Claims

1. Reel system (26a, 26b, 26c) for a vehicle (2), especially for a guided missile, comprising an underwater reel (30a, 30b, 30c) with at least one spindle (34a, 34b, 34c) and at least one winding package (36a, 36b, 36c), which is provided for withdrawal during underwater travel of the vehicle (2), an air reel (28a, 28b, 28c) with at least one spindle (34a, 34b, 34c) and at least one winding package (38a, 38b, 38c), which is provided for a subsequent airborne withdrawal up to a target (14) and for remaining on the vehicle (2) until then, and a continuous data line (4) that is wound on both reels (28a, 28b, 28c, 30a, 30b, 30c),
c h a r a c t e r i z e d i n t h a t
the underwater reel (30a, 30b, 30c) is drop-resistant attached to the air reel (28a, 28b, 28c) ~~so as to be secure against being dropped~~ that both reels remain at the vehicle.

2. Reel system (26a, 26c) according to Claim 1,
c h a r a c t e r i z e d i n t h a t
an inner diameter of an output opening of the underwater reel (30a, 30c) is larger than an outer diameter of an output opening (60a, 60c) of the air reel (28a, 28c) towards the rear.

3. Reel system (26a, 26b, 26c) according to Claim 1 or 2,
c h a r a c t e r i z e d i n t h a t
a line transition in the form of a transition segment (42) from a winding package (36a, 36b, 36c) of the underwater reel (30a, 30b, 30c) to a winding package (38a, 38b, 38c) of the air reel (28a, 28b, 28c) is fixed onto the winding package (38a, 38b, 38c) of the air reel (28a, 28b, 28c).

4. Reel system (26b, 26c) according to any one of the preceding claims,

c h a r a c t e r i z e d i n t h a t
the rearward-facing groove segment (84) of the laying groove (70c) emerges axially rearwards in the tangential withdrawal direction of the data line (4).

22. Reel system (26c) according to any one of claims 16 to 20,
c h a r a c t e r i z e d i n t h a t
the groove segment (82) facing towards the winding package (36c) of the underwater reel (30c) is oriented at an angle (ß) of at least 75° to the axial direction of the reel system (26c).

23. Reel system (26c) according to any one of the preceding claims,
c h a r a c t e r i z e d i n t h a t
the data line (4) between the underwater reel (30a, 30b, 30c) and the air reel (28a, 28b, 28c) is wound on an intermediate reel (80), which is disposed radially within the bottom of the winding of the at least one spindle (34a, 34b, 34c) of the air reel (28a, 28b, 28c).

24. Vehicle (2), especially a guided missile with a rocket engine, with a reel system (26a, 26b, 26c) disposed at the rear, especially according to any one of the preceding claims, in which an underwater reel (30a, 30b, 30c) provided for withdrawal of a data line (4) during underwater travel of the vehicle (2) is drop-resistant attached at the rear with at least one spindle (34a, 34b, 34c) and at least one winding package (36a, 36b, 36c) of the reel system (26a, 26b, 26c) ~~in such a manner as to secure against being dropped~~, especially being attached to an air reel (28a, 28b, 28c) of the reel system (26a, 26b, 26c), so that the underwater reel (30a, 30b, 30c)

remains fixedly joint to the air reel (28a, 28b, 28c) during underwater travel and above water travel to a target of the vehicle (2).

25. Method for winding a reel system (26c) with a data line (4), which is implemented for maintaining a data link between a moving vehicle (2), especially a guided missile in flight, and a control centre (6), with which the data line (4) is initially wound on a spindle (32c) of an air reel (28c) and then on a spindle (34c) of an underwater reel (30c) of the reel system (26c),
c h a r a c t e r i z e d i n t h a t
the spindle (34c) of the underwater reel (30c) is retained during winding in a position in which there is an output opening (60c) between said spindle (34c) and the spindle (32c) of the air reel (28c) for outputting the data line (4) during withdrawal from the air reel (28c).

26. Method for winding a reel system (26c) according to Claim 25,
c h a r a c t e r i z e d i n t h a t
the spindle (34c) of the underwater reel (30c) is retained in its winding position during winding by an auxiliary retainer, which is removed after winding and the spindle (34c) is then attached to the air reel (28c) so as to be operationally ready.