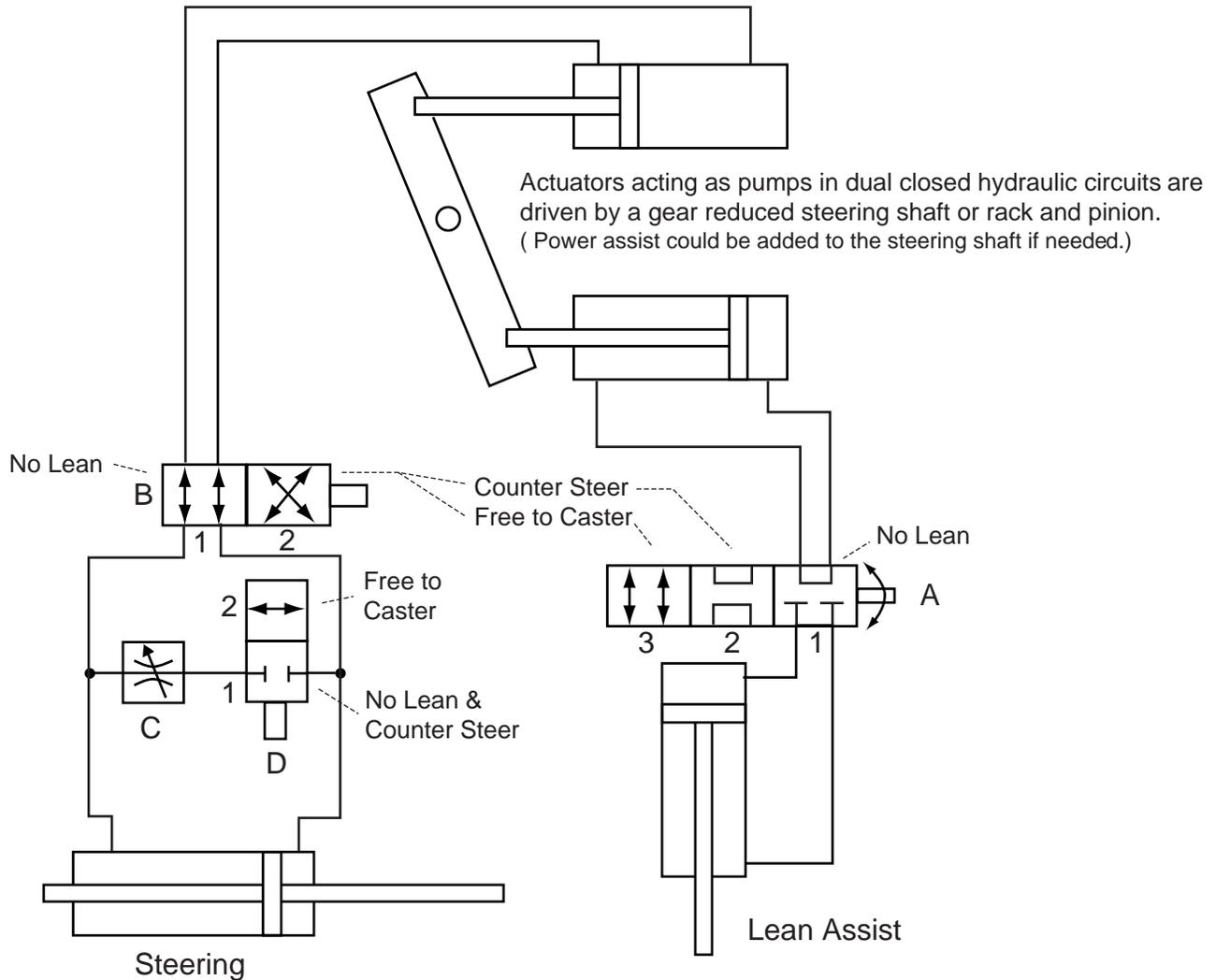


Hydraulic circuit allowing three modes of steering and leaning for a Leaning Reverse Trike



The above set up will allow 3 modes of steering.

Non-Leaning: Valve A, B and D are in position 1.

This allows flow to the steering actuator while locking the lean actuators.

Counter Steer: Valve A and B are in position 2, valve D in position 1.

This reverses the flow from steering and allows the bike to lean freely like a motorcycle.

Free to Caster: Valve B and D are in position 2 and valve A is in position 3.

This opens the flow to the lean actuators causing the bike to lean. It also reverses the flow for steering, and opens a bypass dampened by needle valve C, so when the steering wheel is turned some counter steer happens, but the wheels are free to adjust itself based on angle of lean.

The ultimate goal is to use a computer to control the valves to give the best mode based on speed of the trike, with valve D being proportional based on torque applied to the steering wheel so more counter steer while changing directions and more free to caster while holding the wheel steady. Also valve A opens and closes while not in free to caster mode to only allow trike to lean towards verticle when the wheel is rotated towards center and while the trike is not verticle.