

**MODEL All**

	<b>Checking</b>		
	<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between columns of vehicle lift and position four support plates at vehicle lift support points specified by vehicle manufacturer.	AS00.00-Z-0010-01A
	<b>Risk of injury</b> caused by moving parts that can <b>pinch, crush</b> or, in extreme cases, even <b>sever</b> extremities	No parts of the body or limbs should be within the operating range of the mechanism when moving components.	AS00.00-Z-0009-01A
	Notes on tire flat spots		AH40.10-P-1030-01A
	The tire balance becomes poor with increasing tire wear. This means that the tire does not wear completely symmetrically through its rotation pattern. The level of wear differs in different areas (on front axle outside shoulder or center tread wear on rear axle)		
	It is essential to pay the utmost attention to cleanliness. Dirt and rust on the wheel, hub, brake drum or centering or clamping device may impair the balancing result		
1	Hoist vehicle with lifting platform until wheels are free		
2	Check play of front axle ball joints	If necessary replace the respective part.	
3	Check tires and rims for wear, damage and flat spots	If a rim is damaged, it must be replaced. If the tire is at the wear limit or damaged, it must be replaced. Tires must always be replaced in pairs by axle.	
4	Check tire inflation pressure of all wheels and correct if necessary	See tire inflation pressure table in the fuel filler flap.	
5	Conduct a road test	Drive vehicle for at least 20 km at a speed of >100 km/h to ensure that the flat spots are driven out of the tires. Only then can the vehicle be evaluated!	
6	Hoist vehicle with lifting platform until wheels are free	After the test drive, it is necessary to <b>immediately</b> take the load off the wheels to avoid formation of flat spots.	
7	Mark position of wheels	Mark position of wheel relative to wheel hub.	
8	Remove all wheels		
9	Clean all wheels		
10	Check wheel balancing machine	Ensure that the wheel balancing machine meets the quality, display accuracy and turnover test requirements.	
11	Check lateral and radial runout at all wheels	Radial runout Lateral runout	AR40.10-P-1025A *BE40.10-P-1002-01A *BE40.10-P-1004-01A
12	Balance wheels on wheel balancer and perform smooth running optimization	Only perform if impermissible lateral or radial runout was found in operation step 11. The wheels with the best radial/lateral run out values are to be mounted onto the front axle.	AR40.10-P-3201-01A
13	Mount all wheels	When mounting the wheels, ensure that they are precisely centered and correspond to the position markings. Start off by turning in the wheel bolts to the mounting face in a cross pattern and then tighten them to the specified torque value. 1/10 mm centering difference = 20 g imbalance.	
14	Perform test drive and evaluate vibrations/ smooth running of vehicle	Drive the vehicle for at least 20 km at a speed of >100 km/h.	

**Wheels, tires**

Number	Designation	All models		
BE40.10-P-1002-01A	Permissible radial runout (H) with tire mounted	Sheet-steel disc wheel	mm	1.0
		Light alloy rim	mm	1.0
		See picture		-
BE40.10-P-1004-01A	Permissible lateral runout (S) with tire mounted	Sheet-steel disc wheel	mm	1.0
		Light alloy rim	mm	1.0
		See picture		-

AR40.10-P-3201-01A ⓘ	Perform smooth running optimization Notes on tire flat spots	AH40.10-P-1030-01A
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### Balancing machines with menu-assisted "Smooth running optimization program"

Almost **all** balancing machines have a menu-assisted "smooth running optimization program" known as the matching program.

- 1 Match wheels.  
i Generally, only new tires with steel disk wheels have to be matched, except for the light alloy wheels of models 140, 215 and 220. These have to be matched. Matching is no longer essential for all other OE light alloy wheels (OE = Original Equipment).

i During matching, the smooth running characteristics of the entire wheel are optimized i.e. the lowest point of the 1st harmonic radial force variation of the tire is turned to the highest point of the disk wheel.

**NOTE: This "optimization program" is describing "Force Matching" on a Hunter Road Force balancer.**

### Balancing machines without lateral/radial runout measuring device and without menu-assisted "smooth running optimization program"

- 1 Carry out visual inspection for radial runout.
- 2 Mark tire position relative to disk wheel.
- 3 Deflate tire.
- 4 Pry tire off disk wheel.  
i Do not position bead breaker shovel in area of radar sensor.
- 5 Turn tire 180° relative to disk wheel.

- 6 Remove valve element from valve and gradually inflate tire to max. 3.5 bar.  
i The tire must never be allowed to jump over the hump at a pressure greater than 3.5 bar (risk of torn bead wire).  
i The pressure required for the tire to jump over the hump should not exceed 3 to 3.5 bar.
- 7 Balance wheel exactly to "zero".
- 8 Carry out visual inspection for radial runout.  
i If radial runout is still clearly visible, turn tire through another 90° relative to the marking.