GROUP 31

WHEEL AND TYRE

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GENERAL INFORMATION

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

SPECIFICATIONS

ROAD WHEEL AND TYRE

Item		Specification
Wheel	Type	Aluminium type
	Size	17 × 8JJ
	Amount of wheel offset mm	38
	Pitch circle diameter (PCD) mm	114.3
Tyre	Size	235/45R17 93W

SPARE WHEEL AND TYRE

Item		Specification
Spare wheel	Type	Steel type
	Size	17 × 4T
	Amount of wheel offset mm	30
	Pitch circle diameter (PCD) mm	114.3
Spare tyre	Size	T125/70D17 98M

NOTE: PCD (Pitch Circle Diameter) indicates the pitch circle diameter of the wheel installation holes.

SERVICE SPECIFICATIONS

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Item	Limit
Tread depth of tyre mm	Minimum 1.6
Wheel runout (Radial runout) mm	1.0 or less
Wheel runout (Lateral runout) mm	1.0 or less

TROUBLESHOOTING

DIAGNOSIS

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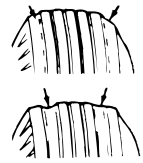
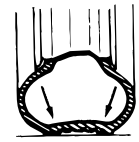
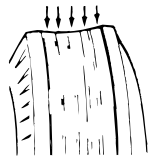
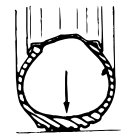
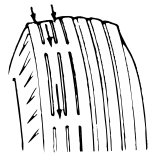
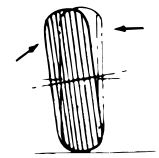
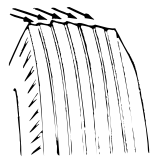
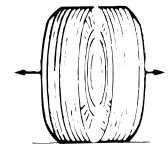
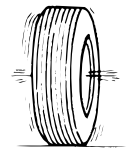
Symptom		Probable cause		Remedy	Reference page
Rapid wear at shoulders	 ACX00923AB	Under-inflation or lack of rotation	 ACX00924AB	Adjust the tyre pressure.	For tyre inflation pressure, refer to the label on the driver's side centre pillar.
Rapid wear at centre	 ACX00925AB	Over-inflation or lack of rotation	 ACX00926AB		
Cracked treads	 ACX00927AB	Under-inflation		Adjust the tyre pressure.	For tyre inflation pressure, refer to the label on the driver's side centre pillar.
Wear on one side	 ACX00928AB	Excessive camber	 ACX00929AB	Check the camber.	Refer to GROUP 33A, On-vehicle service – Front wheel alignment check and adjustment P.33-4.
Feathered edge	 ACX00930AB	Incorrect toe-in	 ACX00931AB	Adjust the toe-in.	
Bald spots	 ACX00932AB	Unbalanced wheel	 ACX00933AB	Balance the wheels.	P.31-4

Symptom		Probable cause	Remedy	Reference page
Scalloped wear	 ACX00934	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 – Front wheel alignment check and adjustment P.33-4.

WHEEL BALANCE ACCURACY

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PURPOSE

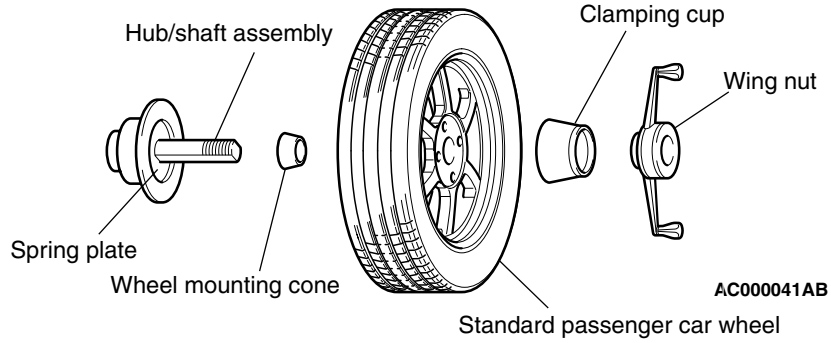
This section contains tips and procedures for achieving accurate wheel balance. Steering wheel vibration and/or body shake can result if any of these procedures are not carefully observed.

1. Wheels and tyres 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 tyres, 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.31-4).

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 centre hole on the hub side has a chamfered edge. Use a back-mounting cone on your wheel balancer to centre 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 re-tighten 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>

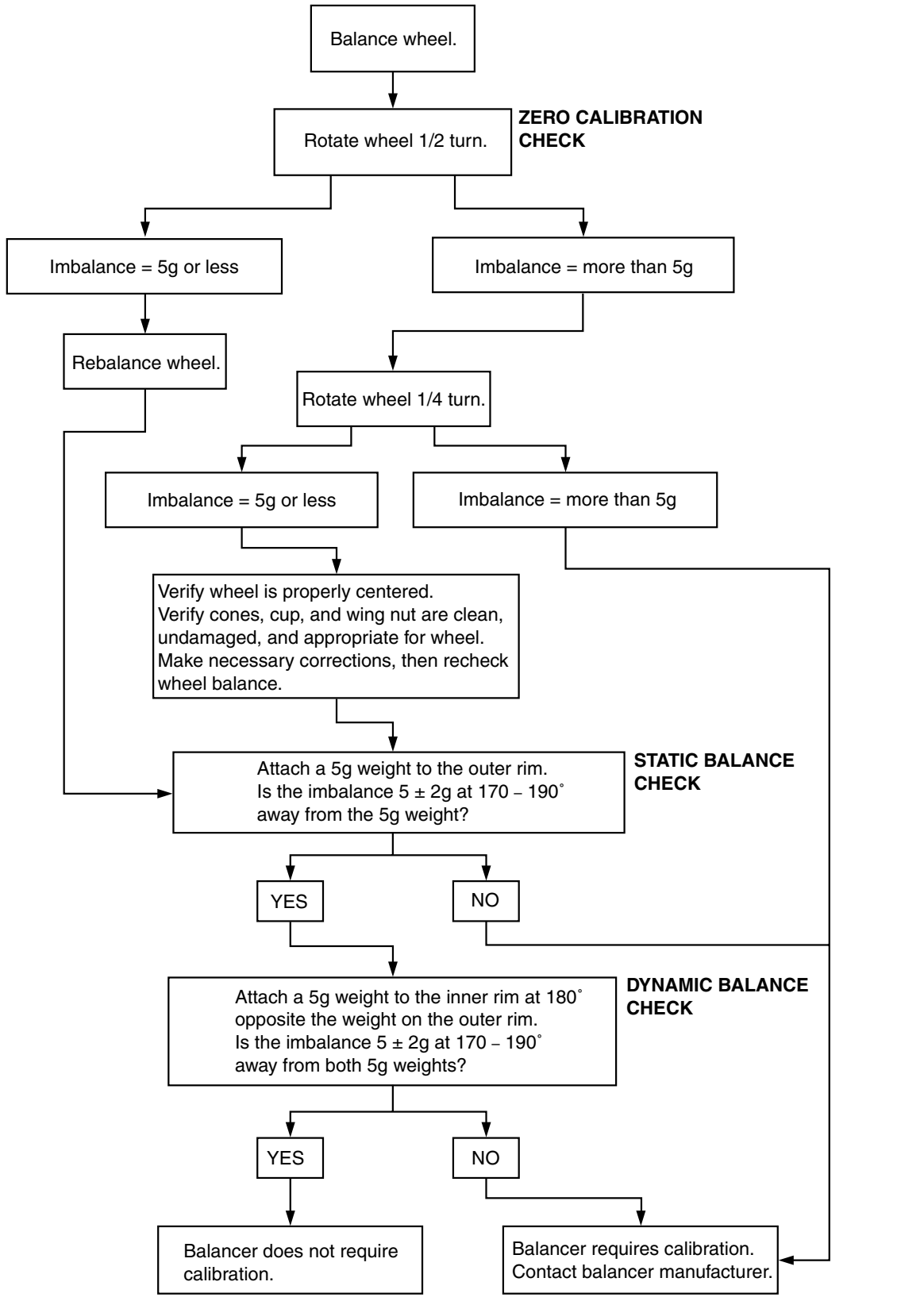
1. Mount an undamaged original-equipment alloy rim and tyre assembly (wheel) onto your off-the-car wheel balancer. Balance the wheel.
2. <<Zero Calibration Check>>

   Loosen the balancer wing nut, rotate the wheel a half-turn (180°), and retighten the nut. Recheck the balance.
   - If the imbalance is 5g 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 5g, 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 5g or less, the wheel may not be centred 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 5g, the balancer requires calibration. Contact the balancer manufacturer for calibration by their repair representative.
4. <<Static Balance Check>>

   Attach a 5g weight to the outer rim. Recheck the balancer. The balancer should detect 5 ± 2g of imbalance 170 to 190° away from the 5g weight.
   - 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 5g weight to the inner rim at 180° opposite the 5g weight that was added in Step 4. Recheck the balance. The balancer should detect 5 ± 2g of imbalance 170 to 190° away from both the inner and outer 5g 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



AC000040 AB

ON-VEHICLE SERVICE

TYRE INFLATION PRESSURE CHECK

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NOTE: For information on tyre inflation pressure, refer to the label attached to the centre pillar on the driver's side.

TYRE WEAR CHECK

M1311001000442

Measure the tread depth of the tyres.

Minimum limit: 1.6 mm

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

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

WHEEL RUNOUT CHECK

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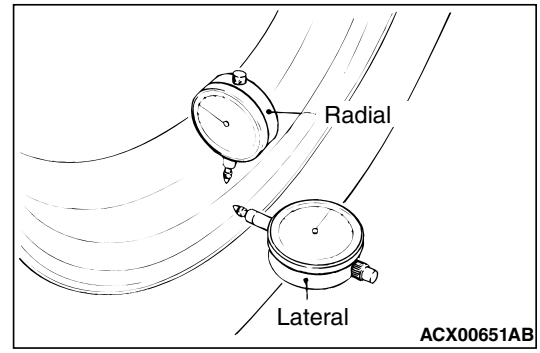

Jack up the vehicle so that the wheels are clear of the floor. While slowly turning the wheel, measure wheel runout with a dial indicator.

Limit:
Radial runout; 1.0 mm or less
Lateral runout; 1.0 mm or less

If wheel runout exceeds the limit, replace the wheel.

WHEEL AND TYRE

INSTALLATION SERVICE POINT

M1311001300379

Tighten the wheel nuts to the specified torque.

Tightening torque: 98 ± 10 N·m

NOTES