

SAKAI®

GW750

GW750-2

Asphalt Roller



World's First and Only **VIBRATORY PNEUMATIC TIRED ROLLER**

**A 9 ton vibratory pneumatic tired roller
equal or exceeding the compaction results
of a 25 ton tired roller**

**Versatility with compact size and high
compaction performance**

Improves Compaction Quality and Efficiency

- Dynamic kneading action produces more uniform compaction from top to bottom of the pavement layer
- Versatility on both large and small projects for tight and dense longitudinal joints, hot mix asphalt (HMA), aggregate base, roller compacted concrete and warm- and cold-mixes, etc.
- Maneuverable in tight spaces on city streets, parking lots and cul-de-sacs by center-pin articulated steering
- All wheel drive system to minimize shoving of HMA mix

High Safety Standards

- 1m x 1m visibility
- Emergency brake pedal is standard

Cost Saving

- Savings in trucking and fuel costs with lighter weight and efficient compaction



Proven compaction technology around the world



Major Airports
San Francisco International, CA, USA



Major Airports
Atlanta International, GA, USA



Soil subbase, Australia



Queensland, Australia



Brakedown application, USA



Intermediate application, Japan



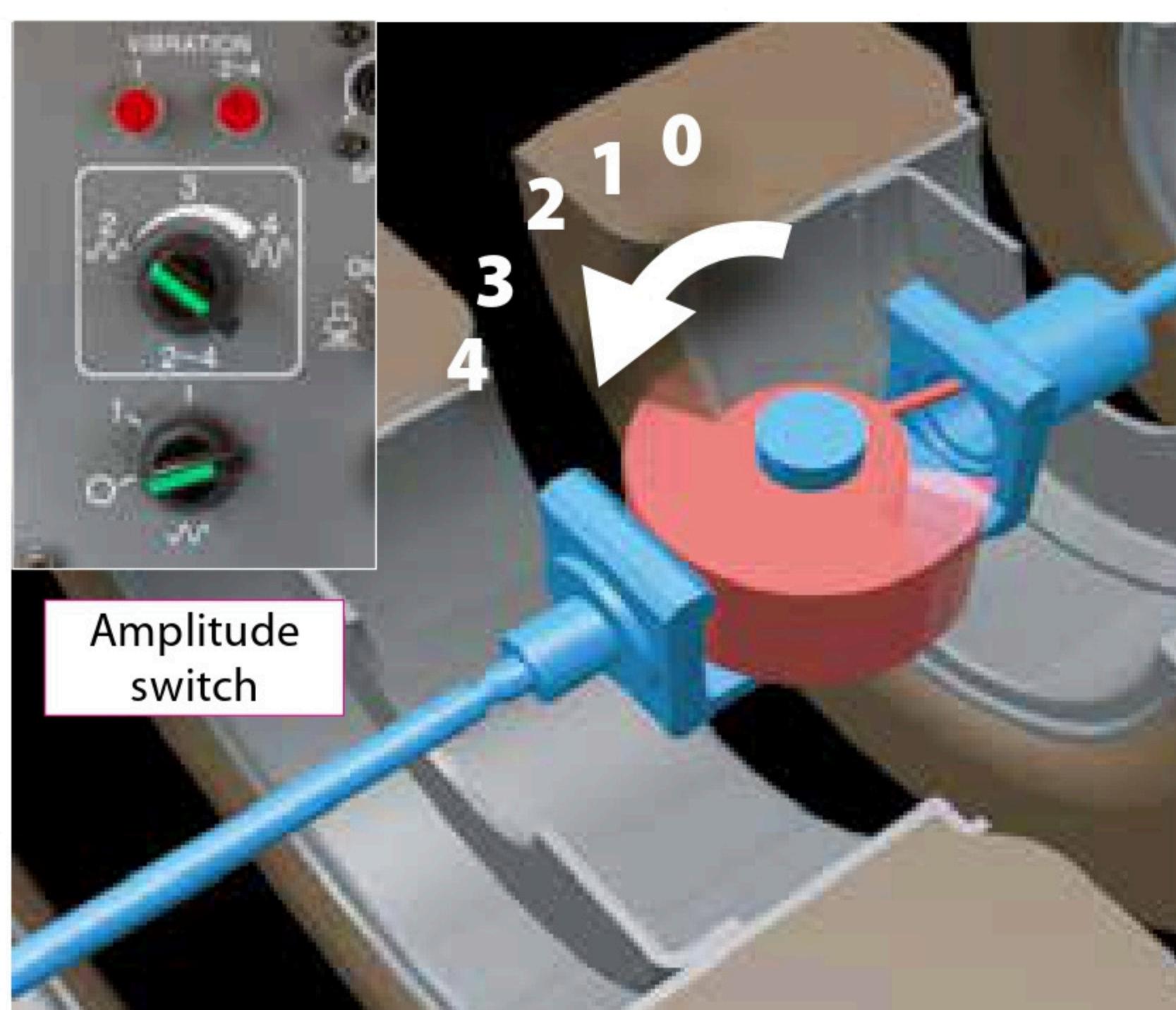
The World's First and Only

Vibratory pneumatic tire roller

With variable amplitude settings

- Four (4) amplitude settings to achieve the required density
- High productivity on both large and small projects with the ability to maneuver in tight spaces on city streets, parking lots and cul-de-sacs.
- Density results achieved by the 9 ton GW750 are equal or higher than those of a 25 ton static tire roller.*¹

*¹ The compaction performance may vary depending on working conditions.



Schematic diagram of variable amplitude vibration

Amplitude setting ^{*2}	Amplitude mm	Centrifugal Force kN	Equivalent compaction efforts to a static pneumatic tire roller ton	Applications and layer thickness (Examples)
Static	0.0	0	= 9	
1	0.1	8	≥ 10	Overlays and thin HMA layers, less than 5cm
2	0.3	25	≥ 15	
3	0.5	42	≥ 20	Binder and base course layers, thicker than 5cm
4	0.7	58	≥ 25	

*² The amplitude selected and number of roller passes should be reconfirmed by test section.

DYNAMIC KNEADING ACTION improves pavement quality

Dynamic Kneading Action compacts pavement materials more uniformly by combining the kneading action of pneumatic tires with the vibration effect.

- Creates better bonding between new overlay pavement and the old milled surface by eliminating the **bridging effect** that normally occurs with steel drum rollers, see Fig.1
- Provides sufficient bonding between aggregates and asphalt emulsion in chip seal pavement, see Fig.2
- Produces tight longitudinal joints, see Fig.3
- Removes hairline cracks from HMA pavement, See Fig. 4
- Gives uniform compaction throughout thick HMA pavement layer, see Fig. 5
- Seals the surface of Roller Compacted Concrete Pavement (RCCP), see Fig.6

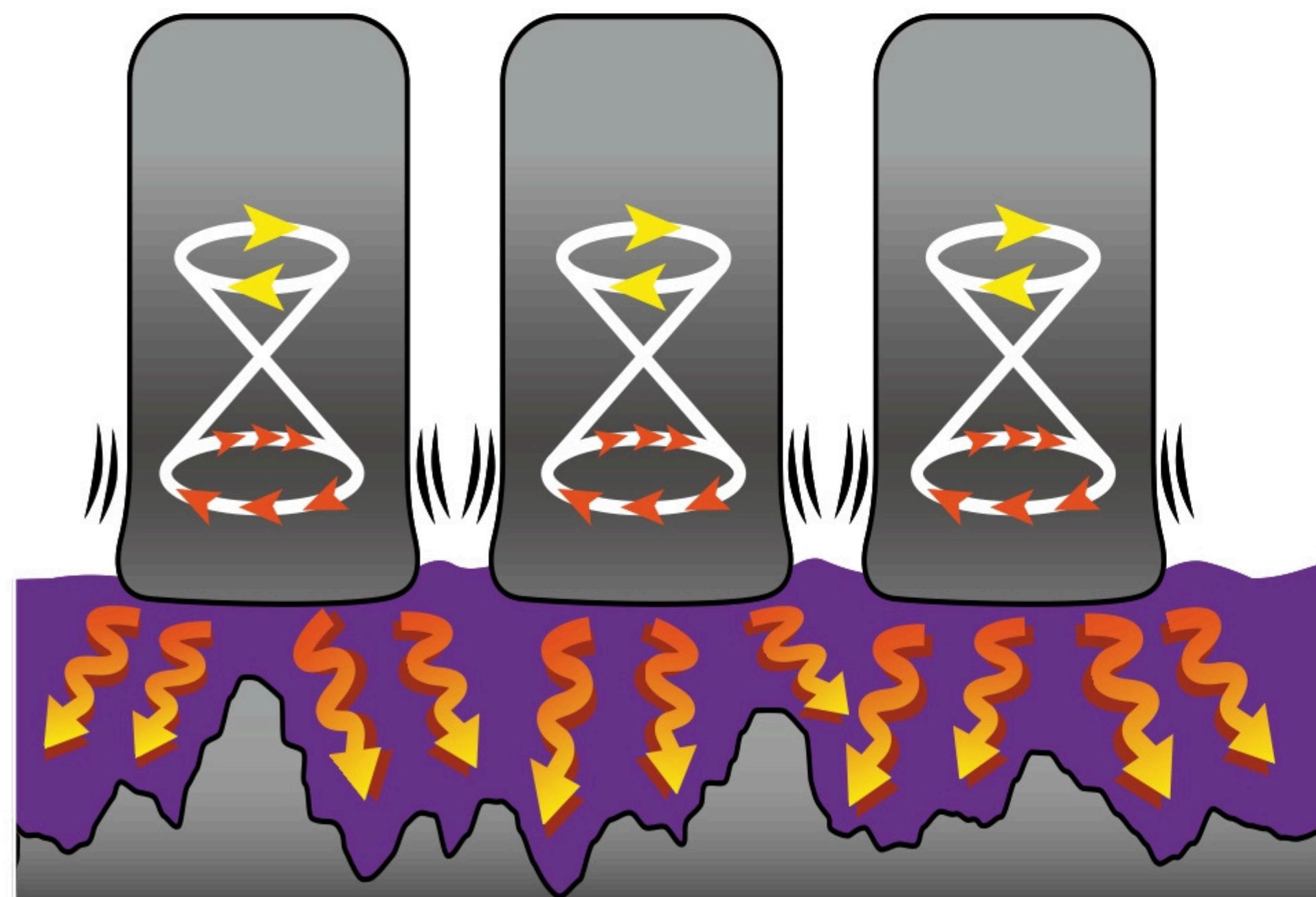


Fig 1. Schematic diagram showing bonding effect between the new overlay pavement and the old milled surface



Fig 2. Chip seal pavement finished by GW750

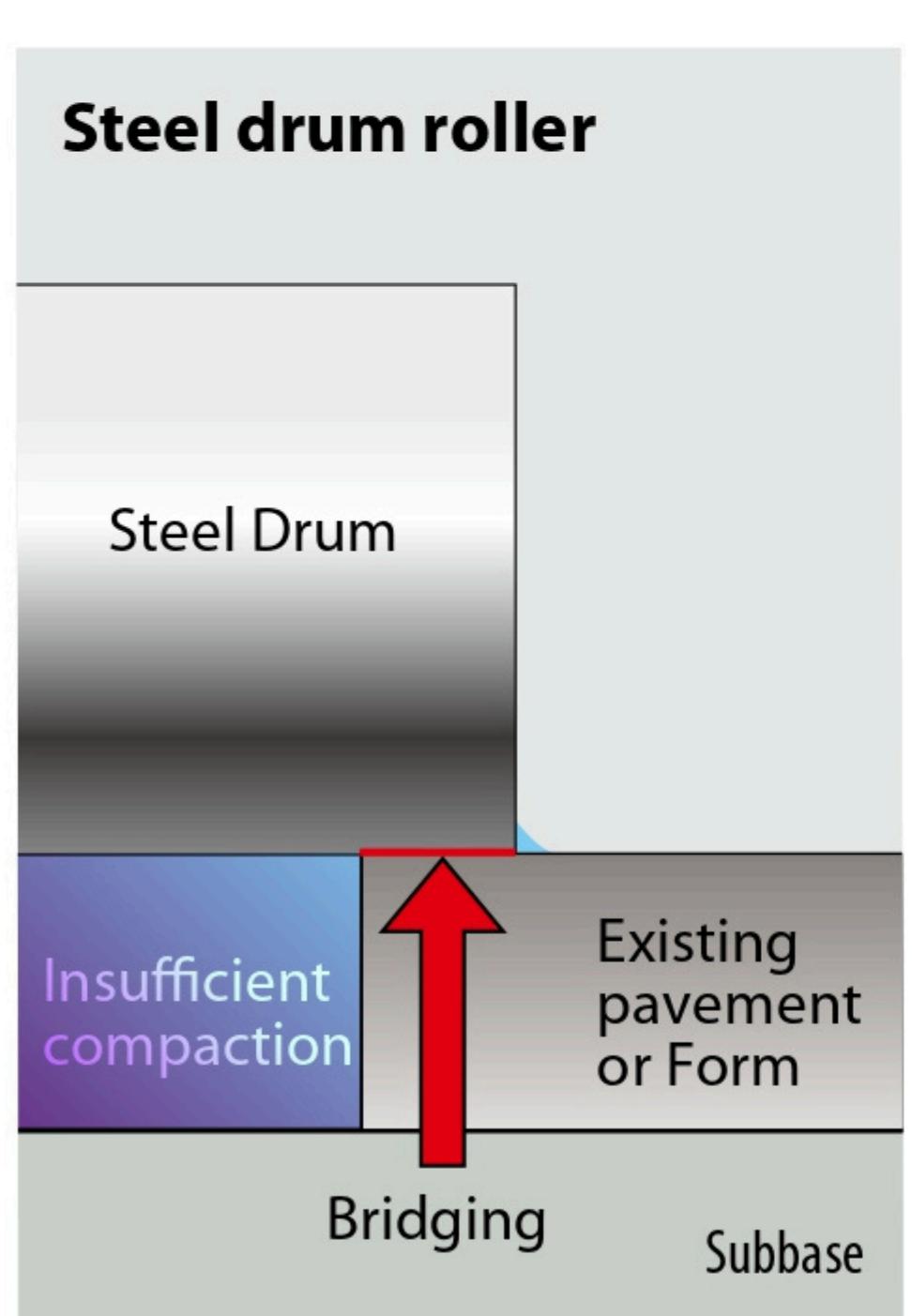


Fig 3. Tighter longitudinal joint along existing pavement or forms with a steel drum roller vs. the GW750



Fig 4. Remove hairline cracks from HMA pavement



Fig 5. Uniform compaction throughout thick lift (27 cm with 3.8cm aggregate size) HMA pavement layer by two different rollers

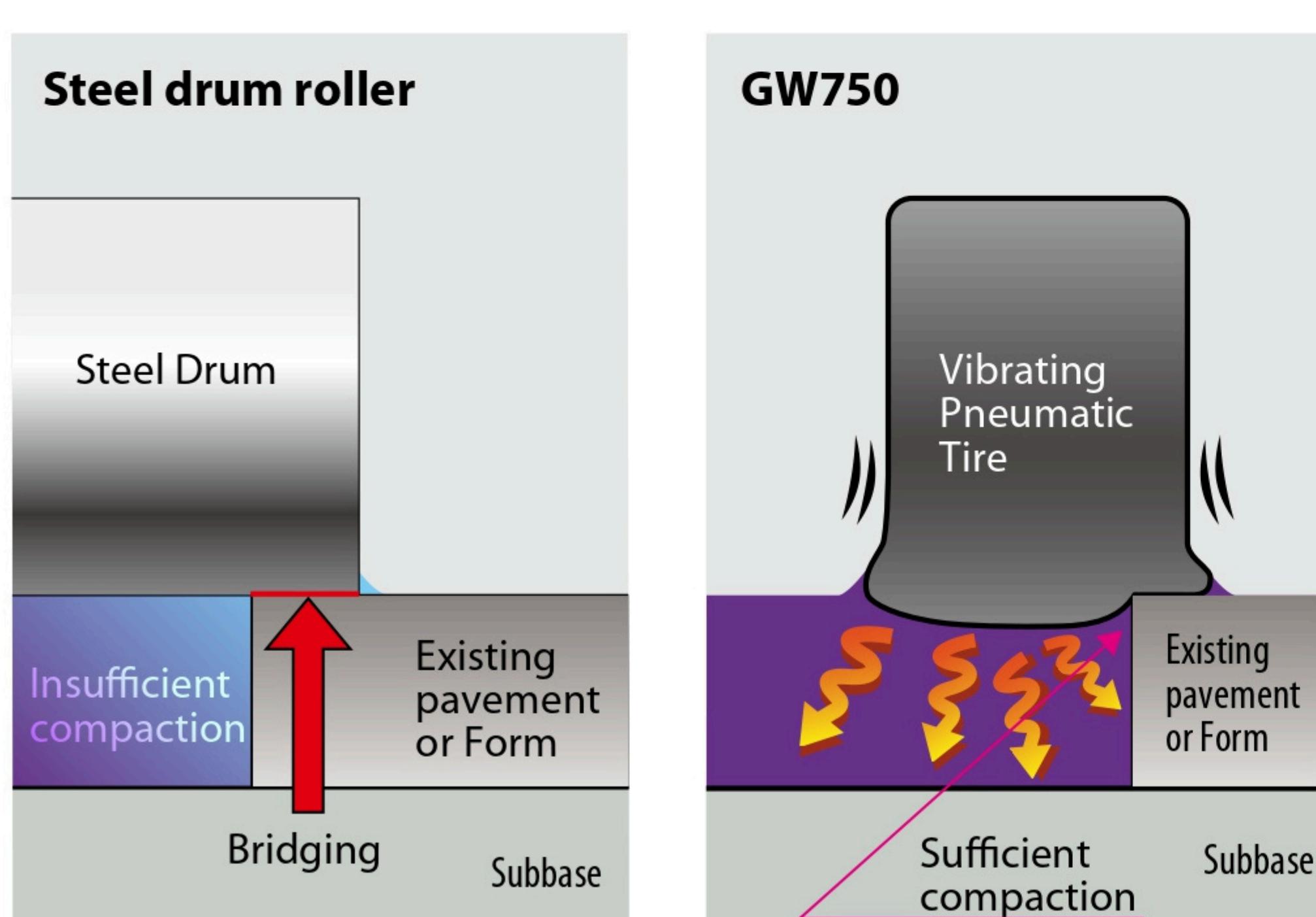


Fig 3. Tighter longitudinal joint along existing pavement or forms with a steel drum roller vs. the GW750

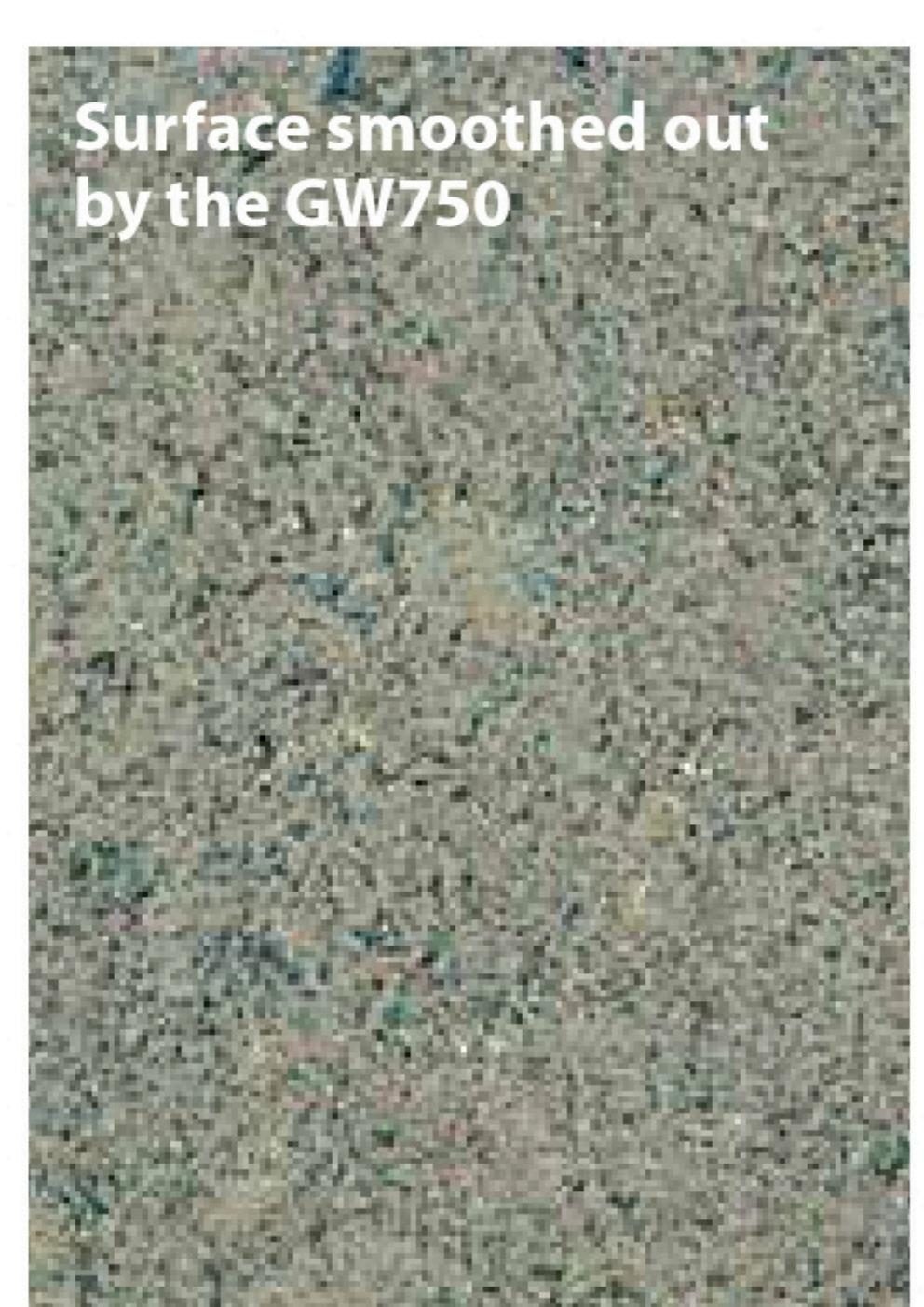
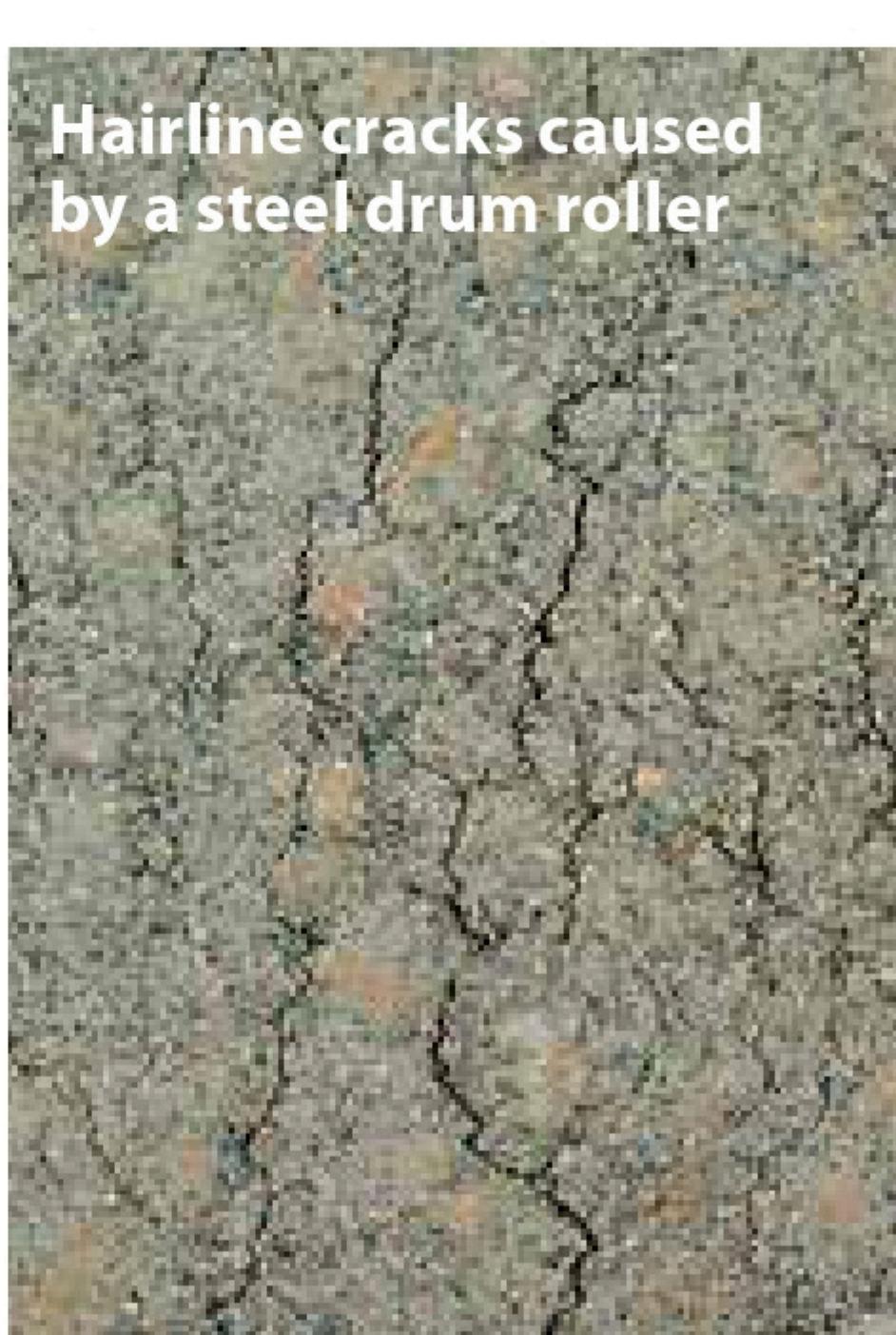


Fig 6. Sealing the surface of Roller Compacted Concrete Pavement (RCCP)

Further improvements on compaction quality

- Center-pin articulated steering system gives perfect tire overlap and finishes HMA pavement smoothly without shoving the HMA mix
- Overlap between tires in front and rear axles ranges up to 145 mm
- **All Wheel Drive** minimizes the shoving of both **tender** and **stiff** HMA mixes regardless of which direction the machine is rolling.
- **Super-flat** tires achieve a smoother finish on HMA pavement surfaces compared to conventional rounded pneumatic tires.

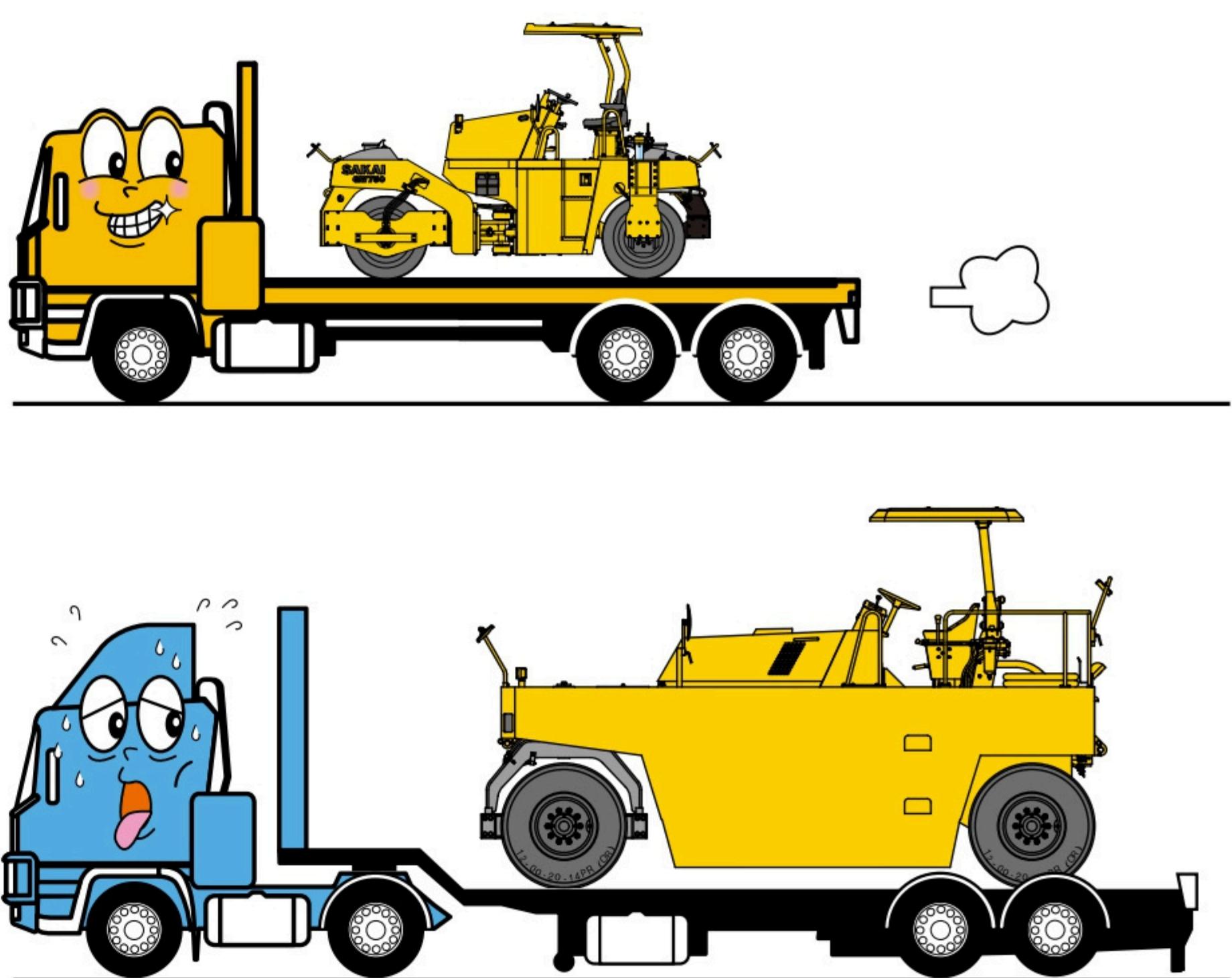


Saving in trucking and fuel costs

- Easier and faster to move to and from jobs due to lighter weight only 9 tons
- Lower weight means lower fuel consumption when hauling and when operating the roller



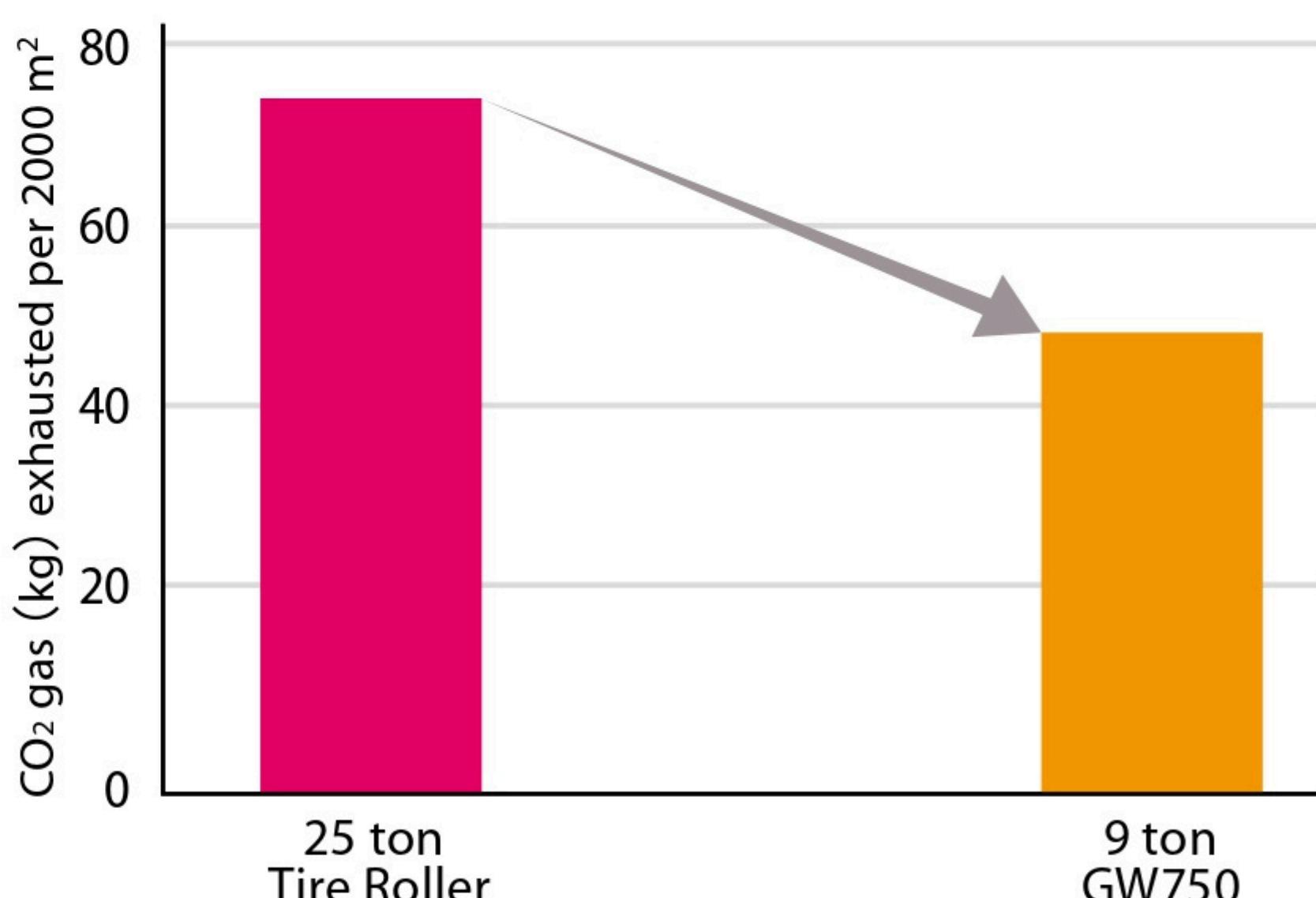
Three amigos in one trailer



Environment friendly

- Approximately 40 % reduction of the CO₂ gas*³ by using the GW750 compared with a 25 ton static tire roller

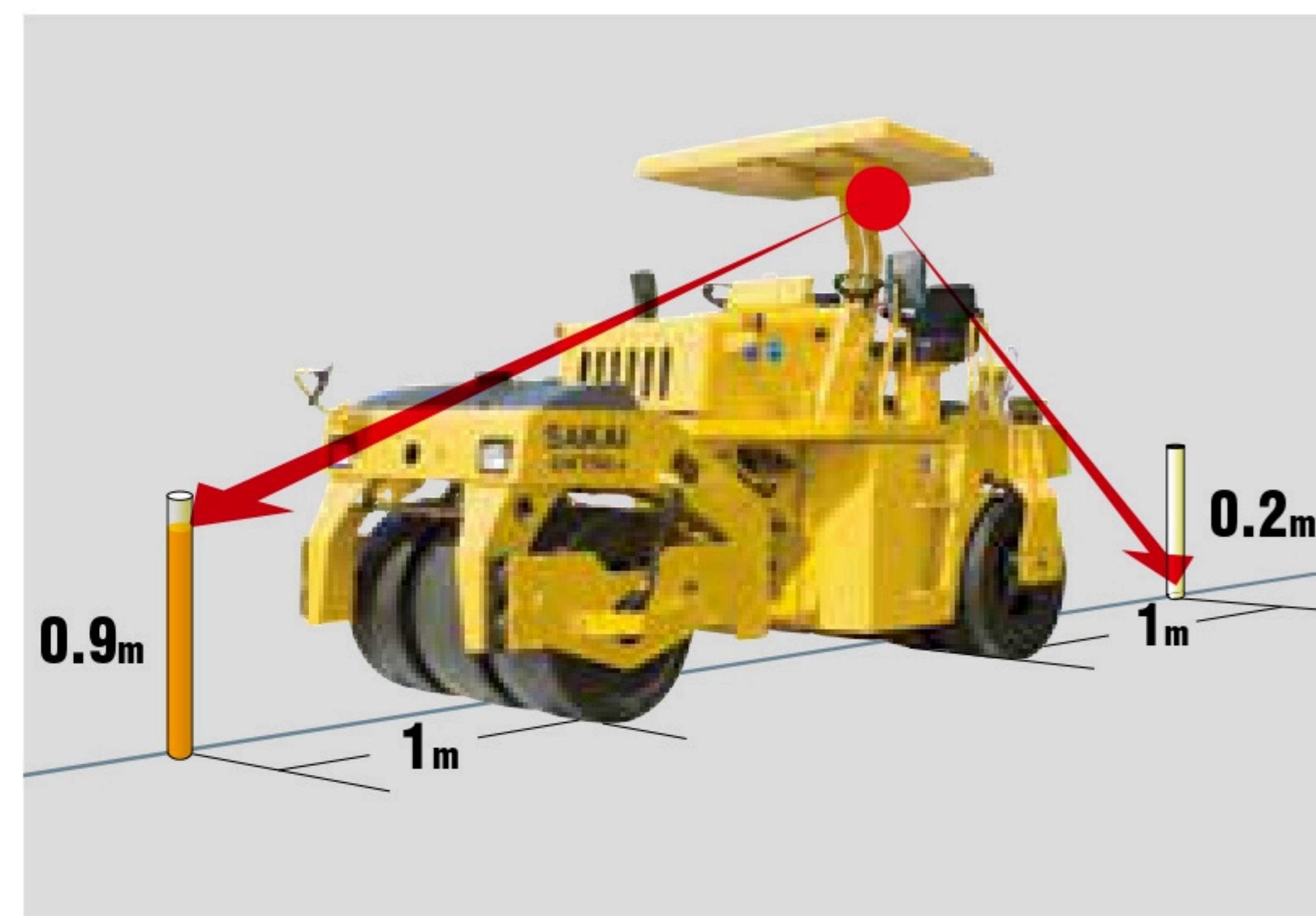
*³ The amount of CO₂ gas was estimated based on working hours required for compacting 2000 m² area under fuel consumption by the engines mounted on each model.



High safety standard

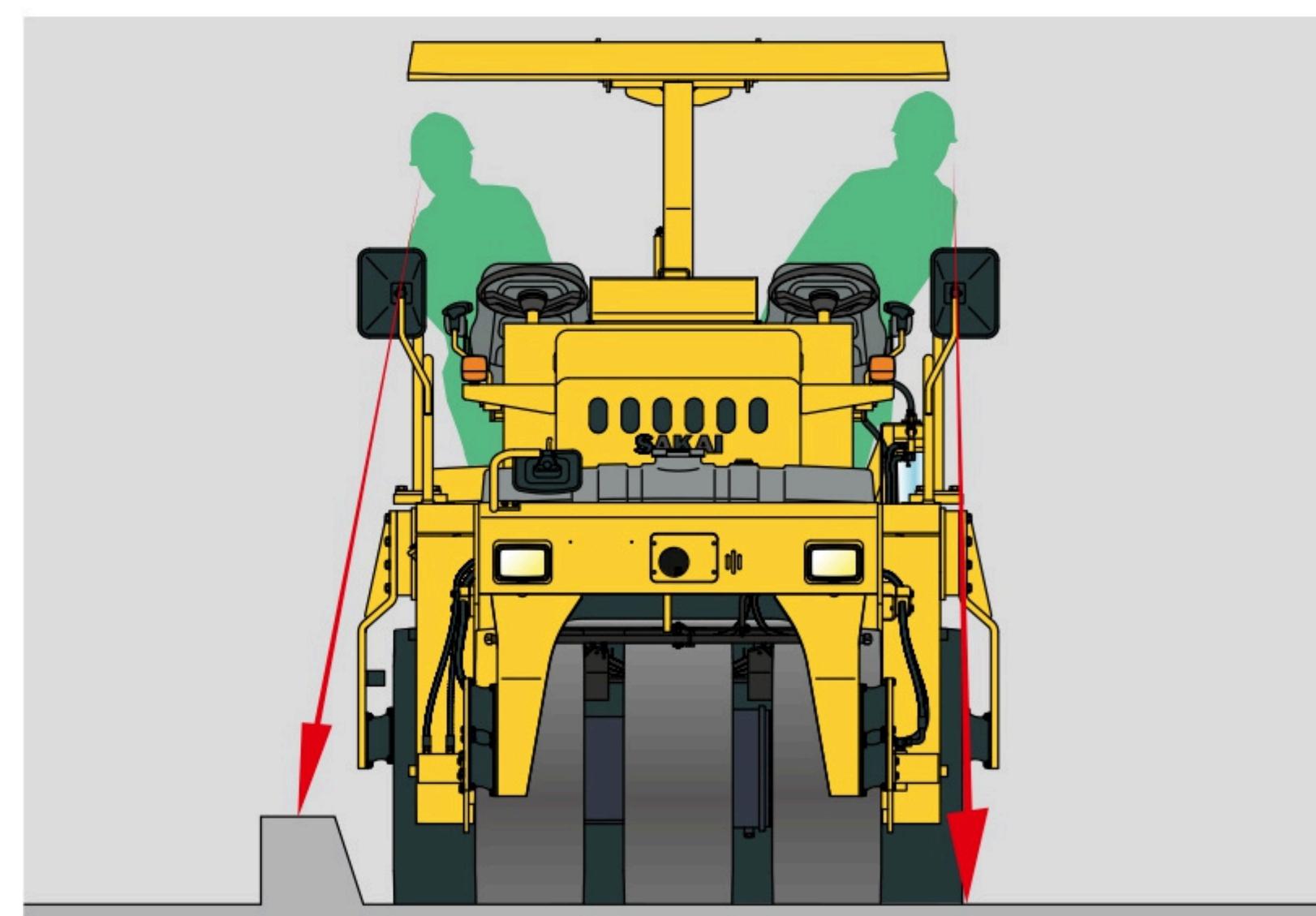
● 1 m x 1 m visibility

- The operator is able to have excellent all around visibility from the operator seat. Blind spot is very small.



● Tire edge visibility with two seats side by side

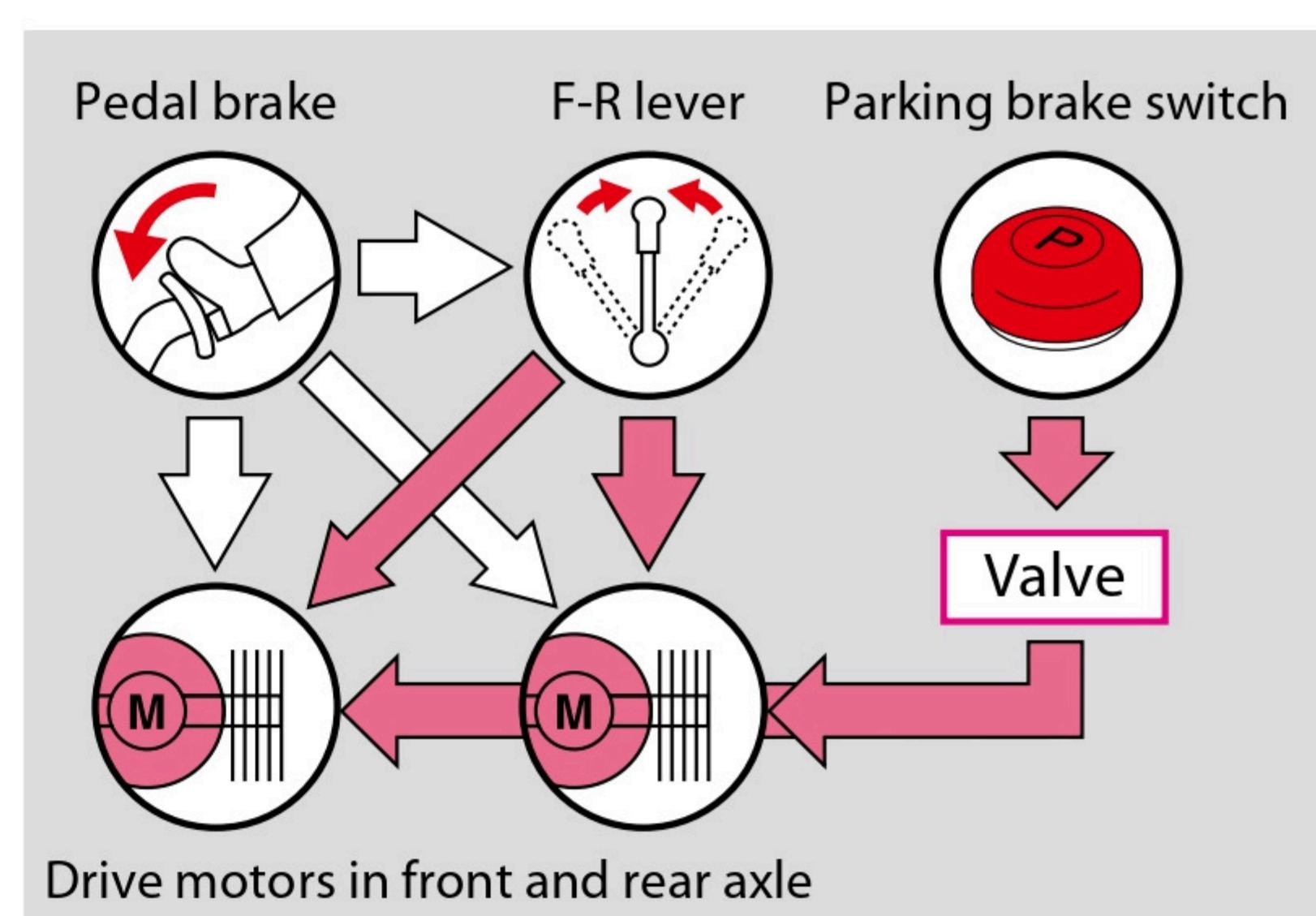
- Good visibility along curbs and in tight spaces



● Brake system

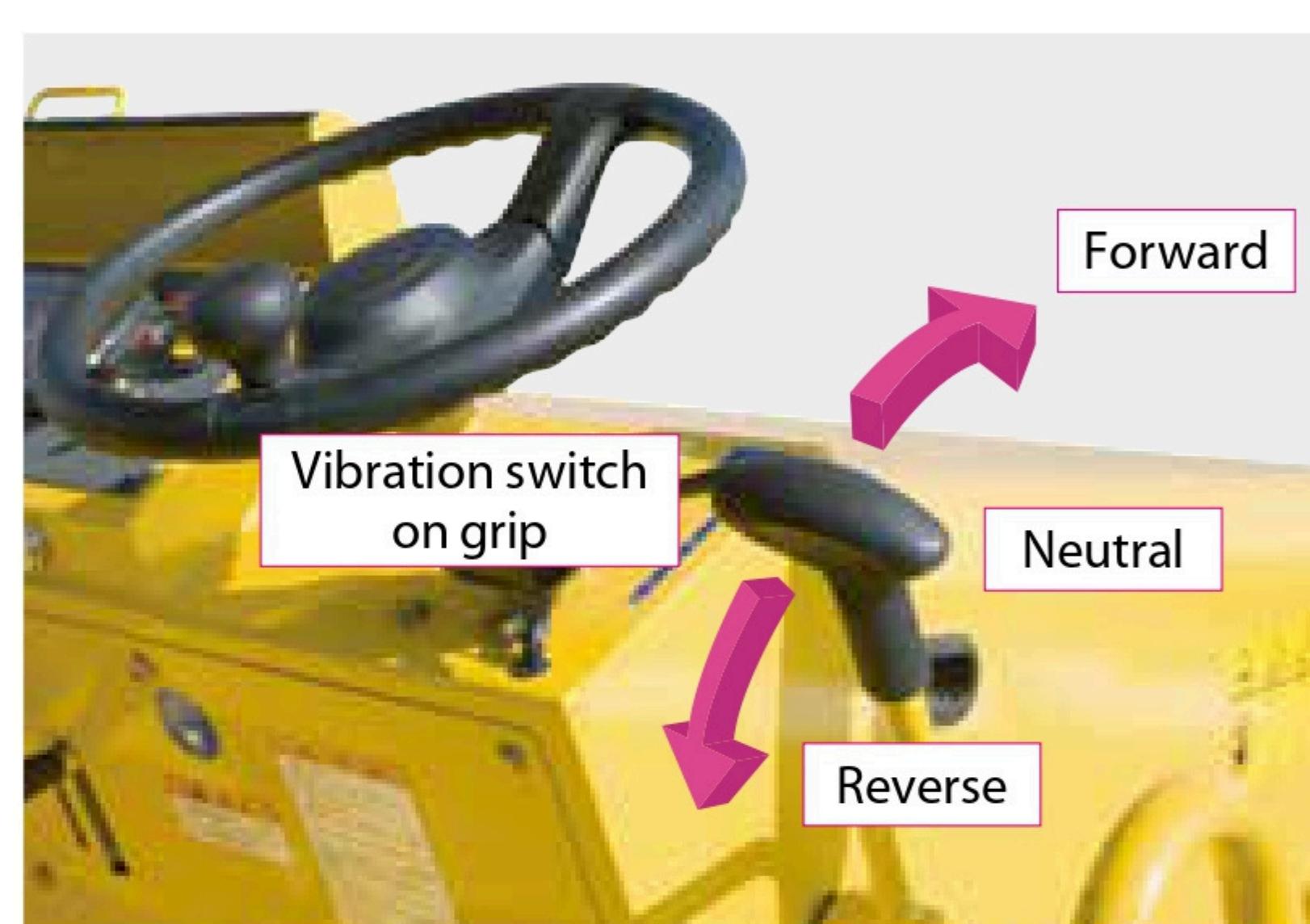
- Emergency pedal brake
- Hydrostatic primary brake
- SAHR^{*4} secondary brake for parking and emergency auto brake

^{*4} SAHR: Spring-Applied, Hydraulically Released brake



● Interlock of engine start with a Forward-Reverse (F-R) lever

- Engine can be cranked only when F-R lever is placed in the neutral position
- Vibration switch mounted on the grip of F-R lever



● ROPS CANOPY (Optional)

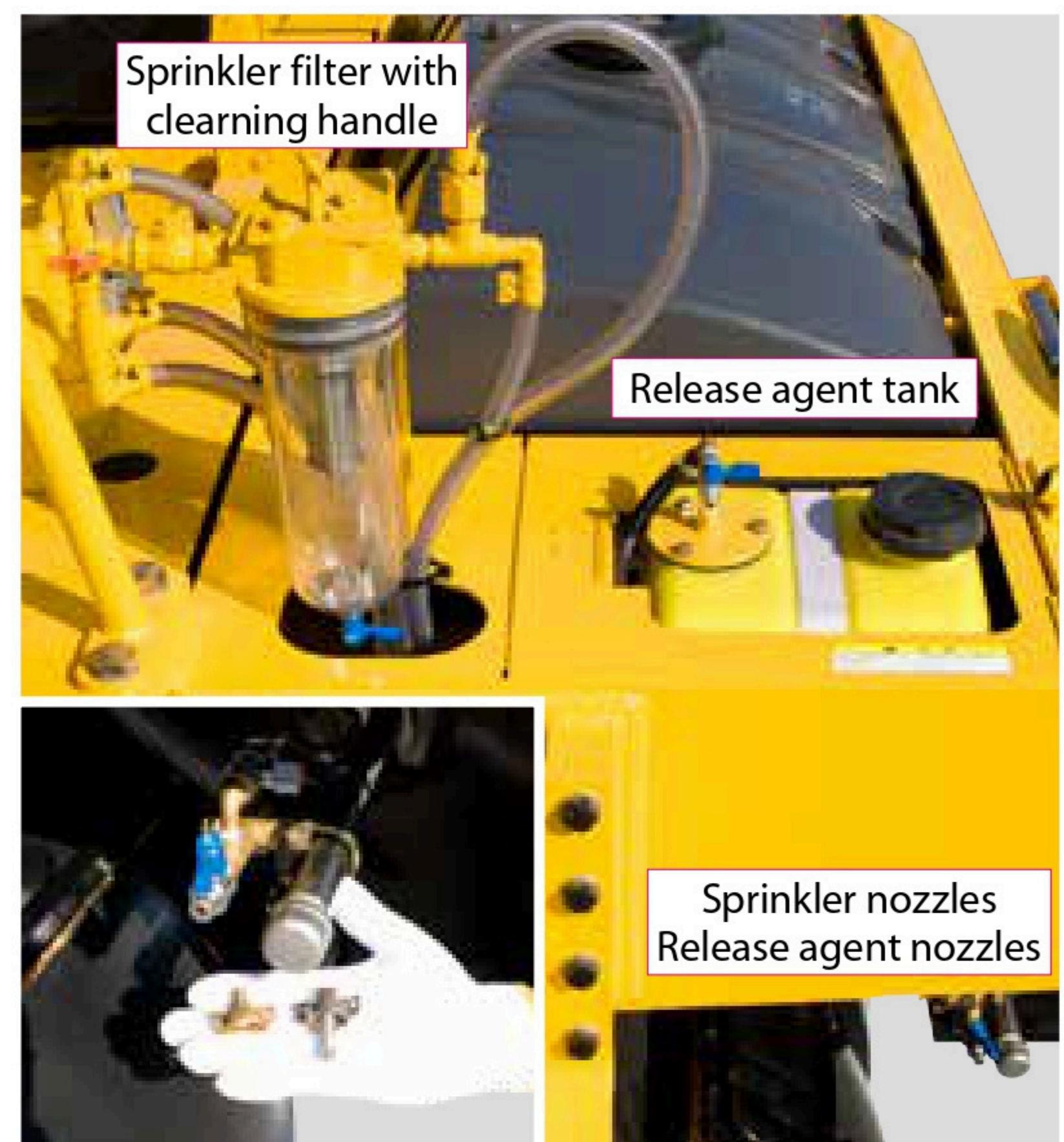


Environment friendly

● Rustproof sprinkler and release agent spray systems

● Water sprinkler system

- Plastic water tank (300 L x 2)
- Visible water gauge from operator seat
- Inline filter with a handle for cleaning filter element
- Stainless spray bars
- Brass quick - mount nozzles with filter
- Perfect winterization

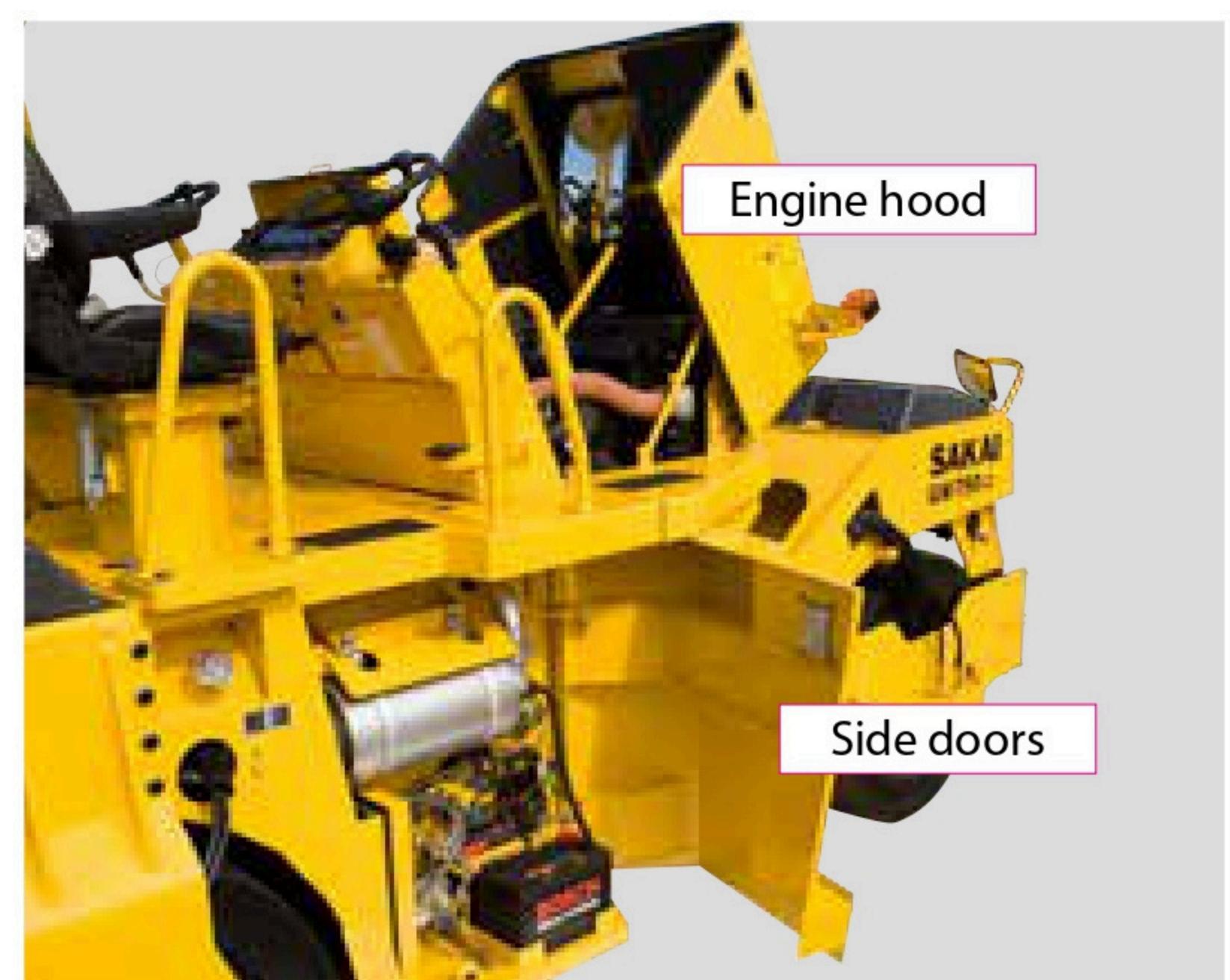


● Release agent spray system

- Plastic tank (Approx.20 L)
- Suction filter in the plastic tank
- Brass spray bars
- Brass quick - mount nozzles with filter
- Spray adjusting valves
- Perfect winterization

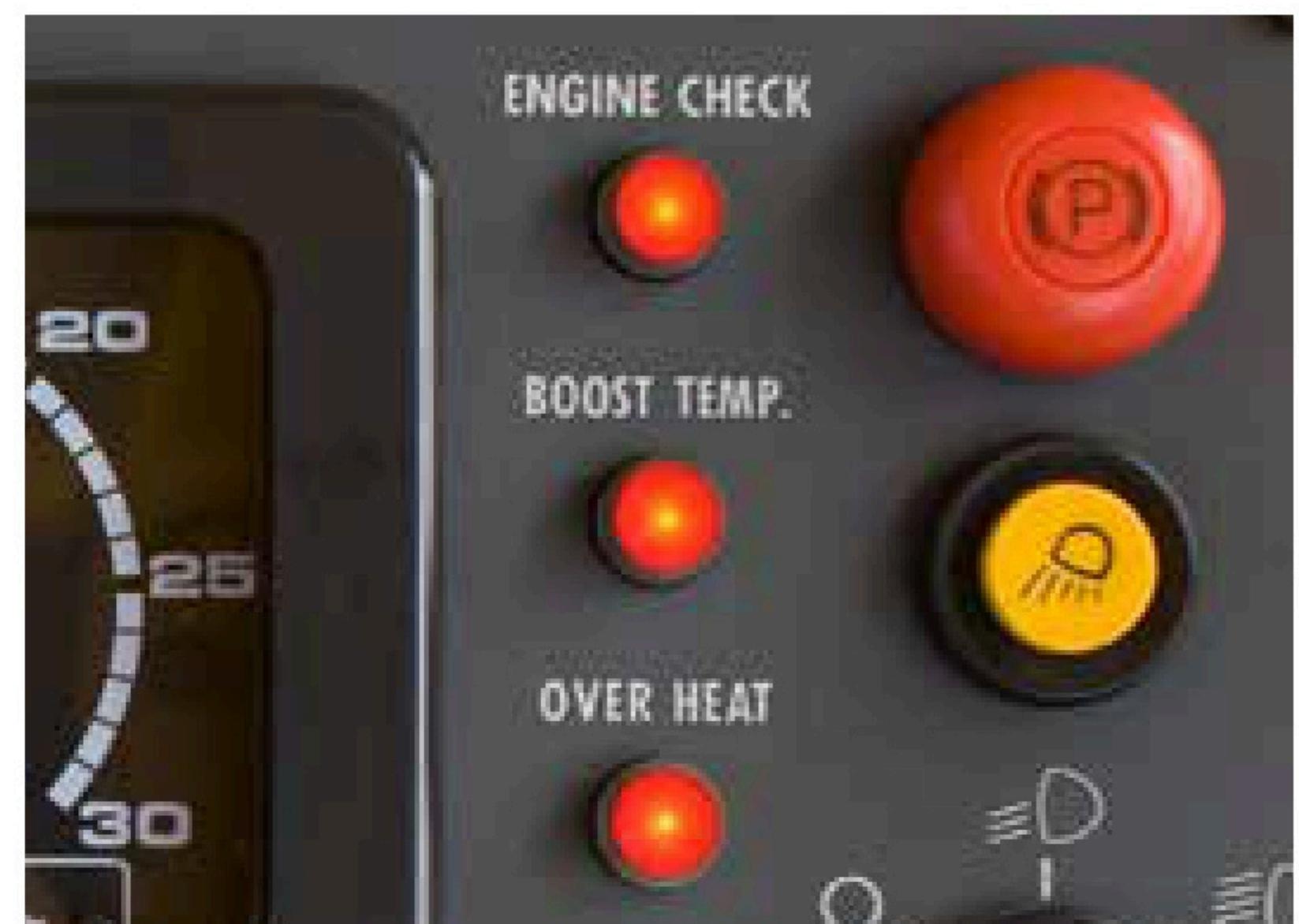
● Easy access to maintenance points

- Fully opened engine hood
- Wide doors accessible from the ground



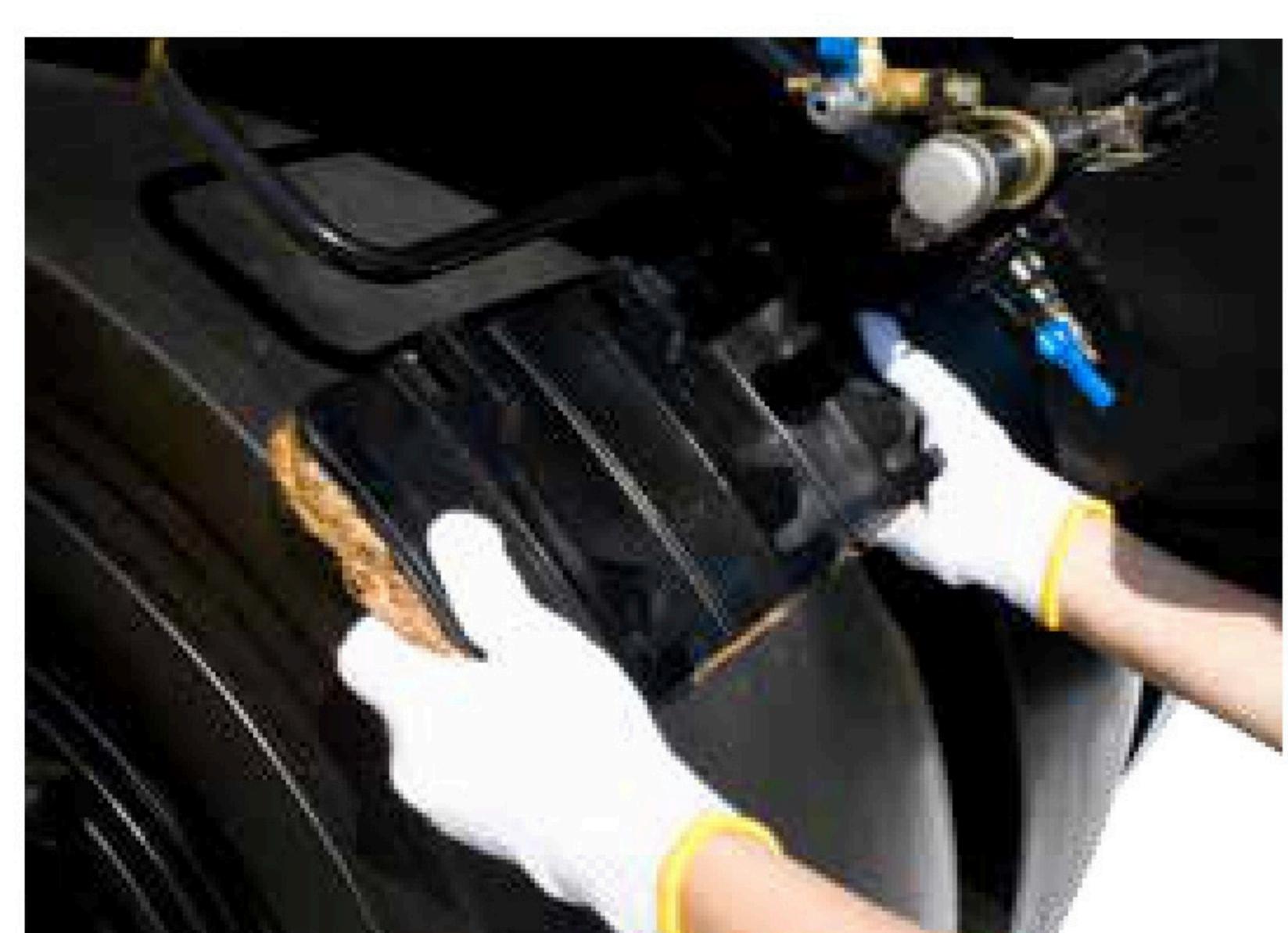
● Engine diagnostic indicators (Only GW750-2)

- **Engine check**
 - For electric control of engine
- **Boost Temp.**
 - For turbo and fuel temperature
- **Overheat**
 - For coolant temperature

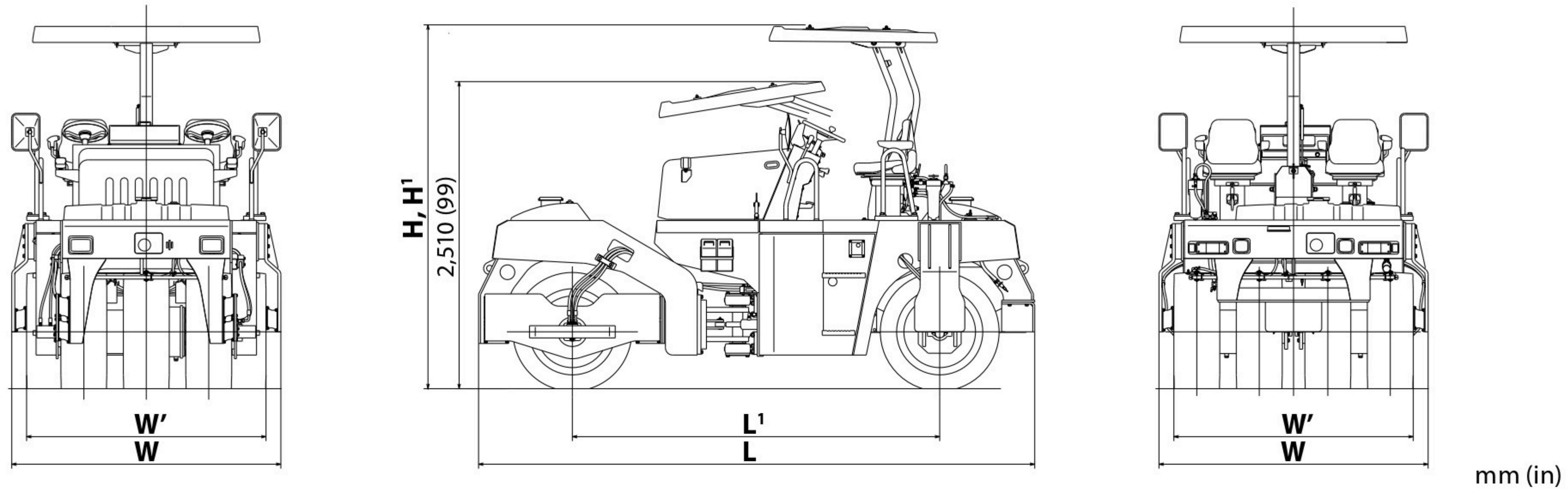


● Quick change Coco-mat (Optional)

- Flexible rubber mounted Coco-mat for quick change
- Coco mats fit tight to the tires



GW750 GW750-2



Vibratory Pneumatic Tired Roller		
TYPE	GW750	GW750-2
MODEL	VGW1	1GW2
CHASSIS MODEL		
WEIGHTS	kg (lbs)	kg (lbs)
Max. operating weight with AWNING	9,040 (19,930)	9,280 (20,460)
Max. operating weight with ROPS CANOPY	8,700 (19,185)	8,300 (18,300)
Operating weight with AWNING	3,710 (8,180)	4,990 (11,005)
Shipping weight with AWNING	2,510 (99)	2,510 (99)
Load on front axle - operating weight with AWNING	kg (lbs)	kg (lbs)
Load on rear axle - operating weight with AWNING	kg (lbs)	kg (lbs)
PERFORMANCE	kN (lbs)	kN (lbs)
Centrifugal force (Front 1/2/3/4)	6 / 19 / 32 / 45 (1,345 / 4,270 / 7,190 / 10,115)	8 / 25 / 42 / 58 (1,750 / 5,505 / 9,415 / 13,125)
Centrifugal force (Rear 1/2/3/4)	Hz (vpm)	Hz (vpm)
Frequency	40 (2,400)	40 (2,400)
Amplitude (1/2/3/4)	mm (in)	mm (in)
Number of speed shifts	0.10 / 0.31 / 0.53 / 0.74 (0.004 / 0.012 / 0.021 / 0.029)	3
Speed range (1/2/3)	km / h (mph)	km / h (mph)
Gradeability	% (°)	38 (20)
Turning radius compacted surface (inside / outside)	m (in)	m (in)
DIMENSIONS	mm (in)	mm (in)
Overall length L	4,540 (179)	4,540 (179)
Overall width W	2,200 (87)	2,200 (87)
Overall height at the top of steering wheel	2,185 (86)	2,185 (86)
Overall height (with AWNING) H	2,975 (117)	2,975 (117)
Overall height (with ROPS) H ¹	3,035 (119)	3,035 (119)
Wheelbase L ¹	3,000 (118)	3,000 (118)
Compaction width W'	1,950 (77)	1,950 (77)
Tire size x Number of tires (Front / Rear)	14 / 70 - 20 - 12 PR (3/4)	14 / 70 - 20 - 12 PR (3/4)
Inflation (each wheels)	kPa (psi)	441 (63.9)
Ground clearance	mm (in)	mm (in)
Curb clearance	265 (10)	245 (10)
Side clearance	mm (in)	125 (5)
ENGINE	ISUZU "DD-4BG1T" Tier2 : equivalent	ISUZU "4JJ1XDIA" Tier3 : equivalent
Type	Diesel, water-cooled, 4-cycle, 4-cylinder inline, with turbo charger	
Displacement	L (cu.in)	4.329 (264.2)
Rated output	kW (HP)/min ⁻¹	78.8 (106) / 2,300
Electric system battery	V (V / Ah x Qty)	24 (12 / 80Ah x 2)
Electric system alternator	V/A	24 / 50
DRIVE SYSTEM	Power transmission type	Hydrostatic
Drive wheel		All wheel
VIBRATION SYSTEM	Power transmission type	Hydraulic
Number of amplitude		4
Vibrator type		Variable eccentric shaft
BRAKE SYSTEM	Service brake	Dynamic braking through hydrostatic drive system / FNR lever
Secondary brake (Emergency brake)		Hydrostatic + Spring applied hydraulically released type (SAHR) / Brake pedal
Parking brake		SAHR / Panel button
STEERING SYSTEM	Power transmission type	Hydraulic
Articulation / Oscillation angle	± (°)	37 / 6
FLUID CAPACITY	Fuel tank	L (gal)
	Hydraulic oil tank	L (gal)
	Water Sprinkler tank	L (gal)

● Max. operating weight: 100 % fuel, 100 % water, operator 75 kg
 ● Operating weight: 50 % fuel, 50 % water, operator 75 kg
 ● Specifications are subject change without notice.

● All units are SI units. Inside of () is for reference units.
 ● Above specified numbers could be deviated within ±5 %.

* Using low quality fuel may cause engine failure.

Standard Equipment:

- AWNING
- Instrument panel
- Gauges
- Backup alarm
- Horn
- Working lights
- Pressurized water sprinkler system
- Intermittent water spray timer
- Release agent spray system

Optional Equipment:

- ROPS CANOPY
- Cocomat
- 4 points lifting hook