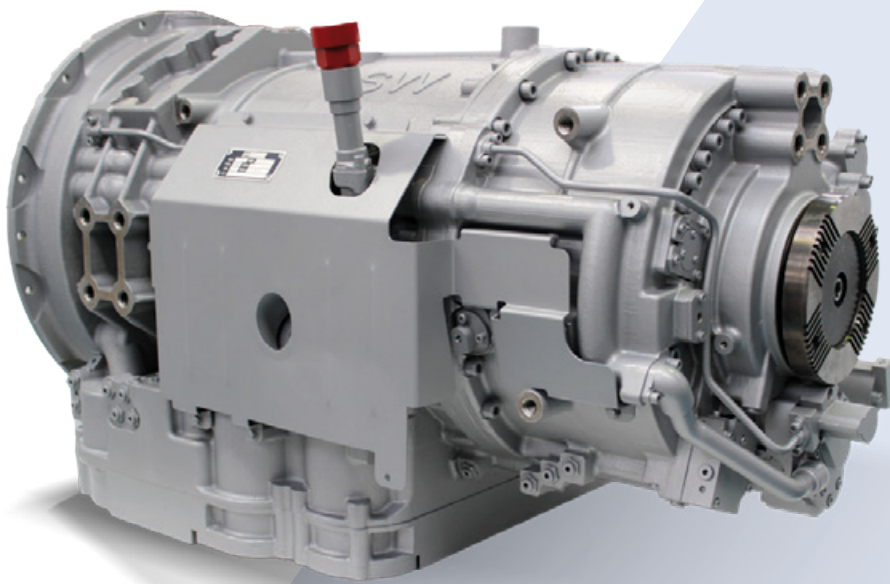


SAPA PLACENCIA

Wheeled Vehicle Transmissions



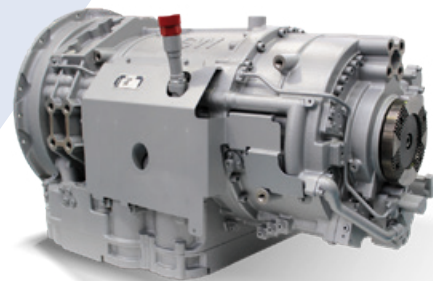
Super efficient powershift automatic transmission for wheeled military vehicles

The very high mobility requirements, the reclaim of weight, power & space and the actual relevance of the fuel consumption require a re-thinking and a new vision of the automatic transmission concept and design.

Continuing the development of its new technology, SAPA Placencia started the design of its entire SW family of transmissions for wheeled vehicle applications. A concept aimed at reducing the power losses of the conventional powershifting transmission eliminating the torque converter, reducing the spin losses-due to hydraulic pumps and friction discs-, and improving its mobility on variable terrain situations.

Thanks to its unique and patented multigear concept, the transmission exhibits a very high ratio spread of 31 with 24 gears divided in equal steps with 16% increments. This allows a quasi-continuous variable transmission behaviour and as a result an optimization of engine operation.

Additionally, the advanced shifting system allows a multigear system with wider overall ratio and narrower step between gears than a manual automated transmission but without power interruption in gear shifts. These features provide very high mobility on extreme situations.



The transmission with its planetary gear modules, low drag friction discs and specially developed synchronizer system presents the highest torque/power to weight ratio of the powershift transmission market.

Rating & specification

Ratings

Model	Max. Input Power (hp (kW))	Max. Input Torque (Nm)	Max. Output Torque (Nm)
SW 516	600 (447)	2200	13200
SW 524	600 (447)	2200	21000
SW 616	800 (596)	3000	18000
SW 624	800 (596)	3000	25000

Engine speeds

Model	Full load speed Min-Max (rpm)	Idle speed Min-Max (rpm)
SW 516 / 524 / 616 / 624	1800 - 2300	600 - 800

Gear Ratios

Model SW 516 / 616

Forward				Reverse			
Gear	Ratio	Gear	Ratio	Gear	Ratio	Gear	Ratio
1	6	9	1,83	1	5	3	3,64
2	5,16	10	1,58	2	4,33	4	3,13
3	4,36	11	1,33				
4	3,75	12	1,15				
5	3,27	13	1				
6	2,81	14	0,86				
7	2,38	15	0,73				
8	2,04	16	0,62				

Model SW 524 / 624

Forward				Reverse			
Gear	Ratio	Gear	Ratio	Gear	Ratio	Gear	Ratio
1	19	13	3,27	1	21,74	5	5
2	16,3	14	2,81	2	16,68	6	4,3
3	14,23	15	2,38	3	15,81	7	3,64
4	12,23	16	2,04	4	13,59	8	3,13
5	10,35	17	1,83				
6	8,89	18	1,58				
7	7,97	19	1,33				
8	6,85	20	1,15				
9	6	21	1				
10	5,16	22	0,86				
11	4,36	23	0,73				
12	3,75	24	0,62				

Power take off provision

Drive	Engine
Mounting position	11 and 1 o'clock
Gear Rating (PTO #1)	950 Nm
Gear Rating (PTO #2)	1500 Nm

Physical description

Model	Length (mm)	Height (mm)	Width (mm)	Dry weight (kg)
SW 516	770	600	550	370
SW 524	930	600	550	450
SW 616	790	600	550	400
SW 624	948	600	550	490

Oil system

Model	Capacity (l)	Filters	Oil level sensor
SW 516	30	Integral	Standard
SW 524	35	Integral	Standard
SW 616	30	Integral	Standard
SW 624	35	Integral	Standard

Applications

