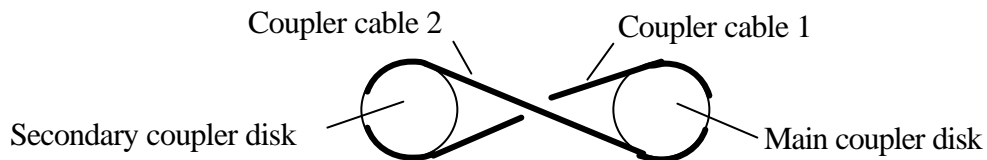


Explanation of Mechanism in Cybex Exercise Machine and Drawings Showing Dimensions

The legs press against leg plates as they are spread apart. Outward motion of the right leg plate directly drives the main shaft that is connected to the rotating plate. As the rotating plate rotates, it draws in the main cable that raises the stack of weights. Because the main cable emerges from the weight stack in one direction (upward) and then is oriented in a different direction where it attaches to the rotating plate, a set of pulleys is used to alter the direction of the main cable. Also attached to the main shaft is the main coupler disk. As described below, this coupler disk, together with a second coupler disk prevents the right and left leg plates from rotating independently.

The left leg plate drives a secondary shaft to which a secondary coupler disk is attached. The secondary coupler disk is linked to the main coupler disk by two coupler cables, as shown in the schematic below. This schematic is a view from the ceiling. (The main and secondary shafts are oriented out of the plane of this figure.) When the right leg plate causes the main coupler disk to rotate clockwise, it puts coupler cable 1 in tension, which drives the secondary coupler disk counter-clockwise. When the left leg plate causes the secondary coupler disk to rotate counter-clockwise, it puts coupler cable 2 in tension, which drives the main coupler disk clockwise. Thus, the cables ensure that the leg plates always move in sync, even if only one leg is pressing against a leg plate.



The resistance to spreading the left leg comes about because it drives the main coupler disk (through the coupler cable 2) which is attached to the main shaft and hence to the rotating plate which draws in the main cable. Hence, the stack of weights can, in principle, be lifted with either leg alone or with both legs. In any event, the leg plates move in sync.

