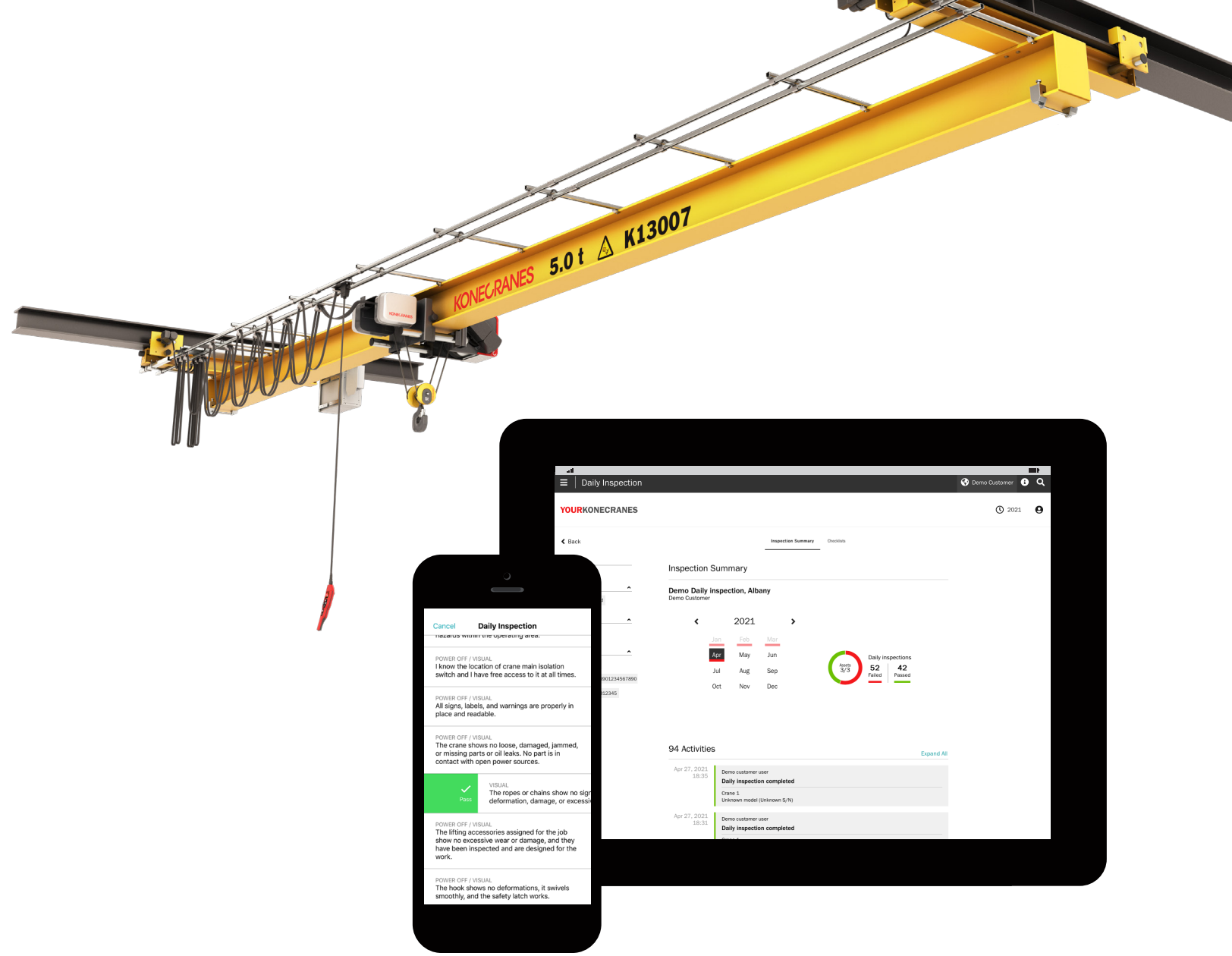
CheckApp for Daily Inspections user guide

2021



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Go digital with your daily crane inspections

Konecranes CheckApp for Daily Inspections has been designed to help crane users quickly and easily record their findings when performing pre-shift and/or pre-lift inspections. It gives users a digitalized and cost-effective way for recording and retrieving daily inspection data that can be used for internal auditing and compliance.

What is a daily inspection?

The daily inspection is a user's (or crane operator's) own assessment of the condition of an asset and environment for safe use. It is not an expert's examination of the condition of an asset or component. Daily inspections are statutory requirement in several countries and good practice to follow for the safe use of lifting equipment.

Why should we perform daily inspections?

The most important reason is safety. Even with regular inspections and maintenance, issues can arise for a variety of reasons including continuous or heavy use, operator

behavior, overloads and more. A daily inspection helps you spot obvious damage, excessive wear or other deficiencies and lets you know that the crane is working correctly before a load is lifted.

Why use CheckApp

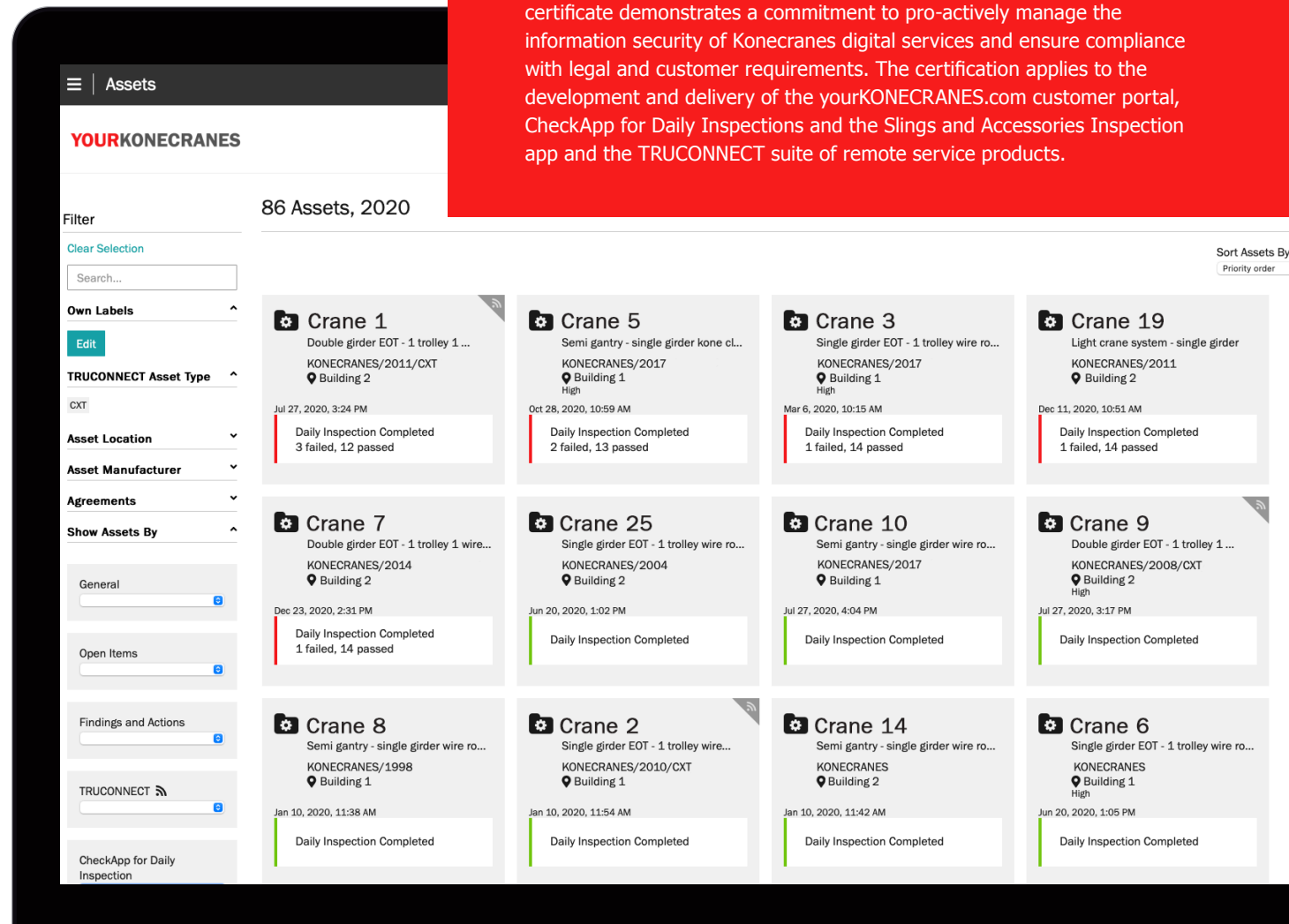
Having an easy to use app can motivate users to perform the daily inspection. CheckApp has 15 checkpoints which can be marked as pass or fail with a simple swipe. A record of all daily inspections performed is available on the yourKONECRANES customer portal.

What can I do with the inspection data?

Besides providing an audit trail of daily inspections, the information can help you recognize potential asset-specific safety or production risk issues and identify workplace improvement opportunities. It can also help you identify needs for operator training as well as deviations in following local safety and other site rules.

Data security

Konecranes digital services have been awarded ISO/IEC 27001:2013 certification for information security management. The ISO/IEC 27001 certificate demonstrates a commitment to pro-actively manage the information security of Konecranes digital services and ensure compliance with legal and customer requirements. The certification applies to the development and delivery of the yourKONECRANES.com customer portal, CheckApp for Daily Inspections and the Slings and Accessories Inspection app and the TRUCONNECT suite of remote service products.



Getting started

Once you have CheckApp added to your agreement you'll need to take a few steps to get started. This checklist contains items that need to be addressed to begin using CheckApp in your facility.

ACTION ITEM	RESPONSIBLE	STATUS
Verify IT approval for CheckApp usage if needed.*		
Verify network coverage - are you able to get a wifi or network signal where your cranes are located?		
Do operators have email addresses? If not, set up individual or shared email.		
Purchase devices - will you have one device per user or shared devices?		
Name operator users and create accounts on yourKONECRANES.		
Name the person looking after the inspection results and make sure they have an account on yourKONECRANES.		
Add customized checklist in yourKONECRANES if needed.		
Arrange training for operator users and anyone who will be accessing the information on yourKONECRANES.		



*The ISO/IEC 27001:2013 certificate for information security can be downloaded from konecranes.com.

yourKONECRANES customer portal

Customers with a maintenance agreement and/or TRUCONNECT® Remote Monitoring have access to yourKONECRANES.com, our cloud-based customer portal.

yourKONECRANES streamlines data access by organizing large volumes of information—including inspection and maintenance findings, TRUCONNECT data and alerts, asset lists and service spend—into easy-to-read graphs and charts in a single location.

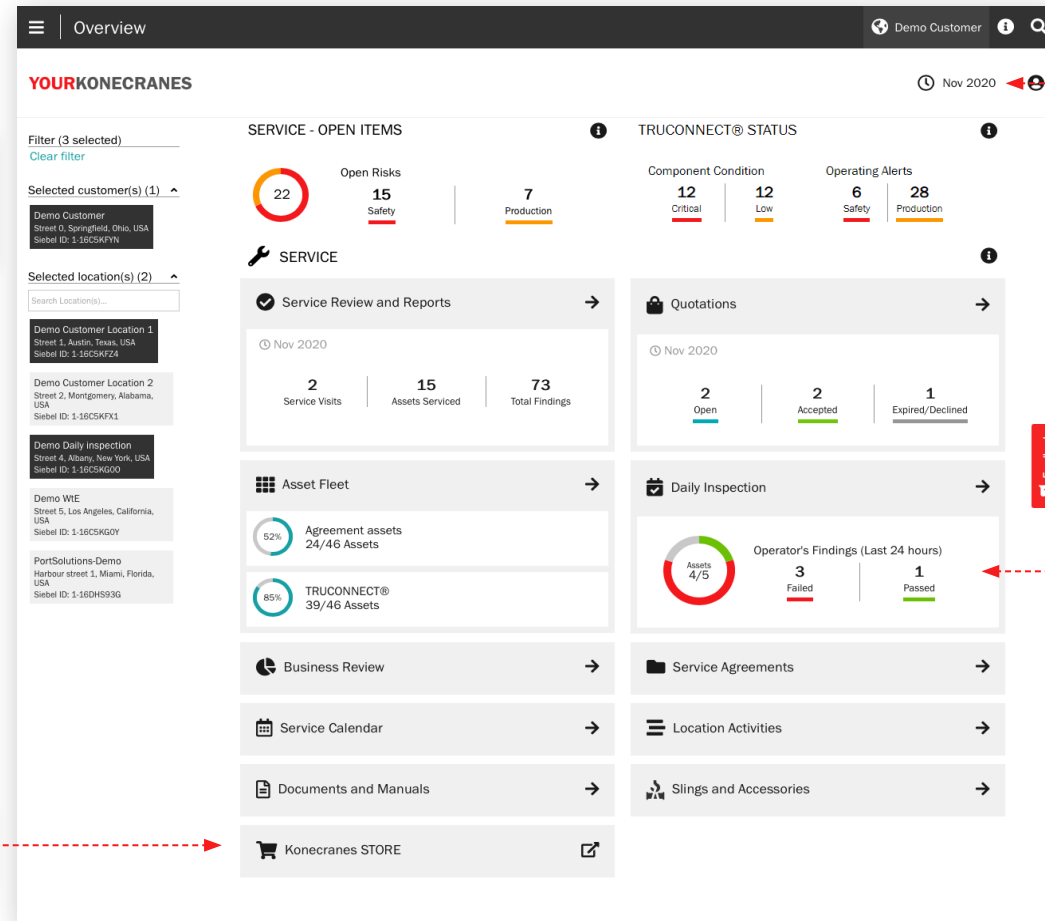
The portal also contains daily inspection records from CheckApp, where combined with maintenance history and condition data collected from selected components with TRUCONNECT Remote Monitoring, provides a comprehensive view of the condition of an asset in one easily accessible place. This data assists in planning maintenance actions and provides an audit trail of performed daily inspections.

You can also add users for CheckApp in yourKONECRANES and create your own custom checklists.

If you have several locations you can choose the ones you want to see overview details for.

Quick link to Konecranes STORE.

OVERVIEW PAGE



Change the time frame.

Daily Inspection shows items that have passed/failed in the past 24 hours via CheckApp for Daily Inspections.

How to add users

Customer managers that have CheckApp for Daily Inspections for their assets can create or delete yourKONECRANES delegate accounts for operators who perform Daily Inspections.

You'll first need to make sure your operators have an email account as that is what they will use to sign into yourKONECRANES.

If you are adding users for the first time and you have a high number of people to add - you may want to make a list of users and their information.

CheckApp users you create can log in to yourKONECRANES but they can't see any other data in the portal other than daily inspection reports.

If you have manager users that don't have an account for yourKONECRANES you can **contact support** with the link on the login page to yourKONECRANES.

USER MANAGEMENT PAGE

User Management

YOURKONECRANES

2021

Filter

Create New User

Eric Miller

eric.miller@company.com

Created: jane.roberts@company.com

Isabella Castillo

isabella.castillo@company.com

Created: jane.roberts@company.com

William Peterson

william.peterson@company.com

Created: jane.roberts@company.com

Click here to add a user.

Click on a user to see their profile information.

User Management | Create New User

First Name*

Last Name*

E-mail*

Phone Number*

Customer*

Location*

Available applications

Save

All fields are required.

John Smith

john.smith@company.com

YOURKONECRANES

2021

Activity Applications Profile Info

Delete Edit

First Name

Last Name

E-mail

Phone Number

Created by

Created at

Customers

Locations

John

Smith

john.smith@company.com

+1123456789

jane.roberts@company.com

26.8.2020 10:41

Company Co.

Town A location

Town B location

Town C location

Town D location

Delete user.

Edit user details.

How to add a customized checklist

You can create your own customized checklist that is specific to an asset or location. You may want to take the 15 checkpoints in CheckApp and add a few more specific to your site or create a new list entirely.

Click here to see the crane checklist with instructions. This can be helpful when training operators.

DAILY INSPECTION CHECKLISTS PAGE

YOURKONECRANES

Filter

Inspection

Attachment

Asset

RC_1234567890

CRAU_23456789012345

CRAU_012345678901234567890

Daily Inspection Checklists

Crane checklist
Statutory Daily inspection

ECH checklist
Statutory Daily inspection

Forklift checklist
Statutory Daily inspection

Gantry checklist
Statutory Daily inspection

Reach stacker checklist
Statutory Daily inspection

RTG crane checklist
Statutory Daily inspection

Custom Inspection Checklists

+ Add new

Test - Daily inspection extension
Customised

Give the checklist a descriptive name and choose an inspection option.

Check which assets the checklist will apply.

Add your custom checkpoints here, click Add new to add more.

Click here to add your own custom checklist.

When you are done click "save and publish."

How to use CheckApp data

How and when to look at CheckApp information in yourKONECRANES

When you log into yourKONECRANES you'll first see the Overview page. This is where you can get a quick glance at maintenance needs, TRUCONNECT condition and alerts—if applicable—and CheckApp operator's findings.

It's good practice for managers to check this page daily, especially when you first implement CheckApp, so you can make sure the daily inspections are being done. You can also check the Inspection Summary to view inspections over a month. If inspections were done, you'll see green or red under the day.

For maintenance needs, checking for issues daily or weekly in the beginning can be helpful to spot issues quickly. As operators become accustomed to communicating issues - a weekly or monthly check may suffice.

For compliance needs you can check the information on a monthly or quarterly basis to make sure you have the assets you need covered and that inspections are being done on time.

You can sort by all checks that have been done in the selected time frame or the latest status.

This view gives you an overview of assets with CheckApp and inspection status.

Filter by inspection status to see a quick view of failed checkpoints.

Filter by asset to see a history of daily inspections over the selected time frame.

Shows the name of who did the daily inspection.

Sort by asset criticality to make sure daily inspections are being done on critical assets.

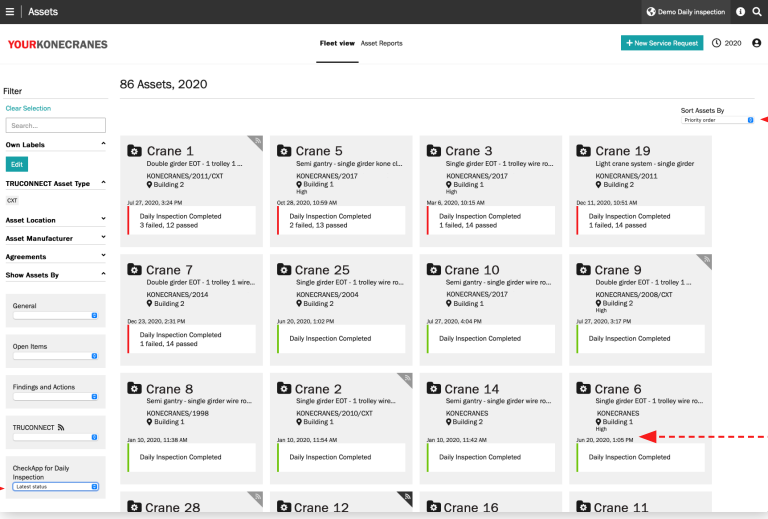
Latest status will show the date of the last inspection so you can see if daily inspections are being done.

Summary shows number of performed daily inspections in a selected time frame as well as the number of those with observed deficiency. Repeated observation on the same asset counts as multiple deficiencies.

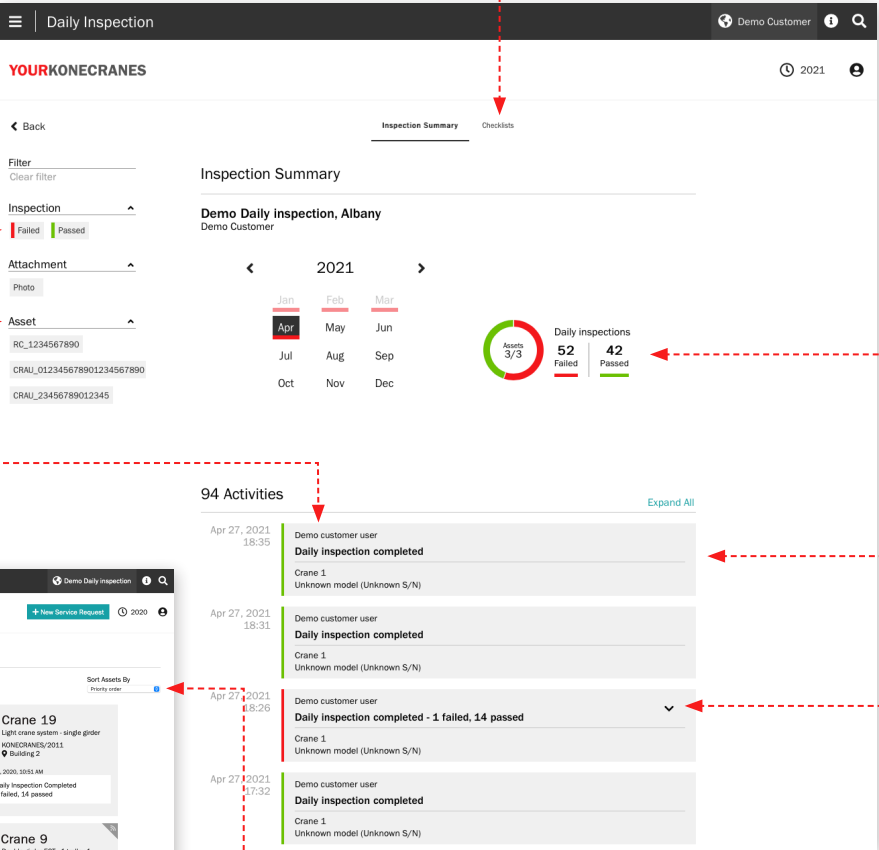
Activities shows each performed daily inspection in chronological order starting from the newest. Color indicates pass/fail.

The details show for each daily inspection which checkpoint failed and the operator's assessment.

ASSET FLEET VIEW



DAILY INSPECTION PAGE



Click here to create a custom checklist.

What the CheckApp data can tell you

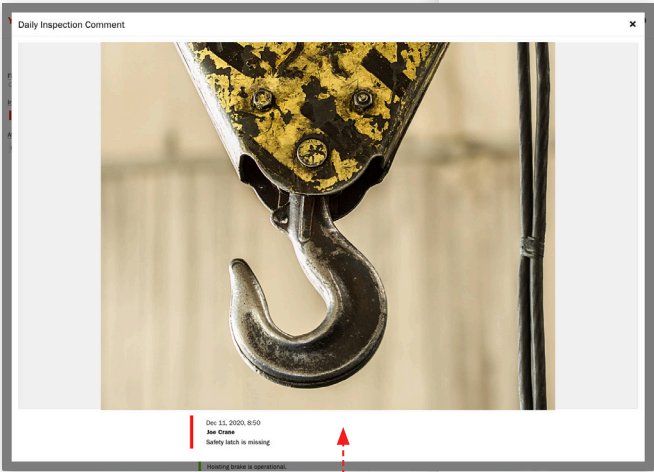
Knowing who performed the daily inspection and on which asset can be helpful for safety and quality checks and assessing individual operator behavior and training needs.

For maintenance managers it's helpful to look for failed checkpoints so those issues can be addressed quickly. You can also filter by asset to see a list of inspections and with visible failed checkpoints. This lets you quickly see if the same checkpoint has failed more than once or if the issue has been taken care of.

Regular communication between operators and maintenance can help issues get taken care of more quickly and is safer for everyone. If managers notice that operators are recording failed checkpoints but maintenance doesn't know about it, they can address the communication issue.

In addition to risks to safety and production, that data can indicate workplace improvement opportunities. If obstacles and hazards are frequently spotted, there may be a need to clean up a workspace or rearrange equipment around the crane.

You can see how long it took for the inspection under Information. This can give you an idea of training needs if the time is excessively long.



Clicking on a failed checkpoint will show you a larger version of the photo.

DAILY INSPECTION PAGE FOR AN ASSET

YOURKONECRANES

Back

Filter

Clear filter

Inspection

Failed Passed

Attachment

Photo

Daily Inspection

Information

Customer Name

Demo Customer

Start Time

8:49 December 11, 2020

End Time

8:51 December 11, 2020

Inspection performed by

Joe Crane

Asset

44, Light crane system - single girder

Model

XN10

Serial number

N/A

Summary

Joe Crane

Dec 11, 2020, 8:51

15

1 Failed

14 Passed

Note! Daily Inspection does not replace or remove need to perform frequent and periodic inspections, performed by trained and qualified inspector, as stated in applicable standards and regulations.

Checkpoints / Operator's Findings

The crane or hoist is not locked out for service and the hook is empty. Local crane certificate, when required, is valid.

My personal protective equipment is as required for this site and task.

There are no obstacles, oil spots, or other hazards within the operating area.

I know the location of crane main isolation switch and I have free access to it at all times.

All signs, labels, and warnings are in place and readable.

The crane shows no loose, damaged, jammed, or missing parts or oil leaks. No part is in contact with open power sources.

The ropes or chains show no sign of deformation, damage, or excessive wear.

The lifting accessories assigned for the job show no excessive wear or damage, and they have been inspected and are designed for the work.

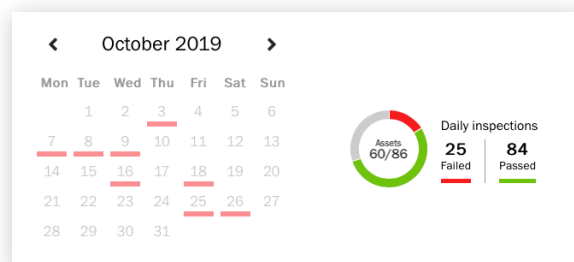
The hook shows no deformations, it swivels smoothly, and the safety latch is in place and working.

All warning devices are working and respond immediately.

8:50

Joe Crane

Safety latch is missing



Audit trail for compliance

Daily inspections are a requirement in many countries. You'll need a record of these inspections for facility audits or in the case of an incident. The Daily Inspection summary allows you to filter by month, quarter or year. You can then filter by asset to see a complete list of inspections for one asset.

CheckApp information for annual planning

There is a CheckApp page in the Business Review section that you can use for annual planning. This page will show you all the cranes that have had daily inspections over whatever time frame you choose.

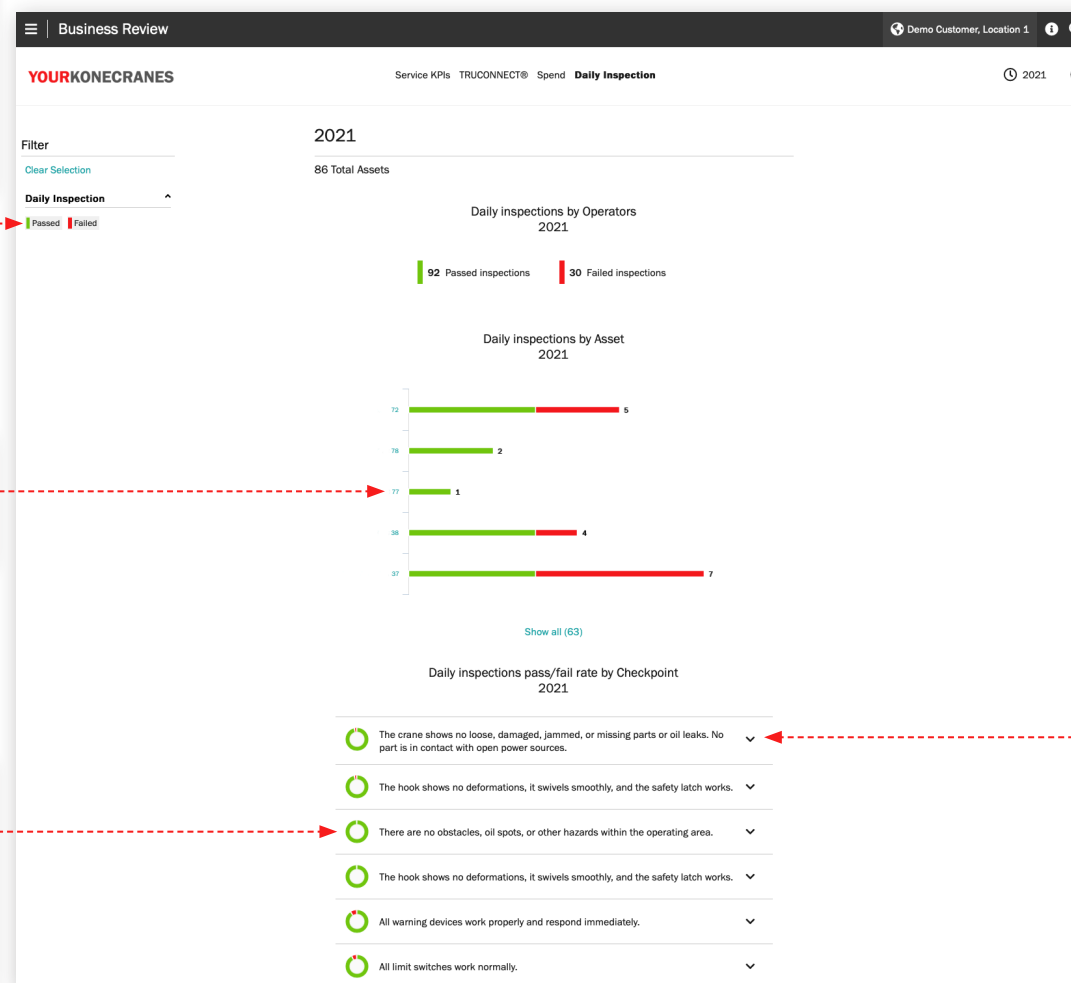
You can see how often they have passed and failed checkpoints. You can also see all the checkpoints and how many times they have failed. For example if you have a pattern of issues with brakes or limit switches you may need to review your inspection and preventive maintenance schedule. For frequent issues with slings and accessories you may want to review how those are inspected and identified.

Filter by pass/fail. Filtering by failed will show all assets and checkpoints with fail status. This helps you identify assets that need attention.

Daily inspections by asset shows the number of passed and failed inspections per asset.

Each checkpoint shows how many times that checkpoint has passed or failed per asset. This helps you identify assets that have frequent issues with specific checkpoints e.g., limit switches.

DAILY INSPECTION PAGE IN BUSINESS REVIEW SECTION



Opening the details will show a list of assets and how many times they passed or failed this checkpoint.

How to download CheckApp and use it

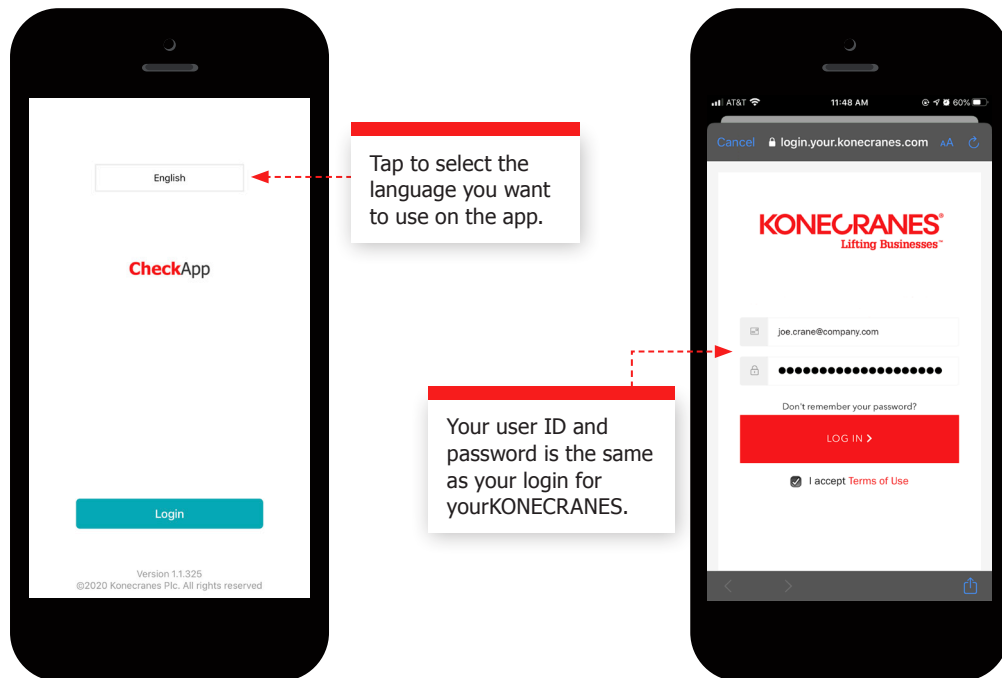
1

Download CheckApp to your mobile device. The App is available on both the Apple App Store for iPhones and Google Play for Android. The app is free to download but you may need an Apple ID or Google account to download.



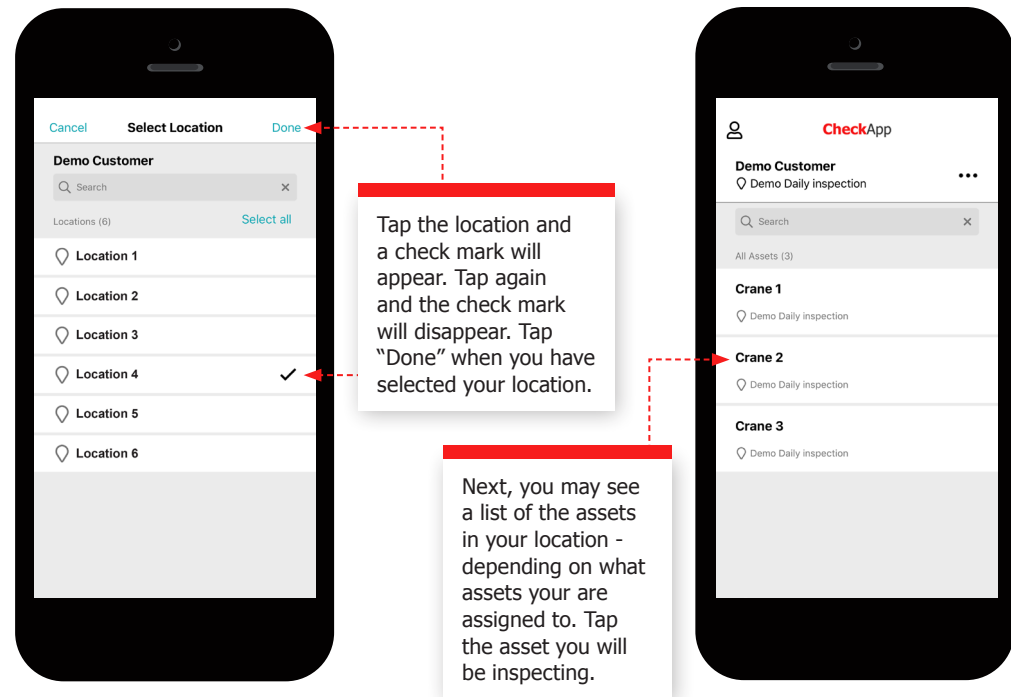
2

Open CheckApp on your mobile device.



3

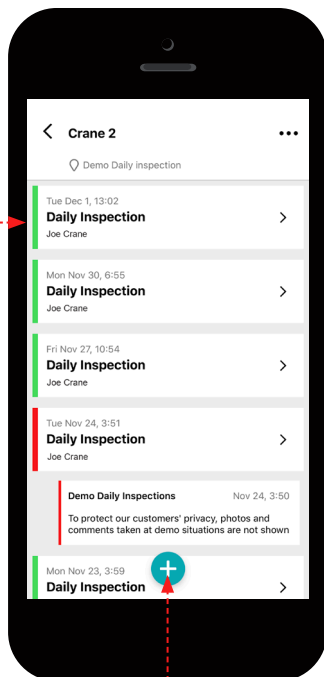
After logging in, select the correct location for the asset(s) on which you will perform the daily inspection.



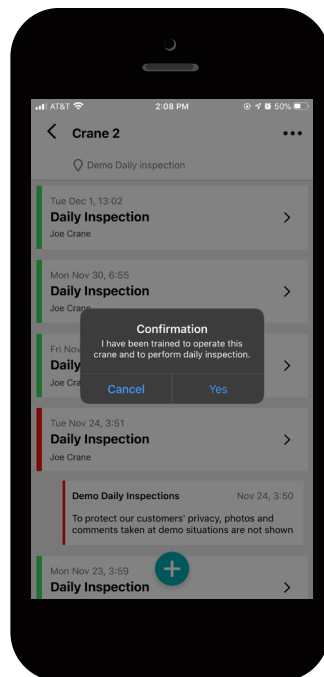
4

Begin your daily inspection and record the information in CheckApp.

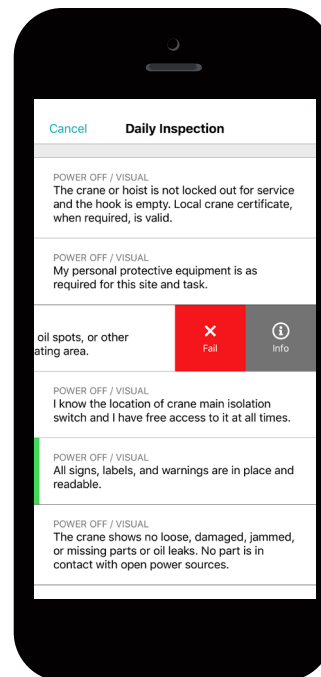
The asset you choose will show a list of inspections that have been performed by date and time. This is how operators can check to see when the crane was last inspected and if it needs to be inspected now.



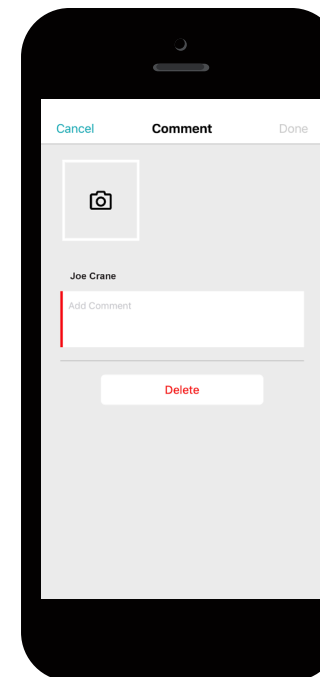
Tap the green "plus" button to begin a new inspection.



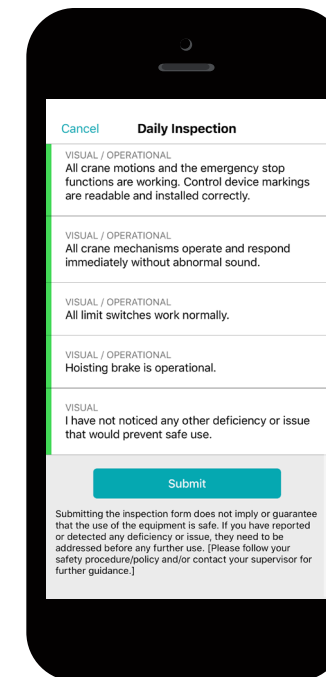
Confirm that you are trained to operate the crane and perform daily inspections.



For each step you can swipe to the right to "pass" or swipe left to "fail" or for information on how to perform the inspection.



If you "fail" a step, you can add a photo and a comment.



When you have finished the inspection - tap "submit." The inspection will now be in your list in the app and on yourKONECRANES.

How to perform a daily inspection



The following are the checkpoints and instructions included in CheckApp. You can also watch a video of a daily inspection being performed at konecranes.com/resources/how-to-perform-daily-or-pre-shift-inspection.

The crane or hoist is not locked out for service and the hook is empty. Local crane certificate, when required, is valid.

- Check that there are no locks or tags indicating that the crane or hoist is under service or out of order.
- Never violate the lockouts or tagouts of other people.
- The hook must be free of load and of a lifting accessory.
- Do not lift unknown loads.



My personal protective equipment is as required for this site and task.

- Follow the local site policies, rules and instructions for personal safety and local managements other guidance.
- Typical requirements are hard hat, respirator, eye and/or hearing protection, safety shoes and safety gloves as well as the use of protective clothing with high-visibility, fire-resistant, tear-resistant, and/or anti-static material.
- Loose clothing or jewelry that can get caught on controls or pulled into moving parts as well as untied long hair are safety risks.



There are no obstacles, oil spots, or other hazards within the operating area.

- There must be enough room for the load to move and turn.
- Pay special attention when the load is of odd shape. The operating area must be free of other people, other cranes, moving equipment such as lift trucks, permanent equipment such as machine tools.
- Pay special attention to robots since their operating area may be much wider than appears.
- The floor/ground must be free of dangerous holes, bumps, or slipper spots. If any, they must be marked and guarded off with railings, etc.
- Lighting conditions must be adequate for safe work.



I know the location of crane main isolation switch and I have free access to it at all times.

- The main switch is typically mounted on a nearby wall or in an electrical equipment room.
- There must not be any obstacles on the way or areas/doors that require permission for access you may not have.
- Other switches may be nearby; identify the switch that controls the crane.
- There is usually a label that states the crane number.



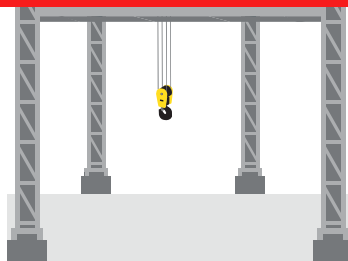
All signs, labels, and warnings are in place and readable.

- All safety labels must be easily readable from the ground level or from any other operating location.
- Direction and capacity labels must be in place and easily visible.
- Loads must not exceed the rated capacity. Other warnings (e.g., blocking off the operating area) as defined by local site rules must be in place.



The crane shows no loose, damaged, jammed or missing parts or oil leaks. No part is in contact with open power sources.

- There must be no signs of oil leak on the crane or on the floor area beneath it.
- There must be no tools or other loose items lying on the beams, rails or trolley.
- All safety guards must be properly in place and undamaged.
- All festoon and pendant cables must move freely.



The ropes or chains show no sign of deformation, damage, or excessive wear.

ROPES

- Ropes must be properly seated in the grooves of the rope drum and sheaves.
- The ropes must not be twisted, entangled or be with visibly broken wires and/or strands.
- The ropes must be free of any slack or tightened loops, protrusion, waviness, bending, basket deformations, flattening or bulging.
- The rope must be oiled and must not have extensive corrosion or discoloration.



CHAINS

- The chains must be free of cracks, severe nicks and gouges, interlink wear, distortion, deposits, extensive corrosion and discoloration.

The lifting accessories assigned for the job show no excessive wear or damage, and they have been inspected and are designed for the work.

- The inspection stickers, plates or RFID tags must be in place and must show the inspection is not overdue.
- The rigging chains must be free of cracks or corrosion.
- The lifting slings must be free of any punctures, cuts, stretching or fraying.
- Remove damaged or overloaded lifting accessories from use immediately and mark them as discarded.



The hook shows no deformations, it swivels smoothly, and the safety latch is in place and working.

- The hook must be free of visually identifiable twist, cracks, nicks, gouges, corrosion, traces of welding, deformation of the throat opening, and wear on the saddle or load bearing point.
- Rotate the hook horizontally. When the hook swivels, no abnormal sounds must be heard.
- The hook must hang perpendicularly. If the hook hangs more than 2 degrees from vertical line, a more comprehensive inspection is needed.
- The safety latch must be in place. Test by hand that it works properly.



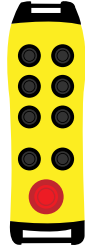
All warning devices are working and respond immediately.

- The warning and indicating devices typically included indicator lights, LEDs, displays, alarm horns, gongs, bells, alarm sirens and beacon lights.
- They must not show any visual damages.
- Test each of them for correct operation.



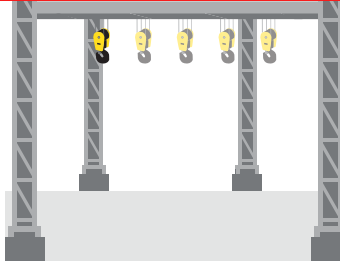
All crane motions and the emergency stop functions are working. Control device markings are readable and installed correctly.

- The control device enclosure, button rubbers and cables must show no damages.
- Control device's markings must be intact and readable in all operating situations.
- The radio controller must not indicate an alert or error code.
- The controller's battery must be properly fastened and charged to a level that will last your entire shift.
- Starting at slow speed, test all crane motions and ensure that they correspond to control device markings.
- Test that each button, joysticks and isolator on the controller operates smoothly.
- You should be able to feel the positions where they engage higher speeds.
- Engage the emergency stop button and make sure that the crane does not move when using the direction controls.



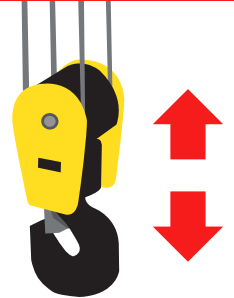
All crane mechanisms operate and respond immediately without abnormal sound.

- Test the trolley and bridge brakes for correct response.
- There must not be any excessive drift or extended stopping distances.



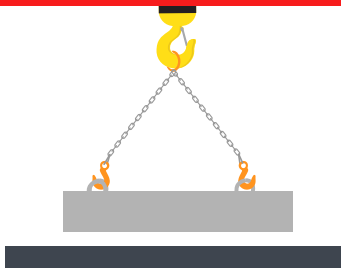
All limit switches work normally.

- Lift the empty hook slowly to the upper limit. The hoist must stop before the ultimate mechanical limit.
- Lower the empty hook slowly. The hoist must stop before the ropes start to slacken.
- Drive the hoisting trolley slowly towards each end of the bridge. The hoisting trolley must stop before the end of the bridge.
- Drive the crane slowly towards each end of the runway. The crane must stop before the end of the runway.



Hoisting brake is operational.

- Test the hoisting brakes for correct response.
- If available, lift any light test load 10 cm (4 in) from the ground.
- The load must stay at that height for at least 1 minute.



I have not noticed any other deficiency or issue that would prevent safe use.

- Note any other obstacles that prevent the safe operation of the crane.



Tips for implementing and using CheckApp

Include your safety team

Involving the members of your safety team can make a big difference in the successful implementation of regular daily inspections using CheckApp. The safety team can also emphasize the importance of daily inspections during periodic health and safety meetings.

Include your IT team

Mobile devices can be a productivity enhancer but of course you don't want your operators being distracted by messages or non-work apps. You can purchase mobile phones and use them with wifi-only capability and use device management to restrict access to non-work apps or functionalities.

Consider device size

CheckApp works on different kinds of devices, but tablets are too large to hold in one hand and a desktop or laptop needs to be on a table making for a lot of back and forth to enter checkpoints - so a mobile phone may be the best choice.

Sharing and storage

Instead of purchasing a mobile device for each operator - you can use shared devices. You'll also want to think about where the mobile devices should be stored when not in use and if they should be checked out and back in after a shift or workday.

Introduce mobile apps together

If you are introducing more than one mobile app, consider deploying them together to help re-enforce use and understanding and to save time on training.

Nominate and train CheckApp key user(s)

It's useful to have at least one key user for performing the daily inspection and another key user for your KONECRANES. Key users can be the go-to for questions from other employees and can help train new employees.

Encourage use by operators

Give clear expectations to operators on when and how to perform the daily inspections. Some regulations require inspections pre-shift and some daily. Go through the checklist items with the operators and tell them what it means in practice in your facility. You can show them the daily inspection "how to" video or do a demonstration. Make the daily inspection and CheckApp part of operator training.

What to do for a failed checkpoint

If an operator fails a checkpoint - they'll need to know what actions should be taken. Are there issues that should be escalated to maintenance? Is someone checking daily inspection logs every day?

Make it a habit to check the data

Looking at the daily inspection data on your KONECRANES keeps you up-to-date on potential asset-specific safety or production risk issues. It can also help you identify workplace improvement opportunities and needs for operator training as well as deviations in following local safety and other site rules.



konecranes.com