CLAIMS

1. A suspension system (S; S1; S2) for a tracked vehicle (V; V1; V2), said tracked vehicle comprising a vehicle body (4), a pair of opposite track assemblies, the respective track assembly comprising a plurality of road wheels and an endless track disposed around said wheels, said suspension system comprising a road wheel arm (20) having a wheel axle portion (22) configured to support a road wheel of the vehicle and a pivot axle portion (24), the road wheel arm (20) being pivotably journalled at said pivot axle portion (24) to a support portion (30) configured to be fixed to the vehicle body (4), the suspension system comprising a torsion bar (40) having a first end portion (42) and an opposite second end portion (44), the first end portion (42) being connected to the support portion (30), wherein the suspension system comprises an adjustment device (100) connected to the second end portion (44) of the torsion bar (40), the adjustment device being configured to adjust the torque on the torsion bar so as to adjust the height of the vehicle body relative to said pair of track assemblies, the suspension system comprising a control device (200) configured to control the adjustment device (100), **characterized in that** the control device (200) is configured to control the adjustment device (100) so as to control the aiming range of a gun barrel (6) of the tracked vehicle.

2. The suspension system according to claim 1, wherein the adjustment device (100) is connected to the vehicle body (4).

3. The suspension system according to claim 1 or 2, wherein the adjustment device (100) is operable between an adjustment mode for said torque adjustment on the torsion bar (40) and a non-adjustment mode during which the adjustment device is configured to maintain the torque on the torsion bar (40).

4. The suspension system according to any of claims 1-3, wherein the second end portion (44) is connected to the adjustment device (100) via a connecting element (60) configured to be pivotably connected to the vehicle body (4).

5. The suspension system according to any of claims 1-4, wherein the connecting element (60) is arranged on the opposite side of the vehicle body (4) in connection to the opposite track assembly.

6. The suspension system according to claim 4, further comprising a torsion tube (50) being arranged to surround at least a portion of the torsion bar (40), the torsion tube (50) having a first end portion (52) being fixedly connected to the connecting element (60) and an opposite second end portion (54) being connected to the second end portion (44) of the torsion bar, wherein the connecting element (60) is arranged at the support portion (30).

7. The suspension system according to any of claims 4-6, wherein adjustment device (100) is configured apply said torque on the connecting element (60) so as to adjust the torque on the torsion bar (40).

8. The suspension system according to any of claims 1-7, wherein the adjustment device (100) comprises an electric motor.

9. A tracked vehicle (V; V1; V2) comprising a vehicle body (4), a pair of opposite track assemblies (T1, T2), the respective track assembly comprising a plurality of road wheels (2) and an endless track (3) disposed around said wheels, the tracked vehicle further comprising a suspension system according to any of claims 1-8.

10. The tracked vehicle according claim 9, wherein the suspension system comprises a road wheel arm (20) for each road wheel (2) and adjustment devices (100) connected to at least torsion bars (40) for opposite rear and/or opposite front road wheels.

11. The tracked vehicle according to claims 9 or 10, wherein the tracked vehicle comprises a vehicle mounted weapon system (C), the weapon system

comprising a gun barrel (6) mounted to a turret (5) via a gun barrel elevation device arranged to allow elevation movement of the gun barrel (6) about an elevation axis (Z), wherein the torque of one or more or more torsion bars (40) is configured to be adjusted by means of adjustment device (100) so as to control the aiming range of the gun barrel (6).

12. A method (M1; M2) for controlling a suspension system, according to any of claims 1-8, of a tracked vehicle, the tracked vehicle comprising a vehicle mounted weapon system (C), the weapon system comprising a gun barrel (6) mounted to a turret (5) via a gun barrel elevation device arranged to allow elevation movement of the gun barrel (6) about an elevation axis (Z), the method comprising the step (S11) of adjusting the torque on one or more torsion bars so as to adjust the aiming range of the gun barrel.

13. The method according to claim 12, wherein the step of adjusting the torque on one or more torsion bars (40) is based on direction of the gun barrel (6) relative to the longitudinal extension of the vehicle and level of target area relative to the position of the vehicle.