



Dealer Stamp



Drive DeVilbiss Healthcare Ltd, Heathfield Lane,  
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# 4mph Scooter

## Owner's Manual

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## 1. PREFACE AND INTRODUCTION

- Please carefully read this owner's handbook before using the scooter to ensure that you operate the scooter safely. Improper use of the scooter could result in damage, injury or traffic accidents.
- This handbook also advises how to get most out of your scooter by giving comprehensive operating, assembly and maintenance instructions for the scooter.
- A repair and maintenance record chart and warranty information is included with this handbook. Please keep it in a safe place or with the scooter.
- If someone else uses the scooter make sure that you provide him or her with this handbook for their consideration.
- As designs change some of the illustrations and pictures in the manual may not correspond to the scooters that you purchased. We reserve the right to make design modifications.
- This scooter has been designed and manufactured to provide a comfortable and secure yet affordable solution for some mobility requirements. It is designed for a single user to compensate for a loss of mobility as a result of a disability. It is manoeuvrable and is suitable for indoor and some outdoor application where the terrain is forgiving (for example smooth paths, shopping centres, etc). It is a class 2 scooter as defined by the Road Traffic Act 1988. It features a rotating seat and can be easily folded and disassembled.
- Two models are available in the range:
  1. CMS001; with 12ah batteries
  2. CMS002; with 20ah batteries and suspension

## 2. SAFETY

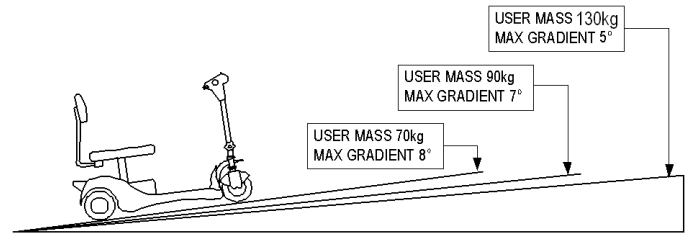
### 2.1 Before Driving

- The user needs to be familiar with the use and operation of this scooter before driving.
- Ride on the pavement and pedestrian areas only. Never ride on motorways or dual carriageways. Only use roads to cross to other side of the pavement.
- Be aware of traffic when crossing or using roads.
- Use extreme caution when driving your scooter in busy areas such as shopping malls.
- Do not drive the scooter under the influence of drink or drugs, or when you are tired.
- Be careful when using the scooter in low light. It has not been designed for use at night.
- Before using the scooter in busy or hazardous environments, familiarise yourself with the operation of the scooter. Practice in an open and safe area which is free from hazards and other people. Turn the speed dial down for your initial practice.

### 2.2 Whilst Driving

- Do not use your scooter on surfaces that are muddy, gravelly, bumpy, narrow, snowed over, icy; or on towpaths near to canals which are not guarded.
- Do not use your scooter outside when it is raining, snowing, misty or windy.
- Do not make erratic turns on your scooter.
- Bear in mind driving motions such as accelerating, stopping, turning, reversing, and the effect of gradients.

- Slow down when driving on gradients. Always lean forward when climbing a steep gradient. Do not travel on gradients exceeding those stated on the diagram below:



- Do not drive on roads with large drops or potholes.
- The scooter is not suitable for carrying passengers.
- Do not use the scooter to carry heavy goods.
- Do not use a mobile phone or other wireless communication devices whilst driving. Always stop somewhere suitable and switch off the scooter before using the phone.
- Do not set in freewheel mode when driving, especially on a gradient. Ensure that the scooter's automatic brake is applied before use.
- Do not exceed the weight limit of the scooter.

### 2.3 Electromagnetic Interference

- Scooters may be susceptible to electromagnetic interference (EMI) from sources such as mobile phones, walkie-talkies, TV and radio broadcast stations and amateur radio sets. In some cases, there is a risk this interference may cause involuntary movement of the scooter. The scooter has been tested and passed to withstand interference to a level of 20V per metre.
- Be aware that the above sources may cause involuntary movement due to EMI. Exercise caution whilst using the aforementioned devices and avoid close proximity to TV and Radio broadcast stations.
- The addition of components or accessories may effect the EMI susceptibility of the scooter.

## 3. PARTS INTRODUCTION



## 4. OPERATION

### 4.1 Control Panel



## 4.2 How To Operate Your Scooter

- **Key Ignition.** The key ignition acts as the power switch for the scooter. To switch the power on, turn the key clockwise and the battery gauge should illuminate. To switch the power off, turn the key anticlockwise, after which the battery gauge should switch off and the key can be removed.



Do not turn the ignition off whilst driving as this will lead to an emergency stop and possible risk of damage or injury.

- **Speed Dial.** Turn the speed dial to determine the maximum speed of the scooter. Turn the dial clockwise to increase the speed setting and turn the dial anticlockwise to decrease the speed setting.



Do not adjust the speed dial whilst driving. Do not set to the highest speed whilst driving indoors.

- **Moving and Braking.** To move forward, squeeze the right hand side of the wigwag paddle towards you. Squeeze the left hand side of the wigwag paddle towards you and the scooter will move backwards, emitting an audible reversing alarm. To brake, release the wigwag paddle which will return to neutral and activate the electromagnetic brake automatically and bring the scooter to a prompt stop. The wigwag paddle allows you to control the speed of the scooter up to a max speed determined by speed Dial. The further the wigwag paddle is deflected, the faster the scooter will go (up to 4mph).

**NOTE:** wait at least 2 seconds before operating the wigwag paddle after starting the scooter with the key. Operating the wigwag paddle at the same time as the key switch will cause the scooter to diagnose an error.



### Warning

Do not push both left and right hand sides of the wigwag simultaneously. You will not be able to control the scooter.

- **Horn Button.** Press the horn button to sound the horn. Release the button to stop the horn. The horn is the yellow button located on the control panel.
- **Braking – Electromagnetic Brake.** Release the wigwag paddle completely, and the electromagnetic brake will be activated automatically and the scooter will stop.



When on a gradient, never set the vehicle to freewheel mode. The brakes will not be applied.

- **Seat.** The seat can be rotated and locked in position at 45° intervals. Push the seat lever forward and swivel the seat. Release the lever and then continue swivelling the seat until it locks in position.



### Attention.

Return the seat to the forward position before driving.



- **Adjusting the Seat Height.**

Firstly remove the seat by rotating the seat (as described above) whilst pulling up on the seat. Remove the nut and bolt securing the



chrome post in to the chassis of the scooter. Reposition the seat post to the required height and then secure by reattaching the nut and bolt.

- **Adjusting the Armrest Width**

Firstly, insert the armrest tubing in to the seat.

Then add the lock pin in to the armrest tubing at the required width.



Secondly, secure the armrest using the threaded knob to prevent it from rattling. Repeat for the other arm.



- **Tiller Lock.** When the tiller is centred, pull the tiller lock out and twist to secure the tiller for transportation. Push the tiller lock up to release.



Always ensure the tiller lock is disengaged when driving the scooter. Always check the tiller moves and turns freely before driving.



- **Battery Gauge.**



The LEDs will illuminate to show the amount of power remaining in the batteries. The more LEDs are lit, the more power is remaining. When only the three leftmost LEDs are lit, then the batteries should be recharged.

The remaining power indicated by the battery gauge will vary by the driving time incurred and how you drive. Repeated starting, stopping and climbing will

consume power more quickly. The gauge is shown previously.

If the blue status LED located in centre of the gauge is illuminated solidly then the scooter is functioning normally.

If the scooter is beeping, this means the scooter has encountered a problem. The scooter will beep a number of times then pause. Count the number of beeps to determine the problem.

If you experience any beep sequences first restart the scooter, ensuring the wigwag paddle is released. If this does not remedy the problem recharge the batteries.

If the error persists contact your dealer.



#### Attention

You should recharge the batteries after each use to ensure maximum range. Read the Battery Charging section in the handbook before use.

- **Circuit Breaker (*Arrowed Below*).** The circuit breaker may trip when the scooter is under excessive load or when travelling on steep inclines. It will be more prone to tripping when the scooter is low on battery charge. Under normal conditions the circuit breaker button will protrude by 2mm – 3mm. If the circuit breaker has tripped the button will protrude by 7mm. To reset the circuit breaker, push the button in and the scooter should operate as normal.



## Freewheel Lever



The motor can be disengaged (put in to freewheel) to allow the scooter to be pushed.

**Push the lever forward to engage freewheel mode.  
Pull the lever back to engage drive mode.**



#### Warning

The lever should only be set to FREEWHEEL when on flat ground and unoccupied by the user. Otherwise, there is a risk of damage or injury.

- **Tiller Adjustment**

The tiller can be adjusted in to many different positions to suit each user. To adjust follow the steps below:

1. Hold the tiller securely with your hand (see 1 on photo) to prevent the tiller from falling.
2. Fully slacken the knob (see 2 on the photo) so the tiller can move.
3. Using the other hand, reposition the tiller as required then retighten the knob to secure.



## 5. DRIVING ON THE ROAD

- **Starting and Driving**

1. Make sure the seat is installed properly.
2. Make sure the tiller has been secured properly and the tiller lock is disengaged.
3. Fold down the armrests so you can rest your arms on them.
4. Switch the key ignition on.
5. Check the battery gauge to check there is enough power for your journey. If you have any doubt about the remaining power, recharge the battery pack before use.
6. Set the speed dial to a position you feel safe and comfortable with.
7. Check the wigwag paddle and automatic brake work correctly.
8. Before driving, check the environment around you is safe for you to drive.



### Warning

Be careful whilst driving in heavy traffic or crowded areas. Whilst reversing the vehicle, be aware of people or objects behind you.

- **Stopping**

1. Release the wigwag paddle completely. The vehicle will automatically brake and stop.
2. Switch the scooter off at the key ignition and pull out the key.



Stopping distance will vary with speed so begin braking as early as possible. Always park on flat ground, switch off and remove the key before dismounting.



## 6. BATTERY CHARGING AND CARE

The battery pack can be charged either when it is installed or removed from the scooter.

### To Charge

1. Switch the key ignition off.
2. Plug the charger's power cord in to the mains.
3. If required, remove the battery pack (see next section for details)
4. Pull the end of the rubber cover on the battery pack (1 – as shown in photo). Then connect the charger's round plug in to the charging socket (2)
5. Switch on the plug socket at the mains.



The battery pack can be charged on-board the scooter (as shown above). Alternatively, the battery pack can be removed from the scooter and the battery pack can be charged away from the scooter.



### To Remove the Battery Pack

1. Switch the scooter off at the ignition.
2. Lift the scooter battery pack up by the handle (see below).



### To Install the Battery Pack.

1. Remove the charger from the battery pack.
2. Drop the battery pack in to the void on the scooter.
3. Press down lightly on the battery pack to ensure it is securely installed.

### Charger Light

- The charger light will illuminate orange to indicate the batteries are charging. The charging duration is about 8 hours, however a 12 hour charge is recommended for optimum performance. The orange light will turn green when charging is complete.



Ensure that the charger is removed from the mains and the scooter or battery pack after charging. Failure to do this may flatten the battery.

Do not remove the battery pack whilst the scooter is switched on.



### Suggestions

1. Do not disconnect the charger cord until charging is completed and the light is lit Green.
2. When fully charged the battery charger will still trickle charge the battery for optimum range.
3. Even when not in use, the scooter should be charged at least every week to ensure battery longevity.
4. Ambient temperature will effect charging time. Charging time will be longer in cold environments.
5. The batteries carry a 1 year warranty which covers manufacturing defects only. It does not cover battery faults as result of not following the guidelines herein.



### Warning

1. Only use the charger supplied with the scooter. Using the wrong type of charger may cause damage. Never disassemble or modify the scooter.
2. Always charge the scooter in a well ventilated space. Avoid direct sunlight or contact with water and moisture.
3. Do not charge or operate the scooter in temperatures below  $-10^{\circ}\text{C}$  or above  $50^{\circ}\text{C}$ . Do not expose the battery pack to these temperatures.

### About the Battery Pack

- The battery pack contains two 12V 12ah batteries. The batteries are sealed lead acid type and are maintenance free and are non-spillable. They are fitted with spade terminals.
- The batteries require charging every week to ensure battery longevity.

- The batteries supplied as standard with the battery pack are classified as safe for air transport under IATA special provision A67.



### Warning

If battery pack loses contact with the scooter during operation switch the key ignition off, re-insert the battery pack and switch the ignition back on.

### Battery Care

1. You should recharge the batteries after each time the scooter is used to ensure maximum battery range. The batteries should be charged at least once a week even if the scooter is not used.
2. After charging or replacing a new battery, drive the scooter for a short period to ensure battery capacity is sufficient.
3. In cold environments, the battery may respond more slowly and range will be reduced.
4. When driving on a gradient, the battery gauge will fluctuate. This is a normal occurrence.
5. Battery range is reduced when driving up gradients or on rough terrain, as the scooter uses more power.
6. The batteries should not be charged for more than 24 hours.

### Battery Replacement

It is natural for the battery capacity to reduce with time, even if the battery is charged as directed above. When the battery range is about half of its peak performance we recommend that the batteries are changed. Continuing to use an old battery will result in a rapid reduction in the range of the scooter and can cause excessive wear and tear on other parts of the scooter.

## 7. INSPECTION AND MAINTENANCE

### 7.1 Weekly Checking

Check the following items weekly or before driving. If you find anything abnormal contact your dealer for further inspection or advice.

- **Tiller.** Ensure it is not loose and can turn smoothly
- **Speed control dial.** Ensure it adjusts freely.
- **Wigwag paddle.** Ensure scooter moves when lever is pressed, and stops when lever released.
- **Motor.** Check for any abnormal noise and electromagnetic brakes work correctly.
- **Freewheel Lever.** Ensure it works correctly.
- **Seat.** Ensure it swivels and locks easily.
- **Tyres.** Check tyre tread depth and for any signs of damage such as cracking.

### 7.2 Service Record

To ensure your scooter is correctly serviced take it to your dealer for regular servicing. We recommend that scooters are serviced at least annually, and your dealer may charge a fee for this.

A copy of the service record is at the back of this handbook.



Even if the scooter has not been used, it should still be serviced annually.

### 7.3 Battery Pack and Tyres

- For information on the battery pack, please read section 6 on Battery Charging and Care.
- Tyre condition will be affected by how you drive the scooter and what terrain it is driven on.
- The scooter comes with solid tyres which are puncture proof, so there is no need to check tyre pressure.

### 7.4 Cleaning

- The scooter should be cleaned periodically, especially if you tend to drive on sand, gravel or in other adverse environments.
- Use a soft, wrung dry cloth to keep your scooter clean and dust free. Use a damp cloth and mild detergent to clean the scooter.



#### **Warning**

- Do not use a hose pipe or splash water directly on to the scooter.
- Do not use petrol, solvents or vaporising solutions as these may damage body panels. Do not use wax
- Ensure the charger is unplugged and the scooter switched off before cleaning the scooter.

### 7.5 Storage

- Ensure the scooter is stored with the seat set in the forward position, the scooter switched off with the battery pack removed and charger disconnected.



Store the scooter in environments which are free from direct sunlight and water or moisture.

### 7.6 Moving About

1. Switch off the scooter using the ignition key and dismount from the scooter.
2. Lift the scooter by the chassis only.
3. For your safety ask for help if required. You will need two or more people when moving or lifting the scooter as a whole.



Never lift the scooter by the bumpers or body panels, as this can cause injury or damage.

## 7.7 Disassembling the Scooter

The scooter can be disassembled in to five parts for easy transportation and/or storage. The component weights are as follows:

- Seat with arms 11kg (24lb)
- Rear section 10.1kg (22lb) *CMS001* or 11.9kg (26lb) *CMS002*
- Front section 15.9kg (35lb) *CMS001* or 18.1kg (40lb) *CMS002*
- Basket and charger 1kg (2lb)
- Batteries 9.7kg (22lb) *CMS001* or 14.2kg (31lb) *CMS002*

1. Lift the basket up to remove it from the front tiller.



2. Remove the seat. First, push the seat swivel lever forward. Then pull up on the seat whilst rotating the seat.



3. Remove the Battery Pack. Pull up on the battery pack handle to remove.



4. Separate the front and rear sections. Press down on the handle of the rear section (1) whilst pulling up using the lever (2) on the front section.



5. Lower the tiller on the front section. Turn the tiller adjustment knob to loosen then lower the tiller. Turn the tiller slightly so the tiller will fold flat without hitting the seat post.





## 7.8 Assembling the Scooter

Use the procedure below to assemble the scooter:

1. Raise the tiller on the front section. Turn the tiller adjustment knob (1) towards the rear of the scooter and then lift up the tiller (2) to the required position. Secure the tiller by turning the knob towards the front of the scooter.



2. Connect the front and rear sections together. Hold the back of the rear section and lift the front section in to place using the lever. Then release the rear section, and lower the front section with the lever. Release the lever and ensure the sections are securely linked.



3. Drop the battery pack in to the void in the scooter. Press lightly on the top of the battery pack to ensure the battery pack is fully installed.



4. Insert the seat in to the seat post. Push the seat lever forward, and swivel the seat until it locks in position.



5. Place the basket on to the front of the tiller.





## 6. TROUBLESHOOTING

- The troubleshooting guide is also featured on page 1 of the Owner's Handbook.

|                                       |  |
|---------------------------------------|--|
| Problem: Scooter will not switch on   |  |
| Symptoms:                             | Remedy:                                |
| Batteries not connected               | Check batteries connected              |
| Circuit breaker has tripped           | Push circuit breaker to reset          |
| Rear and front sections not connected | Check connection on front-to-rear loom |

|  |                             |
|--|-----------------------------|
| Problem: Scooter will switch on but will not run |                             |
| Symptoms:  | Remedy:                     |
| Flat batteries                                   | Recharge battery            |
| Charger plugged in                               | Unplug charger from scooter |
| Motor in freewheel mode                          | Push back freewheel lever   |

|                               |                    |
|-------------------------------|--------------------|
| Problem: Scooter appears slow |                    |
| Symptoms:                     | Remedy:            |
| Flat batteries                | Recharge battery   |
| Speed setting slow            | Turn up speed dial |

|                                   |   |
|-----------------------------------|---|
| Problem: Seat moves whilst in use |   |
| Symptoms:                         | Remedy:   |
| Seat not locked in position       | Slowly rotate the seat until it drops in place and is secure. |

|   |                                |
|---|--------------------------------|
| Problem: Tiller appears loose or will not swivel freely |                                |
| Symptoms:   | Remedy:                        |
| Tiller adjustment knob loose                            | Tighten tiller adjustment knob |
|   | Release Tiller Lock            |
| Tiller Lock Applied                                     |                                |

|  |  |
|--|--|
| Problem: Horn sounds involuntarily / automatically |  |
| Symptoms:  | Remedy:  |
| The scooter has diagnosed a fault                  | Ensure the wigwag paddle is released and switch the scooter off and on.<br>Recharge batteries if error persists. |

## 7. SPECIFICATION

| Model Reference   | CMS001                                 | CMS002          |
|---|--|-----------------|
| Dimension (L x W x H)                                   | 102cm x 56cm x 91cm<br>40" x 22" x 36" |                 |
| Total Weight (see below for weights of component parts) | 47.6kg<br>105lb                        | 56.5kg<br>124lb |
| Propulsion motor  | 220W / 0.3hp                           |                 |
| Battery   | 12ah 12V x 2                           | 20ah 12V x 2    |
| Charger   | 24V 2A                                 |                 |
| Controller Type   | PG Drives S-Drive 45A                  |                 |
| Front Tyre  | 163 x 50 solid                         |                 |
| Rear Tyre   | 185 x 70 solid                         |                 |
| Top Speed (Forward)                                     | 6.4kph / 4.0mph                        |                 |
| Reverse   | 4.0kph / 2.5mph                        |                 |
| Climbing angle  | Up to 8°                               |                 |
| Maximum Cruising range (see note)                       | 13-16km / 8-10 mile                    | 19km / 12 mile  |
| Min. turning radius                                     | 140cm / 55"                            |                 |
| Ground clearance  | 4cm / 1.5"                             |                 |
| Kerb climbing ability                                   | 4cm / 1.5"                             |                 |
| Obstacle climbing ability                               | 4cm / 1.5"                             |                 |
| Max. Weight Capacity                                    | 136kg / 21 stone                       |                 |

### Weights of Component Parts

The approximate weights of the major component parts for the 4-wheel scooter are below:

- Seat with arms 11kg (24lb)
- Rear section 10.1kg (22lb) *CMS001* or 11.9kg (26lb) *CMS002*
- Front section 15.9kg (35lb) *CMS001* or 18.1kg (40lb) *CMS002*
- Basket and charger 1kg (2lb)
- Batteries 9.7kg (22lb) *CMS001* or 14.2kg (31lb) *CMS002*

Remark: The manufacturer reserves the right to modify the specification if necessary. The final specification is subject to the individual scooter you purchase from your dealer.

**Note:**

Maximum driving distance is based on an ambient temperature of 20 °C, a 75kg driver and a brand new fully charged battery by a constant driving speed at 6 km/h with 70% battery power discharged.

The scooter is classed as a type A vehicle as defined by EN 12184.

## 8. WARRANTY

There is a comprehensive one-year warranty from the date on which your new scooter is delivered. The warranty covers the scooter for repairs or replacement during this period. For full warranty conditions or to make a warranty claim, contact your dealer from whom you purchased the scooter.

1. Any work or replacement part installation must be carried out by an authorized dealer / service agent.
2. To apply the warranty should your scooter require attention please contact the designated service agent listed above.
3. Should any part of the scooter require repair or full or part replacement, as a result of a manufacturing or material defect within twelve months of receiving the scooter, replacement parts will be supplied free of charge.  
**Note:** This guarantee is not transferable
4. Any repaired or replaced parts will be covered by this warranty for the balance of the warranty period on the scooter.
5. Consumable items supplied will not generally be covered during the normal warranty period

unless such items require repair or replacement clearly as a direct result of a manufacturing or material defect.

Such items include (among others):  
upholstery, tyres and batteries.

6. The above warranty conditions apply to brand new scooter purchased at the full retail price. If you are unsure whether your scooter is covered, check with the service agent.
7. Under normal circumstances, no responsibility will be accepted where the scooter has failed as a direct result of:
  - a) The scooter or part not having been maintained in accordance with the manufacturer's recommendations.
  - b) Failure to use the manufacturer's specified parts
  - c) The scooter or part having been damaged due to neglect, accident or improper use
  - d) The scooter or part having been altered from the manufacturer's specifications or repairs having been attempted before the service agent is notified

Please note your local service agent's contact details in the previous box. In the event of your scooter requiring attention, contact them and give all relevant details so they can act quickly.

The manufacturer reserves the right to alter without notice any weights, measurements or other technical data shown in this manual. All figures, measurements and capacities shown in this manual are approximate and do not constitute specifications.

## Appendix A: Service Record

| <b>YEAR</b>      | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>YEAR</b>           | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|------------------|----------|----------|----------|----------|----------|-----------------------|----------|----------|----------|----------|----------|
| Service Dates    |          |          |          |          |          | Service Dates         |          |          |          |          |          |
| Controller       |          |          |          |          |          | Upholstery            |          |          |          |          |          |
| On/off switch    |          |          |          |          |          | Seat                  |          |          |          |          |          |
| Control Lever    |          |          |          |          |          | Back                  |          |          |          |          |          |
| Braking          |          |          |          |          |          | Armrests              |          |          |          |          |          |
| Recharge point   |          |          |          |          |          | Electrics             |          |          |          |          |          |
| Batteries        |          |          |          |          |          | Connections condition |          |          |          |          |          |
| Levels           |          |          |          |          |          | Lights                |          |          |          |          |          |
| Connections      |          |          |          |          |          | Test run              |          |          |          |          |          |
| Discharge test   |          |          |          |          |          | Forwards              |          |          |          |          |          |
| Wheels and Tyres |          |          |          |          |          | Reverse               |          |          |          |          |          |
| Wear             |          |          |          |          |          | Emergency stop        |          |          |          |          |          |
| Pressure         |          |          |          |          |          | Left turn             |          |          |          |          |          |
| Bearings         |          |          |          |          |          | Right turn            |          |          |          |          |          |
| Wheel nuts       |          |          |          |          |          | Slope test            |          |          |          |          |          |
| Motors           |          |          |          |          |          | Over obstacles        |          |          |          |          |          |
| Wiring           |          |          |          |          |          | List Items repaired   |          |          |          |          |          |
| Noise            |          |          |          |          |          |                       |          |          |          |          |          |
| Connections      |          |          |          |          |          |                       |          |          |          |          |          |
| Brake            |          |          |          |          |          |                       |          |          |          |          |          |
| Brushes          |          |          |          |          |          |                       |          |          |          |          |          |
| Chassis          |          |          |          |          |          |                       |          |          |          |          |          |
| Condition        |          |          |          |          |          |                       |          |          |          |          |          |
| Steering         |          |          |          |          |          |                       |          |          |          |          |          |