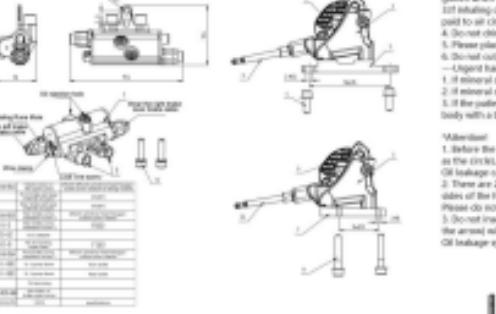


Installation Instructions for GW-R391 Bicycle Cable Pulling Hydraulic Disc Brake

(Recommended to be carried out by professionals)

Included Parts



Warning

To ensure the safety of using the semi hydraulic disc brake, please follow the following instructions:
 1. The semi hydraulic disc brake is a sealed system, that has passed air-pressure testing, so it is absolutely necessary to tighten any screws on the system, otherwise it will cause oil leakage and brake failure.
 2. When the disc brakes are used, or deformed, please replace it.
 3. Do not use violence to pry and press the caliper piston, as this behavior may damage the piston and cause oil to overflow from the upper pump oil cup cover.
 4. Any leakage of brake fluid is allowed, if there is a leakage, please stop riding and return to the dealer for inspection and repair.
 5. Brake over-tightening, there will be slight scratches on the surface of the disc, which will become deeper as the number of braking cycles increases, therefore, please regularly check the condition of the disc, if the disc is deformed or has deep wear mark thickness <1.5mm, please replace it with a new one.
 6. After cleaning or strong braking, the surface temperature of the disc will be very high. Do not touch it with your hands to avoid the risk of burns, when adjusting the brake, please check and confirm that the brake components have been fully cooled.
 7. Before riding, please make sure to confirm whether the brake system has normal braking function.
 8. Discs and master cylinder must never be contaminated with oil, otherwise there is a risk of brake failure.
 9. If the disc is contaminated with oil, please clean with alcohol. If the brake pads are contaminated with oil, please replace them.

Precautions

1.Before installation, the piston cannot be operated arbitrarily because this semi hydraulic disc brake has an automatic compensation function. Therefore, the piston of the oil bearing piston caliper moves forward and backward for compensation, so as to ensure the safety of the system and prevent the installation. Therefore, when the piston is activated, the center of the clearance. At this time, the accompanying piston must be inserted in the opposite direction between the brake pads, and then the brake pads should be pushed back to their original position. (Do not cause serious damage to the piston material surface of the disc directly with your hands, as the grease on your fingers can damage the bearing surface of the disc directly.)
 2. Do not touch the brake surface of the disc directly with your hands, as the grease on your fingers can damage the bearing surface of the disc directly.
 3. This system can only use mineral oil or universal mineral oil, if other types of oil are used, it cannot cause brake operation failure and render the system unusable.
 4. Please make sure to only use oil in the oil tank reported and do not reuse the oil exchanged from the drain hole here. Oil or reused oil may contain moisture, which may affect the braking performance of the brakes.
 5. When using the braking distance on rainy days, it will increase, so please pay attention to reducing the speed and increasing the distance.
 6. If the oil tank is not cleaned or maintained, oil leakage may occur, that is, when the oil in the brake system is leaked, the water or bubbles in the system expand, causing the brake lever to become increasingly heavy. Please temporarily release the handle at this time.
 7. If oil leakage occurs, please stop using the brake immediately and consult the dealer or agent.
 8. When cleaning or maintaining the hydraulic disc brake, please use alcohol, soapy water, neutral cleaners, and a cloth to wipe it.

Installation of calipers (see figure)

The adaptive unit of the caliper is designed according to international standard specifications. Please choose the front wheel (F) or rear wheel (R) according to the disc size. Insert the adapter and use appropriate tools for installation.
 ① Select the appropriate caliper holder according to the size of the disc, and fix the caliper onto the caliper holder.
 ② Fix the caliper with the front seat on the disc brake fixing hole of the front fork or rear frame using two M5 x 1.0 length different models and front and rear seat screws and flat pads, be careful (Do not tighten it yet). After the installation of the pump on the upper pump oil pull oil is completed, adjust the wire pull oil brake caliper and then tighten the fixing screws.
 ③ After cleaning or maintaining the hydraulic disc brake, please use alcohol, soapy water, neutral cleaners, and a cloth to wipe it.

*Precautions for using mineral oil

① Use of mineral oil (Mineral oil):
 1. If mineral oil enters the eyes, it may cause inflammation. Please wear protective glasses when using, to prevent it from entering the eyes.
 2. If mineral oil comes into contact with the skin, it may cause inflammation. Please wear protective glasses when using.
 3. If mineral oil gets into the eyes, it may cause discomfort to the body, and attention should be paid to oil circulation.
 4. Mineral oil is not flammable, as it may cause allergies and vomiting.
 5. Please clean it out of the eyes of children.
 6. Do not eat, heat, eat more or consume mineral substances, as it may cause explosions or fire.
 7. If mineral oil enters the eyes, rinse with plenty of water and seek medical treatment immediately.
 8. If mineral oil gets on the skin, please wash thoroughly with soapy water.
 9. If the product accidentally spills mineral oil or gas, please move the patient outdoors and wrap the skin with a blanket to stop it from leaking, keep clean, and seek medical treatment.

② Mineral oil:
 1. Before the system is installed, please do not press the circular piston on the side of the body (such as the O-rings), as it may cause cracks.
 2. Do not use mineral oil.
 3. There are 2 sets of oil seals and 4 cover plate screws (such as square rings) above and on both sides of the hydraulic disc brake caliper body.
 Please do not loosen or remove the screws to avoid system failure caused by oil leakage.
 ③ Do not insert or push the piston inside the two rear holes on the oil cap cover plate (as indicated by the arrow) with tools to avoid the oil cap.
 Oil leakage system malfunction.



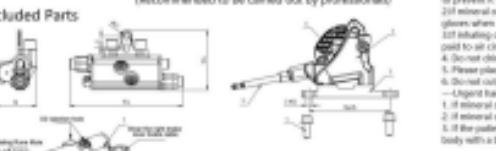
*Installation of pump on hydraulic disc brake (see figure)

Place the upper pump body in the handlebar installation position and for the upper pump installation screws in the order shown in the diagram (Figure 16). Lock the upper pump body to a torque of 1.5 Nm (Figure 16).
 ① Installation of pump body (see figure)
 ② Front screw locking sequence (Figure 50)
 ③ Front screw locking torque (Figure 61)



*Installation of calipers (see figure)

The adaptive unit of the caliper is designed according to international standard specifications. Please choose the front wheel (F) or rear wheel (R) according to the disc size. Insert the adapter and use appropriate tools for installation.
 ① Select the appropriate caliper holder according to the size of the disc, and fix the caliper onto the caliper holder.
 ② Fix the caliper with the front seat on the disc brake fixing hole of the front fork or rear frame using two M5 x 1.0 length different models and front and rear seat screws and flat pads, be careful (Do not tighten it yet). After the installation of the pump on the upper pump oil pull oil is completed, adjust the wire pull oil brake caliper and then tighten the fixing screws.
 ③ After cleaning or maintaining the hydraulic disc brake, please use alcohol, soapy water, neutral cleaners, and a cloth to wipe it.



*Oil pipe assembly

① Tool preparation:
 1. Oil tank:
 2. Oil tank:
 3. Oil tank:
 4. Oil tank:
 5. Oil tank:
 6. Oil tank:
 7. Oil tank:
 8. Oil tank:
 9. Oil tank:
 10. Oil tank:
 11. Oil tank:
 12. Oil tank:
 13. Oil tank:
 14. Oil tank:
 15. Oil tank:
 16. Oil tank:
 17. Oil tank:
 18. Oil tank:
 19. Oil tank:
 20. Oil tank:
 21. Oil tank:
 22. Oil tank:
 23. Oil tank:
 24. Oil tank:
 25. Oil tank:
 26. Oil tank:
 27. Oil tank:
 28. Oil tank:
 29. Oil tank:
 30. Oil tank:
 31. Oil tank:
 32. Oil tank:
 33. Oil tank:
 34. Oil tank:
 35. Oil tank:
 36. Oil tank:
 37. Oil tank:
 38. Oil tank:
 39. Oil tank:
 40. Oil tank:
 41. Oil tank:
 42. Oil tank:
 43. Oil tank:
 44. Oil tank:
 45. Oil tank:
 46. Oil tank:
 47. Oil tank:
 48. Oil tank:
 49. Oil tank:
 50. Oil tank:
 51. Oil tank:
 52. Oil tank:
 53. Oil tank:
 54. Oil tank:
 55. Oil tank:
 56. Oil tank:
 57. Oil tank:
 58. Oil tank:
 59. Oil tank:
 60. Oil tank:
 61. Oil tank:
 62. Oil tank:
 63. Oil tank:
 64. Oil tank:
 65. Oil tank:
 66. Oil tank:
 67. Oil tank:
 68. Oil tank:
 69. Oil tank:
 70. Oil tank:
 71. Oil tank:
 72. Oil tank:
 73. Oil tank:
 74. Oil tank:
 75. Oil tank:
 76. Oil tank:
 77. Oil tank:
 78. Oil tank:
 79. Oil tank:
 80. Oil tank:
 81. Oil tank:
 82. Oil tank:
 83. Oil tank:
 84. Oil tank:
 85. Oil tank:
 86. Oil tank:
 87. Oil tank:
 88. Oil tank:
 89. Oil tank:
 90. Oil tank:
 91. Oil tank:
 92. Oil tank:
 93. Oil tank:
 94. Oil tank:
 95. Oil tank:
 96. Oil tank:
 97. Oil tank:
 98. Oil tank:
 99. Oil tank:
 100. Oil tank:
 101. Oil tank:
 102. Oil tank:
 103. Oil tank:
 104. Oil tank:
 105. Oil tank:
 106. Oil tank:
 107. Oil tank:
 108. Oil tank:
 109. Oil tank:
 110. Oil tank:
 111. Oil tank:
 112. Oil tank:
 113. Oil tank:
 114. Oil tank:
 115. Oil tank:
 116. Oil tank:
 117. Oil tank:
 118. Oil tank:
 119. Oil tank:
 120. Oil tank:
 121. Oil tank:
 122. Oil tank:
 123. Oil tank:
 124. Oil tank:
 125. Oil tank:
 126. Oil tank:
 127. Oil tank:
 128. Oil tank:
 129. Oil tank:
 130. Oil tank:
 131. Oil tank:
 132. Oil tank:
 133. Oil tank:
 134. Oil tank:
 135. Oil tank:
 136. Oil tank:
 137. Oil tank:
 138. Oil tank:
 139. Oil tank:
 140. Oil tank:
 141. Oil tank:
 142. Oil tank:
 143. Oil tank:
 144. Oil tank:
 145. Oil tank:
 146. Oil tank:
 147. Oil tank:
 148. Oil tank:
 149. Oil tank:
 150. Oil tank:
 151. Oil tank:
 152. Oil tank:
 153. Oil tank:
 154. Oil tank:
 155. Oil tank:
 156. Oil tank:
 157. Oil tank:
 158. Oil tank:
 159. Oil tank:
 160. Oil tank:
 161. Oil tank:
 162. Oil tank:
 163. Oil tank:
 164. Oil tank:
 165. Oil tank:
 166. Oil tank:
 167. Oil tank:
 168. Oil tank:
 169. Oil tank:
 170. Oil tank:
 171. Oil tank:
 172. Oil tank:
 173. Oil tank:
 174. Oil tank:
 175. Oil tank:
 176. Oil tank:
 177. Oil tank:
 178. Oil tank:
 179. Oil tank:
 180. Oil tank:
 181. Oil tank:
 182. Oil tank:
 183. Oil tank:
 184. Oil tank:
 185. Oil tank:
 186. Oil tank:
 187. Oil tank:
 188. Oil tank:
 189. Oil tank:
 190. Oil tank:
 191. Oil tank:
 192. Oil tank:
 193. Oil tank:
 194. Oil tank:
 195. Oil tank:
 196. Oil tank:
 197. Oil tank:
 198. Oil tank:
 199. Oil tank:
 200. Oil tank:
 201. Oil tank:
 202. Oil tank:
 203. Oil tank:
 204. Oil tank:
 205. Oil tank:
 206. Oil tank:
 207. Oil tank:
 208. Oil tank:
 209. Oil tank:
 210. Oil tank:
 211. Oil tank:
 212. Oil tank:
 213. Oil tank:
 214. Oil tank:
 215. Oil tank:
 216. Oil tank:
 217. Oil tank:
 218. Oil tank:
 219. Oil tank:
 220. Oil tank:
 221. Oil tank:
 222. Oil tank:
 223. Oil tank:
 224. Oil tank:
 225. Oil tank:
 226. Oil tank:
 227. Oil tank:
 228. Oil tank:
 229. Oil tank:
 230. Oil tank:
 231. Oil tank:
 232. Oil tank:
 233. Oil tank:
 234. Oil tank:
 235. Oil tank:
 236. Oil tank:
 237. Oil tank:
 238. Oil tank:
 239. Oil tank:
 240. Oil tank:
 241. Oil tank:
 242. Oil tank:
 243. Oil tank:
 244. Oil tank:
 245. Oil tank:
 246. Oil tank:
 247. Oil tank:
 248. Oil tank:
 249. Oil tank:
 250. Oil tank:
 251. Oil tank:
 252. Oil tank:
 253. Oil tank:
 254. Oil tank:
 255. Oil tank:
 256. Oil tank:
 257. Oil tank:
 258. Oil tank:
 259. Oil tank:
 260. Oil tank:
 261. Oil tank:
 262. Oil tank:
 263. Oil tank:
 264. Oil tank:
 265. Oil tank:
 266. Oil tank:
 267. Oil tank:
 268. Oil tank:
 269. Oil tank:
 270. Oil tank:
 271. Oil tank:
 272. Oil tank:
 273. Oil tank:
 274. Oil tank:
 275. Oil tank:
 276. Oil tank:
 277. Oil tank:
 278. Oil tank:
 279. Oil tank:
 280. Oil tank:
 281. Oil tank:
 282. Oil tank:
 283. Oil tank:
 284. Oil tank:
 285. Oil tank:
 286. Oil tank:
 287. Oil tank:
 288. Oil tank:
 289. Oil tank:
 290. Oil tank:
 291. Oil tank:
 292. Oil tank:
 293. Oil tank:
 294. Oil tank:
 295. Oil tank:
 296. Oil tank:
 297. Oil tank:
 298. Oil tank:
 299. Oil tank:
 300. Oil tank:
 301. Oil tank:
 302. Oil tank:
 303. Oil tank:
 304. Oil tank:
 305. Oil tank:
 306. Oil tank:
 307. Oil tank:
 308. Oil tank:
 309. Oil tank:
 310. Oil tank:
 311. Oil tank:
 312. Oil tank:
 313. Oil tank:
 314. Oil tank:
 315. Oil tank:
 316. Oil tank:
 317. Oil tank:
 318. Oil tank:
 319. Oil tank:
 320. Oil tank:
 321. Oil tank:
 322. Oil tank:
 323. Oil tank:
 324. Oil tank:
 325. Oil tank:
 326. Oil tank:
 327. Oil tank:
 328. Oil tank:
 329. Oil tank:
 330. Oil tank:
 331. Oil tank:
 332. Oil tank:
 333. Oil tank:
 334. Oil tank:
 335. Oil tank:
 336. Oil tank:
 337. Oil tank:
 338. Oil tank:
 339. Oil tank:
 340. Oil tank:
 341. Oil tank:
 342. Oil tank:
 343. Oil tank:
 344. Oil tank:
 345. Oil tank:
 346. Oil tank:
 347. Oil tank:
 348. Oil tank:
 349. Oil tank:
 350. Oil tank:
 351. Oil tank:
 352. Oil tank:
 353. Oil tank:
 354. Oil tank:
 355. Oil tank:
 356. Oil tank:
 357. Oil tank:
 358. Oil tank:
 359. Oil tank:
 360. Oil tank:
 361. Oil tank:
 362. Oil tank:
 363. Oil tank:
 364. Oil tank:
 365. Oil tank:
 366. Oil tank:
 367. Oil tank:
 368. Oil tank:
 369. Oil tank:
 370. Oil tank:
 371. Oil tank:
 372. Oil tank:
 373. Oil tank:
 374. Oil tank:
 375. Oil tank:
 376. Oil tank:
 377. Oil tank:
 378. Oil tank:
 379. Oil tank:
 380. Oil tank:
 381. Oil tank:
 382. Oil tank:
 383. Oil tank:
 384. Oil tank:
 385. Oil tank:
 386. Oil tank:
 387. Oil tank:
 388. Oil tank:
 389. Oil tank:
 390. Oil tank:
 391. Oil tank:
 392. Oil tank:
 393. Oil tank:
 394. Oil tank:
 395. Oil tank:
 396. Oil tank:
 397. Oil tank:
 398. Oil tank:
 399. Oil tank:
 400. Oil tank:
 401. Oil tank:
 402. Oil tank:
 403. Oil tank:
 404. Oil tank:
 405. Oil tank:
 406. Oil tank:
 407. Oil tank:
 408. Oil tank:
 409. Oil tank:
 410. Oil tank:
 411. Oil tank:
 412. Oil tank:
 413. Oil tank:
 414. Oil tank:
 415. Oil tank:
 416. Oil tank:
 417. Oil tank:
 418. Oil tank:
 419. Oil tank:
 420. Oil tank:
 421. Oil tank:
 422. Oil tank:
 423. Oil tank:
 424. Oil tank:
 425. Oil tank:
 426. Oil tank:
 427. Oil tank:
 428. Oil tank:
 429. Oil tank:
 430. Oil tank:
 431. Oil tank:
 432. Oil tank:
 433. Oil tank:
 434. Oil tank:
 435. Oil tank:
 436. Oil tank:
 437. Oil tank:
 438. Oil tank:
 439. Oil tank:
 440. Oil tank:
 441. Oil tank:
 442. Oil tank:
 443. Oil tank:
 444. Oil tank:
 445. Oil tank:
 446. Oil tank:
 447. Oil tank:
 448. Oil tank:
 449. Oil tank:
 450. Oil tank:
 451. Oil tank:
 452. Oil tank:
 453. Oil tank:
 454. Oil tank:
 455. Oil tank:
 456. Oil tank:
 457. Oil tank:
 458. Oil tank:
 459. Oil tank:
 460. Oil tank:
 461. Oil tank:
 462. Oil tank:
 463. Oil tank:
 464. Oil tank:
 465. Oil tank:
 466. Oil tank:
 467. Oil tank:
 468. Oil tank:
 469. Oil tank:
 470. Oil tank:
 471. Oil tank:
 472. Oil tank:
 473. Oil tank:
 474. Oil tank:
 475. Oil tank:
 476. Oil tank:
 477. Oil tank:
 478. Oil tank:
 479. Oil tank:
 480. Oil tank:
 481. Oil tank:
 482. Oil tank:
 483. Oil tank:
 484. Oil tank:
 485. Oil tank:
 486. Oil tank:
 487. Oil tank:
 488. Oil tank:
 489. Oil tank:
 490. Oil tank:
 491. Oil tank:
 492. Oil tank:
 493. Oil tank:
 494. Oil tank:
 495. Oil tank:
 496. Oil tank:
 497. Oil tank:
 498. Oil tank:
 499. Oil tank:
 500. Oil tank:
 501. Oil tank:
 502. Oil tank:
 503. Oil tank:
 504. Oil tank:
 505. Oil tank:
 506. Oil tank:
 507. Oil tank:
 508. Oil tank:
 509. Oil tank:
 510. Oil tank:
 511. Oil tank:
 512. Oil tank:
 513. Oil tank:
 514. Oil tank:
 515. Oil tank:
 516. Oil tank:
 517. Oil tank:
 518. Oil tank:
 519. Oil tank:
 520. Oil tank:
 521. Oil tank:
 522. Oil tank:
 523. Oil tank:
 524. Oil tank:
 525. Oil tank:
 526. Oil tank:
 527. Oil tank:
 528. Oil tank:
 529. Oil tank:
 530. Oil tank:
 531. Oil tank:
 532. Oil tank:
 533. Oil tank:
 534. Oil tank:
 535. Oil tank:
 536. Oil tank:
 537. Oil tank:
 538. Oil tank:
 539. Oil tank:
 540. Oil tank:
 541. Oil tank:
 542. Oil tank:
 543. Oil tank:
 544. Oil tank:
 545. Oil tank:
 546. Oil tank:
 547. Oil tank:
 548. Oil tank:
 549. Oil tank:
 550. Oil tank:
 551. Oil tank:
 552. Oil tank:
 553. Oil tank:
 554. Oil tank:
 555. Oil tank:
 556. Oil tank:
 557. Oil tank:
 558. Oil tank:
 559. Oil tank:
 560. Oil tank:
 561. Oil tank:
 562. Oil tank:
 563. Oil tank:
 564. Oil tank:
 565. Oil tank:
 566. Oil tank:
 567. Oil tank:
 568. Oil tank:
 569. Oil tank:
 570. Oil tank:
 571. Oil tank:
 572. Oil tank:
 573. Oil tank:
 574. Oil tank:
 575. Oil tank:
 576. Oil tank:
 577. Oil tank:
 578. Oil tank:
 579. Oil tank:
 580. Oil tank:
 581. Oil tank:
 582. Oil tank:
 583. Oil tank:
 584. Oil tank:
 585. Oil tank:
 586. Oil tank:
 587. Oil tank:
 588. Oil tank:
 589. Oil tank:
 590. Oil tank:
 591. Oil tank:
 592. Oil tank:
 593. Oil tank:
 594. Oil tank:
 595. Oil tank:
 596. Oil tank:
 597. Oil tank:
 598. Oil tank:
 599. Oil tank:
 600. Oil tank:
 601. Oil tank:
 602. Oil tank:
 603. Oil tank:
 604. Oil tank:
 605. Oil tank:
 606. Oil tank:
 607. Oil tank:
 608. Oil tank:
 609. Oil tank:
 610. Oil tank:
 611. Oil tank:
 612. Oil tank:
 613. Oil tank:
 614. Oil tank:
 615. Oil tank:
 616. Oil tank:
 617. Oil tank:
 618. Oil tank:
 619. Oil tank:
 620. Oil tank:
 621. Oil tank:
 622. Oil tank:
 623. Oil tank:
 624. Oil tank:
 625. Oil tank:
 626. Oil tank:
 627. Oil tank:
 628. Oil tank:
 629. Oil tank:
 630. Oil tank:
 631. Oil tank:
 632. Oil tank:
 633. Oil tank:
 634. Oil tank:
 635. Oil tank:
 636. Oil tank:
 637. Oil tank:
 638. Oil tank:
 639. Oil tank:
 640. Oil tank:
 641. Oil tank:
 642. Oil tank:
 643. Oil tank:
 644. Oil tank:
 645. Oil tank:
 646. Oil tank:
 647. Oil tank:
 648. Oil tank:
 649. Oil tank:
 650. Oil tank:
 651. Oil tank:
 652. Oil tank:
 653. Oil tank:
 654. Oil tank:
 655. Oil tank:
 656. Oil tank:
 657. Oil tank:
 658. Oil tank:
 659. Oil tank:
 660. Oil tank:
 661. Oil tank:
 662. Oil tank:
 663. Oil tank:
 664. Oil tank:
 665. Oil tank:
 666. Oil tank:
 667. Oil tank:
 668. Oil tank:
 669. Oil tank:
 670. Oil tank:
 671. Oil tank:
 672. Oil tank:
 673. Oil tank:
 674. Oil tank:
 675. Oil tank:
 676. Oil tank:
 677. Oil tank:
 678. Oil tank:
 679. Oil tank:
 680. Oil tank:
 681. Oil tank:
 682. Oil tank:
 683. Oil tank:
 684. Oil tank:
 685. Oil tank:
 686. Oil tank:
 687. Oil tank:
 688. Oil tank:
 689. Oil tank:
 690. Oil tank:
 691. Oil tank:
 692. Oil tank:
 693. Oil tank:
 694. Oil tank:
 695. Oil tank:
 696. Oil tank:
 697. Oil tank:
 698. Oil tank:
 699. Oil tank:
 700. Oil tank:
 701. Oil tank:
 702. Oil tank:
 703. Oil tank:
 704. Oil tank:
 705. Oil tank:
 706. Oil tank:
 707. Oil tank:
 708. Oil tank:
 709. Oil tank:
 710. Oil tank:
 711. Oil tank:
 712. Oil tank:
 713. Oil tank:
 714. Oil tank:
 715. Oil tank:
 716. Oil tank:
 717. Oil tank:
 718. Oil tank:
 719. Oil tank:
 720. Oil tank:
 721. Oil tank:
 722. Oil tank:
 723. Oil tank:
 724. Oil tank:
 725. Oil tank:
 726. Oil tank:
 727. Oil tank:
 728. Oil tank: