

KP Designs

KPD011-1

KPD011-10

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Mk3 UNIVERSAL HYDRAULIC BRAKES FOR 1:5 CARS

KPD011-1 Brakes with steel disks and Ferodo friction pads

KPD011-10 Brakes with Fibre disks and steel friction pads

Congratulations on purchasing the most powerful and reliable hydraulic brakes available

Important

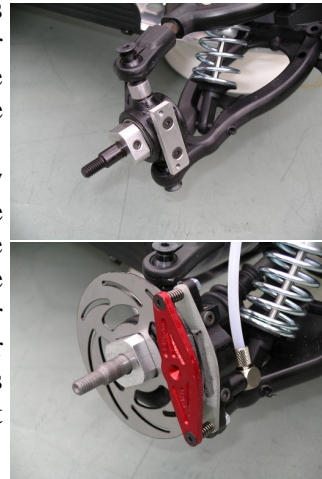
The hydraulic oil that is supplied with this kit is the latest Dot 5 SBF. The seals used in constructing these brakes are specifically designed for this fluid and the use of any alternative fluid may cause permanent internal damage. SBF has been selected because it does not cause damage to paint work; has a higher boiling point, and does not absorb water, as do other grades.

Fitting instructions

Slave units

Fit the elbow tube connector to the slave unit. Angle it as required and tighten fully. Using the correct fitting kit for your model of car (standard as supplied for all FG cars). Mount the fitting brackets to the uprights ensuring that the side with the radiused corners is furthest from the wheel.

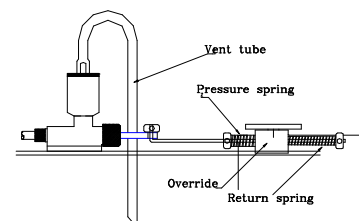
Mount the slave unit to the mounting plate with the bleed screw hole at the top and the feed elbow at the bottom. Unscrew the compression-fitting cap and slide it over the piping and push the pipe fully onto the fitting. Tighten the cap to the fitting to ensure a permanent leak free joint. Run the piping in a suitable manner to allow for the suspension and steering movements to occur without strain. Fix the pipe to suitable places using the pipe clips provided. Fit 3 straight connectors to the Tee piece and connect both slaves to this, then run the tubing to the master cylinder



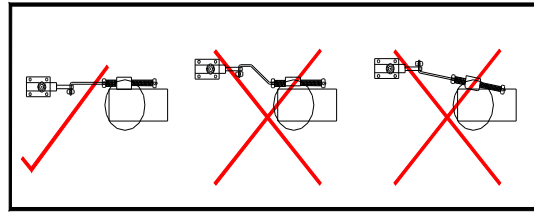
1: Master Cylinder

Fit an angled connector to the master cylinder and tighten fully. If front and rear brakes are being installed and the transmitter has suitable mixing facilities this is ideal. One servo can be operated using the throttle channel and the other using channel three using the mixing function, and retaining control of the ratio. Alternatively two servos may be operated from one channel using a 'Y' lead available from your radio supplier.

Whichever system is used it is essential that the thrust from the servo is in as straight a line as is possible to ensure a smooth operation. If necessary the master cylinder must be adjusted in height to match the thrust line rather than bending the wire.



The pivot point on the servo output should be as far out as possible in order to achieve the 16mm stroke maximum that may be required. Thrust from the servo should be through the heavy spring, so that the braking is under control, and the light spring on the pull back side must be set to ensure that the piston is fully pulled back during the throttle open stroke.



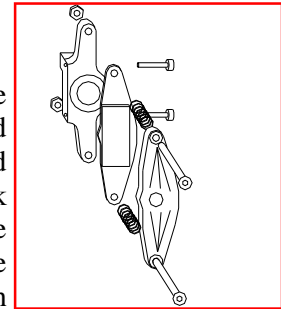
2. Bleeding

Before starting to bleed the brakes it is important to arrange the car so that the master cylinder is lower than the calliper that is to be bled. Fill the reservoir approximately ¾ full and remove the bleeding screw from one of the slave units. Push the bleeding cap tube on to the reservoir cap. Ensure that the piston is in the fully back position, and blow steadily into the tubing to force the fluid through the system. Check regularly that the reservoir is never emptied. As soon as the fluid has reached the slave cylinder and no more air bubbles come out of the bleed hole, replace the bleeding screw. Remove the screw from the other slave unit and repeat the process. Go back to the first cylinder and force fluid through the system until no bubbles remains. Repeat with the other cylinder until satisfied.

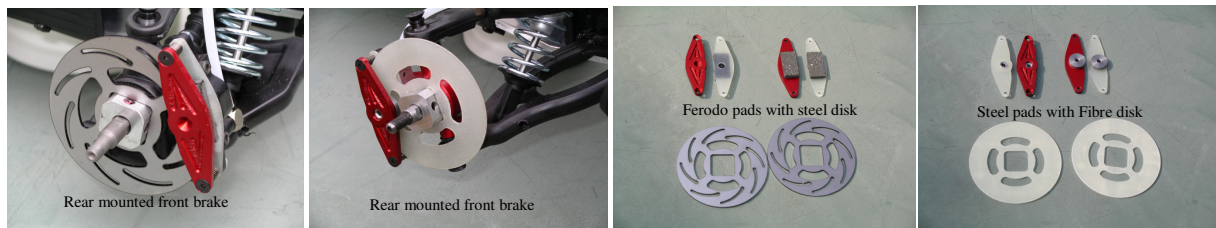
Leave the car to stand overnight as it is possible that some small bubbles may show in the high spots of the tubing. Bleed the system until these have disappeared.

3. Brake Calipers

It is important that the bleed screw is uppermost when mounted. Mount the brake disks and calipers with the separating springs, holding the pads hard against the disk and calliper with a piece of ordinary paper between the pad and the disk. Adjust the screws to lightly secure the red caliper to lock the disk (it is more sensitive & accurate to do this with the caliper and disk held in the hand rather than on the car). Back off both screws the minimum possible amount to just free the paper, making sure that the paper is equally free at both top and bottom of the pad. Remove the paper and tighten the M3 nuts to lock the screws in to position. The brakes will probably need adjusting after bedding in during the first days running.



4. Options



As an alternative to the steel disks we can supply Epoxy glass fibre disks (KPD011-2 for a pair) and calliper brake pads in steel (KPD011-3 for full set for two wheels).

Fault Finding

1. Brakes run out of stroke.
 - a. Air bubbles remain in the system - Re- bleed the system.
 - b. Piston not fully pulling back during throttle position - Increase spring tension
 - c. Too much clearance allowed in the brake pad adjustment - Re-adjust the brakes
 - d. Master cylinder occasionally ‘lets go’ - Piston seal damaged - replace
 - e. Wheel does not run freely without increasing brake pad adjustment - Slave unit not fitted square to the disk