



Providing Superior Support For Products



MAINTAIN BIBLE

VERSION 1.0

FLEET MAINTENANCE SUMMARY

The screenshot displays a fleet maintenance management system. At the top, a table lists work orders for two assets:

Title	Asset	Mileage/Engine Hours	Due	Work Order
A Service SE-0011	Truck 001	61,000 mi 9 days to go	at 60,000 mi 20 May 2020 on 10 May 2020 5 days to go	WO-0045
B Service SE-0114-12	Truck 002	84,000 mi 9 days to go	at 90,000 mi on 19 Jun 2020 6,000 mi to go 30 days to go	WO-0036

Below this is a detailed view of Work Order WO-0045. It shows the work order ID, status (Pending), book-in date (20 May 2020), assignee (Tory Small), and items (4/13 Service Tasks: 1 Fault). The asset details include Vehicle Name (Truck 001), Make/Model/Year (Scania R410, 2017), License Plate (ASC 2234), VIN (1C1YM3D798H7P3B59), Mileage (38,626 mi), Engine Hours (1,165 hrs), and Last Inspected (15 May 2020).

The 'Items' table for this work order is as follows:

Type/ID	Title	Description	Labor	Parts	Total
SE-0253	Steering Shimmy	There is wobbling of the front wheel on its steering axis, leading to a distinctive side-to-side shake at the front end.	\$ 0.00	\$ 0.00	\$ 50.00
SE-0051	Fifth Wheel Coupling Components and Maintenance	Apply fresh lubrication to the outer edges of the fifth wheel plate and around the wearing ring and mechanism. Also lubricate the adjuster screw and all of the pivot points.	\$ 150.00	\$ 0.00	\$ 150.00

Overlaid on the right is a mobile app interface for reporting a maintenance issue. It shows a checklist for 'Windshield, windshield wiper, and mirror' with a 'Pass' status. The checklist items are: Wipers work correctly, Windshield clean and not cracked, Wiper blades not damaged, Washer fluid container full, and Windshield washers work correctly. Below the checklist is a section for 'Take Photo of New Body Damage' with a camera icon and the instruction 'Tap here to take photo'.

Fleet maintenance refers to all the processes that keep your fleets vehicles in good working order, ensuring that they're as safe and effective as possible.

Whip Around comprises of two core aspects of Maintenance,

1. Reactive Maintenance, looking for defects in inspection process - compliance
2. Proactive, planning for routine maintenance to minimize the likelihood of repairs to be needed

MAINTAIN PAIN POINTS

- Unexpected repair costs are much higher and take much longer on average without maintenance
- Vehicle maintenance is one of the 7 BASIC pillars contributing to a CSA score - you will be audited on this if you have a DOT number
- Poor maintenance practices can lead to Out of Service violations and fines if vehicles are on the road and are defective. Leading to bad CSA scores and increased scrutiny
- Vehicle safety relies on maintenance. Ensuring vehicles are safe for drivers means having a robust maintenance program in place.
- Simple maintenance tasks like oil changes and tire rotations can have an expensive impact if not managed properly.
- Paper-based or lack of maintenance process

PAPER-BASED OR LACK OF MAINTENANCE PROCESS

- Vehicles are mobile and often do not return to home base for mechanics or managers to inspect or capture mileage
- Drivers can be unreliable in flagging necessary repair or upcoming maintenance tasks
- Using paper, spreadsheets or a whiteboard is confusing and prone to inaccuracies
- Preparing maintenance records for a DOT audit is difficult when you do not have a centralised storage of information
- Different vehicles have different requirements which is often lost throughout the vehicle lifetime if not stored in a templated repeatable program
- Labor and parts cost tracking is time consuming when being tracked on many different emails, sheets of paper
- Communication between drivers, fleet managers and mechanics is broken using paper

THE LAW



§ 396.3 Inspection, repair, and maintenance

(a) General. Every motor carrier and intermodal equipment provider must systematically inspect, repair, and maintain, or cause to be systematically inspected, repaired, and maintained, all motor vehicles and intermodal equipment subject to its control.

(1) Parts and accessories shall be in safe and proper operating condition at all times. These include those specified in part 393 of this subchapter and any additional parts and accessories which may affect safety of operation, including but not limited to, frame and frame assemblies, suspension systems, axles and attaching parts, wheels and rims, and steering systems.

(2) Pushout windows, emergency doors, and emergency door marking lights in buses shall be inspected at least every 90 days.

(b) Required records. Motor carriers, except for a private motor carrier of passengers (nonbusiness), must maintain, or cause to be maintained, records for each motor vehicle they control for 30 consecutive days. Intermodal equipment providers must maintain or cause to be maintained, records for each unit of intermodal equipment they tender or intend to tender to a motor carrier. These records must include:

(1) An identification of the vehicle including company number, if so marked, make, serial number, year, and tire size. In addition, if the motor vehicle is not owned by the motor carrier, the record shall identify the name of the person furnishing the vehicle;

(2) A means to indicate the nature and due date of the various inspection and maintenance operations to be performed;

(3) A record of inspection, repairs, and maintenance indicating their date and nature; and

(4) A record of tests conducted on pushout windows, emergency doors, and emergency door marking lights on buses.

(c) Record retention. The records required by this section shall be retained where the vehicle is either housed or maintained for a period of 1 year and for 6 months after the motor vehicle leaves the motor carrier's control.

WHIP AROUND BENEFITS



Plan and schedule and perform in-house or ext maintenance.



Lower costs of repairs



Lower operational costs (Fleet Reliability)



Better outcomes in testing and inspections (fewer compliance issues)



Better fleet safety



Save time



Lower fuel costs

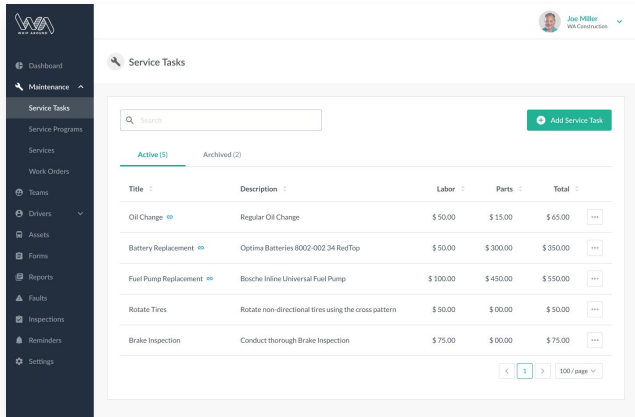


Driver satisfaction



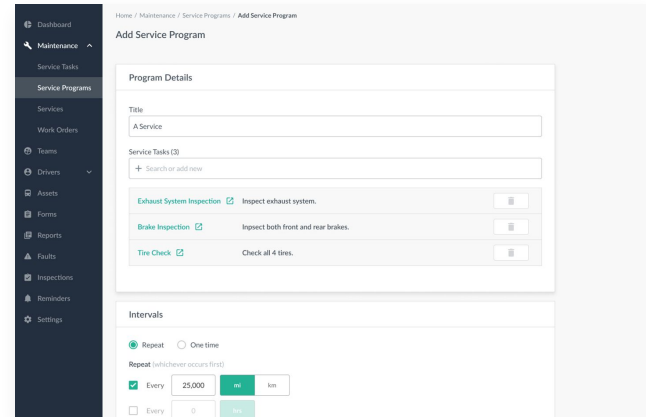
Customer satisfaction

HOW MAINTAIN WORKS



SERVICE TASKS

An individual element of a service such as an oil change. Service Tasks will have a library of active and inactive tasks that contain a combination of Whip Around's common service tasks as well as any user created item. These service tasks will flow into Service Programs, Services and Work Orders.



SERVICE PROGRAMS

User's now set up a service program which is the parent template of a repeating service that contain service tasks to which many vehicles can be subscribed to.

Talk about the link to Service Tasks.....

HOW MAINTAIN WORKS

The screenshot shows the 'Services' dashboard. It features a sidebar with navigation options: Dashboard, Maintenance, Service Tasks, Service Programs, Services, Work Orders, Teams, Drivers, Assets, Forms, Reports, Faults, Inspections, Reminders, and Settings. The main content area is titled 'Services' and includes a search bar and a filter for 'Exact match'. Below this, there are two tabs: 'Scheduled' (active) and 'Completed'. A table lists several services with columns for Title, Asset, Mileage/Engine Hours, Due date, and Work Order ID.

Title	Asset	Mileage/Engine Hours	Due	Work Order
A Service SE-0030-1 overdue	Truck 001	61,000 mi 5 days to go	at 60,000 mi 1,000 mi ago on 10 May 2020 5 days to go	WO-0045
B Service SE-0154-12 overdue	Truck 002	84,000 mi 5 days to go	at 90,000 mi 6,000 mi to go on 19 Jun 2020 10 days to go	WO-0036
B Service SE-0009-7 overdue	Truck 003	101,000 mi 17 days to go	at 98,000 mi 3,000 mi to go on 03 Jul 2020 25 days to go	WO-0224
Oil Change Service SE-0047-18 overdue	Mixer 001	124,000 mi 20 days to go	at 150,000 mi 26,000 mi to go on 23 Jul 2020 30 days to go	WO-0547

SERVICE SCHEDULE

Services are then automatically created based off the Service Program based off the interval of the service program containing service tasks.

The screenshot shows the 'Work Order' details page for 'WO-0045'. The page is titled 'Work Order' and includes a 'Delete' button. It displays the following information:

- Work Order ID: WO-0045
- Status: Pending
- Book In Date: 20 May 2020
- Assignee: Tony Swell
- Items: 4 (3 Service Tasks, 1 Fault)

Asset Information:

- Vehicle Name: Truck 001
- Make, Model, Year: Scania R410, 2017
- License Plate: ABC 1234
- VIN: SG1YMSD79847P3B59
- Mileage: 38,626 mi (13 hours ago)
- Engine Hours: 1,165 hrs (13 hours ago)
- Last Inspected: 15 May 2020 (2 days ago)

Items (4) Display Line Items: Add

Type/ID	Title	Description	Labor	Parts	Total
SE-0233	Steering Shimmy	There is wobbling of the front wheel on its steering axis, leading to a distinctive side-to-side shake at the front end.	\$ 0.00	\$ 0.00	\$ 50.00
SE-0051	Fifth Wheel Coupling Components and Maintenance	Apply fresh lubrication to the outer edges of the fifth wheel plate and around the wearing ring and mechanisms. Also lubricate the adjuster screw and all of the pivot points underneath the fifth wheel.	\$ 150.00	\$ 0.00	\$ 150.00

SERVICE PROGRAMS

A work order is then created from a service (either manually or automatically based off thresholds) or can also be created from scratch and not attached to any service or faults.

CUSTOMER QUOTES

“We are a growing company with vehicles and locations spread throughout the US. This app will allow us to monitor and become more proactive in maintaining our overall fleet. This app also provides a level of accountability that we previously lacked.”

Mark Maloy, Region Director-Texas, Magnum Midstream

“The app is very easy to use for our employees. We are able to track maintenance issues and mileage with Whip Around very easily.”

Collin Dawkins, Regional Operations Director, Integrated Medical Transport

Before Whip Around, it would take days before you got the information to fix the problem. From the safety side Whip Around has given us real-time information.

Sean Aquaro, Redimix Companies

The ability to give our drivers the report any problems they have with the equipment. It no longer takes a day for the Maintenance dept to get the paper DVIRs. It's instant. Once tools needed to the driver submits it on the app it goes directly over - it's that easy! I can't tell you the time and money that we are saving with this system.

Bill Plasky, Director of Transportation, Universal Scrap Metals

“This software [has been] most helpful in streamlining our vehicle inspections. I get real-time email alerts for vehicle failures and issues. It has eased prioritizing issues for repair and tracking preventive maintenance inspections to ensure they are completed following company guidelines.”

Brandon Wayne, Fleet Manager, Republic Parking

There's literally no possible way this app could be any easier.

Mike Rossignol, Driver Trainer, Redimix Companies

HOW TO GUIDES



Maintenance Module Overview



Scheduling a Service based off Mileage



Scheduling a Service based off Engine Hours



Creating a Scheduled Service Based On Time Only (No Mileage/Engine Hours)



Creating a Work Order



Setting up your Engine Hours Card



Managing Faults on our Mobile Apps

FLEET MAINTENANCE GLOSSARY

SERVICE PROGRAM

The parent template of a repeating service to which many vehicles can be subscribed to.

SERVICE

The individual event that is required to be completed at an interval of the service program ie. '7500 mile service' or 'A Service' that include a group of tasks to be completed.

SERVICE TASK

An individual element of a service ie. Change air filters or change oil.

WORK ORDER

The instructions compiled for the mechanic of what work is required. This will include a number of service tasks and any other additional work required on the vehicle while off the road.

PREVENTATIVE MAINTENANCE

The routine maintenance that is planned to be completed based on either time or usage based intervals in the hope that more expensive work will be avoided.

REACTIVE MAINTENANCE

Work that is required to meet compliance or safety standards that wasn't planned for, usually from a vehicle inspection conducted by the driver. ie, Cut in the tire wall from running something over.

FMCSA REQUIREMENTS

The federally mandated laws that govern most large commercial vehicles. These are enforced at a state level by the DOT or local agencies like the California Highway Patrol (CHP)