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# WHEEL AND TYRE

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**GENERAL INFORMATION**

The wheels and tyres of the following specifications have been established.

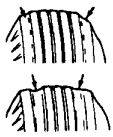
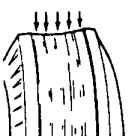
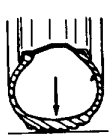
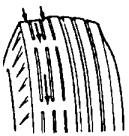
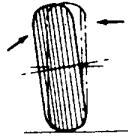
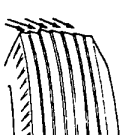
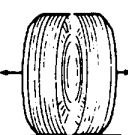
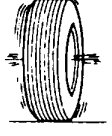
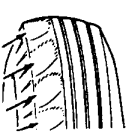
**SPECIFICATIONS**

| Items                      |                                   | RS (standard) | RS (option), RS-II |
|----------------------------|-----------------------------------|---------------|--------------------|
| Wheel                      | Type                              | Steel type    | Aluminium type     |
|                            | Size                              | 15 × 6JJ      | 17 × 8JJ           |
|                            | Amount of wheel offset mm         | 46            | 38                 |
|                            | Pitch circle diameter (P.C.D.) mm | 114.3         | 114.3              |
| Tyre                       | Size                              | 205/65R15 94H | 235/45ZR17         |
| Spare wheel                | Type                              | Steel type    | Steel type         |
|                            | Size                              | 16 × 4T       | 17 × 4T            |
|                            | Amount of wheel offset mm         | 40            | 30                 |
|                            | Pitch circle diameter (P.C.D.) mm | 114.3         | 114.3              |
| Spare tyre (High pressure) | Size                              | T125/70D16    | T125/70D17         |

**SERVICE SPECIFICATIONS**

| Items                            |                 | Limit       |
|----------------------------------|-----------------|-------------|
| Tread depth of tyre mm           |                 | 1.6         |
| Wheel runout (Radial runout) mm  | Steel wheel     | 1.2 or less |
|                                  | Aluminium wheel | 1.0 or less |
| Wheel runout (Lateral runout) mm | Steel wheel     | 1.2 or less |
|                                  | Aluminium wheel | 1.0 or less |

## TROUBLESHOOTING

| Symptom                 |                                                                                                | Probable cause                                                   |                                                                                                | Remedy                                                     | Reference page                           |
|-------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------|
| Rapid wear at shoulders | <br>11X0109   | Under-inflation or lack of rotation                              | <br>11X0116   | Adjust the tyre pressure.                                  | 31-6                                     |
| Rapid wear at centre    | <br>11X0110   | Over-inflation or lack of rotation                               | <br>11X0117   |                                                            |                                          |
| Cracked treads          | <br>11X0111   | Under-inflation                                                  |                                                                                                | Adjust the tyre pressure.                                  | 31-6                                     |
| Wear on one side        | <br>11X0112 | Excessive camber                                                 | <br>11X0118 | Inspect the camber.                                        | Refer to GROUP 33A – On-vehicle Service. |
| Feathered edge          | <br>11X0113 | Incorrect toe-in                                                 | <br>11X0119 | Adjust the toe-in.                                         |                                          |
| Bald spots              | <br>11X0114 | Unbalanced wheel                                                 | <br>11X0120 | Adjust the imbalanced wheels.                              | 31-4                                     |
| Scalloped wear          | <br>11X0115 | Lack of rotation of tyres or worn or out-of-alignment suspension |                                                                                                | Rotate the tyres and check the front suspension alignment. | Refer to GROUP 33A – On-vehicle Service. |

## WHEEL BALANCE ACCURACY

### PURPOSE

This section contains tips and procedures for achieving accurate wheel balance. Steering wheel vibration and /or body shake can result if any of these procedures are not carefully observed.

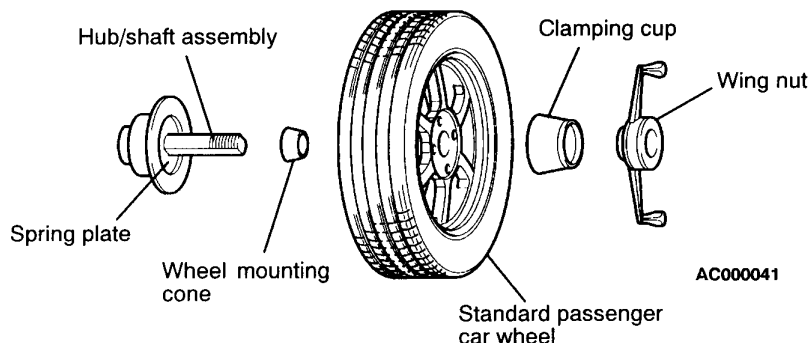
1. Wheels and tires must be properly mounted on a balancer in order to achieve correct balance. Centering the wheel on the shaft of the balancer is essential for proper mounting.
2. Off-the-car wheel balancers must be calibrated periodically to ensure good balancing results. An inaccurately calibrated balancer could cause unnecessary replacement of tires, shocks, suspension components, or steering components.

Check your balancer's calibration approximately every 100 balances. Your wheel balancer's instruction manual should include calibration procedures. If the calibration procedures specifically for your balancer are missing, use the generic steps in this section for zero calibration, static balance, and dynamic balance checks. The wheel balancer calibration checks are also described in the flowchart. (Refer to P.31-5.)

### PROCEDURE

#### Balancing Tips

1. Confirm that the balancer's cone and the wheel mounting cone are undamaged and free of dirt and rust.
2. On this vehicle the wheel's center hole on the hub side has a chamfered edge. Use a back-mounting cone on your wheel balancer to center the wheel on the balancer shaft.
3. Install a wheel mounting cone. The appropriate size cone for this vehicle is 67.0 mm.
4. Before balancing the wheel, remove any wheel weights from both sides. Also check both sides for any damage.
5. When installing wheel weights, hammer them at a straight (not diagonal) angle.



#### Confirming Proper Balance

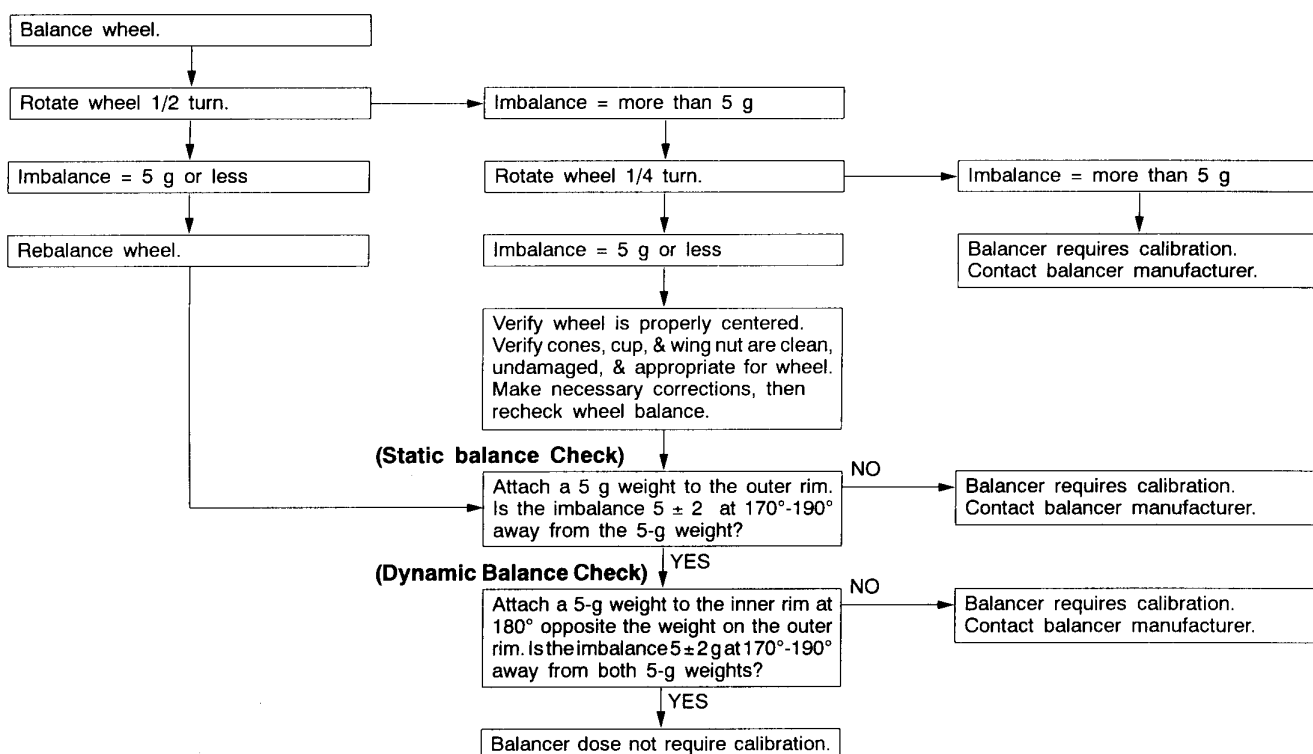
1. After balancing the wheel, loosen the wing nut and turn the wheel 180° against the balancer's hub. Then retighten the wing nut and check the balance again. Repeat wheel balance if necessary.
2. Turn the wheel again 180° against the balancer's hub. If the wheel becomes out-of-balance each time it is turned against the balancer's hub, the wheel balancer may require calibration.

#### Wheel Balancer Calibration Checks

1. Mount an undamaged original-equipment alloy rim and tire assembly (wheel) onto your off-the-car wheel balancer. Balance the wheel.
2. **<<Zero Calibration Check>>**  
Loosen the balancer wing nut, rotate the wheel a half turn (180°), and retighten the nut. Recheck the balance.

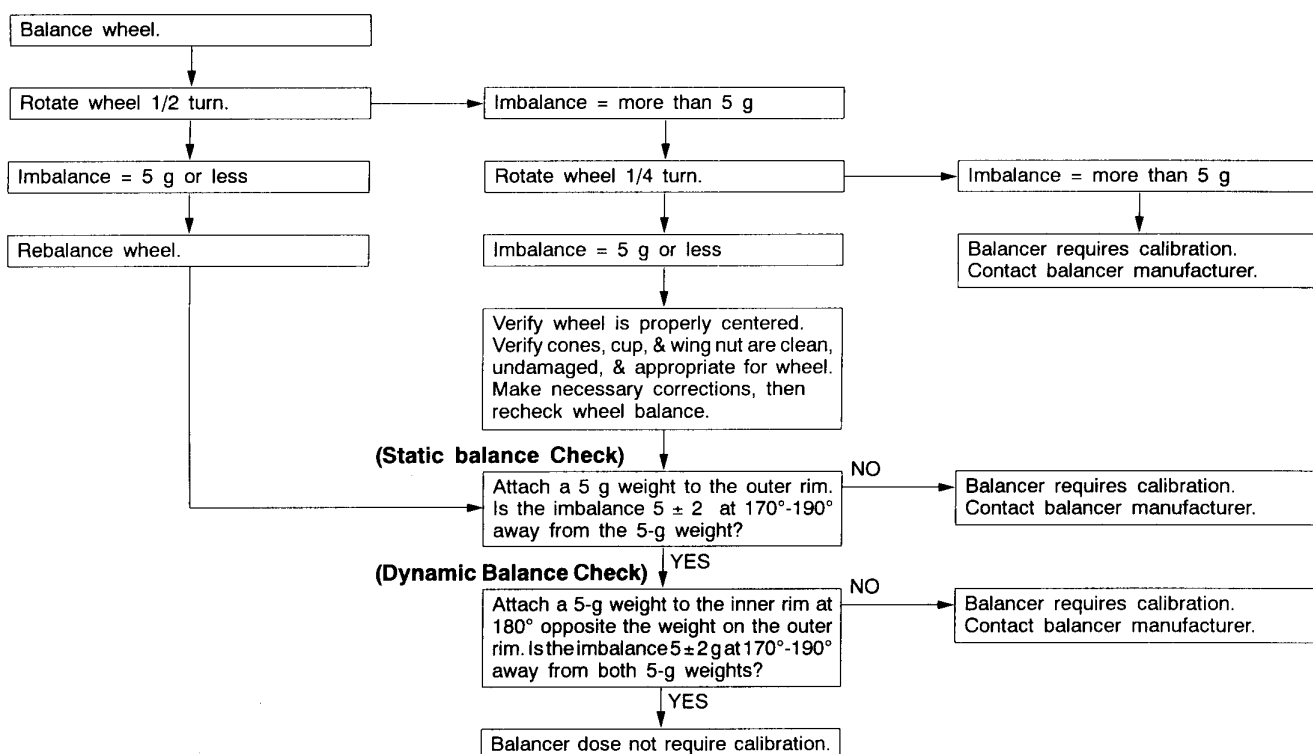
- If the imbalance is 5 g or less, the zero calibration is OK. Rebalance the wheel, then go to Step 4 to check static balance.
- If the imbalance is more than 5 g, go to Step 3.
- 3. Loosen the balancer wing nut, rotate the wheel 1/4 turn (90°), and retighten the nut. Recheck the wheel balance.
- If the imbalance is 5 g or less, the wheel may not be centered on the balancer, or the balancing cones, the cup, and/or wing nut are damaged, dirty, or inappropriate for the wheel. You may need to refer to the balancer manufacturer's instructions to verify the correct attachments. After making the necessary corrections, recheck the wheel balance. If OK, then go to Step 4.
- If the imbalance is more than 5 g, the balancer requires calibration. Contact the balancer manufacturer for calibration by their repair representative.
- 4. <<Static Balance Check>>  
Attach a 5-g weight to the outer rim. Recheck the balancer. The balancer should detect  $5 \pm 2$  g of imbalance 170° to 190° away from both the inner and outer 5-g weights.
- If the imbalance is within specification, the static balance calibration is correct. Go to Step 5 to check the dynamic balance.
- If the imbalance is out of specification, the balancer requires calibration. Contact the balancer manufacturer for calibration by their repair representative.
- 5. <<Dynamic Balance Check>>  
Attach a 5-g weight to the inner rim at 180° opposite the 5-g weight that was added in step 4. Recheck the balance. The balancer should detect  $5 \pm 2$  g of imbalance 170° to 190° away from both the inner and outer 5-g weights.
- If the imbalance is within specification, the dynamic balance calibration is correct. The balancer calibration checks are complete.
- If the imbalance is out of specification, the balancer requires calibration. Contact the balancer manufacturer for calibration by their repair representative.

### WHEEL BALANCER CALIBRATION CHECKING FLOW CHART



- If the imbalance is 5 g or less, the zero calibration is OK. Rebalance the wheel, then go to Step 4 to check static balance.
- If the imbalance is more than 5 g, go to Step 3.
- 3. Loosen the balancer wing nut, rotate the wheel 1/4 turn (90°), and retighten the nut. Recheck the wheel balance.
- If the imbalance is 5 g or less, the wheel may not be centered on the balancer, or the balancing cones, the cup, and/or wing nut are damaged, dirty, or inappropriate for the wheel. You may need to refer to the balancer manufacturer's instructions to verify the correct attachments. After making the necessary corrections, recheck the wheel balance. If OK, then go to Step 4.
- If the imbalance is more than 5 g, the balancer requires calibration. Contact the balancer manufacturer for calibration by their repair representative.
- 4. <<Static Balance Check>>  
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- If the imbalance is within specification, the dynamic balance calibration is correct. The balancer calibration checks are complete.
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### WHEEL BALANCER CALIBRATION CHECKING FLOW CHART



## ON-VEHICLE SERVICE

### TYRE INFLATION PRESSURE CHECK

#### NOTE

For information on tyre inflation pressure, refer to the label attached near the driver's side door striker.

### TYRE WEAR CHECK

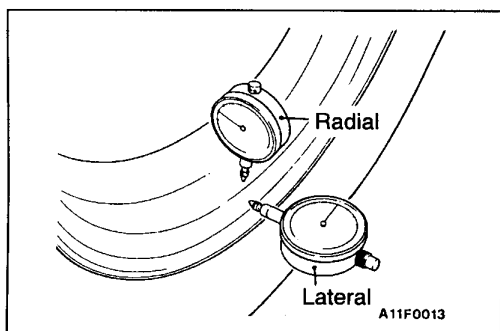
Measure the tread depth of tyres.

**Limit: 1.6 mm**

If the remaining tread depth is less than the limit, replace the tyre.

#### NOTE

When the tread depth of tyres is reduced to 1.6 mm or less, wear indicators will appear.



### WHEEL RUNOUT CHECK

Jack up the vehicle so that the wheels are clear of the floor. While slowly turning the wheel, measure wheel runout with a dial indicator.

#### Limit:

| Item              | Steel wheel | Aluminium wheel |
|-------------------|-------------|-----------------|
| Radial runout mm  | 1.2         | 1.0             |
| Lateral runout mm | 1.2         | 1.0             |

If wheel runout exceeds the limit, replace the wheel.

## WHEEL AND TYRE

#### Caution

If the vehicle is equipped with the Brembo disc brake, during maintenance, take care not to contact the parts or tools to the caliper because the paint of caliper will be scratched.

### INSTALLATION SERVICE POINT

Tighten the wheel nut to the specified torque.

**Tightening torque: 98 ± 10 N·m**