



**Figure 7-49.** Pitch change mechanism.

to reset the beta valve inward, and repeat the process. Move the reset arm on the CSU rearward by the interconnecting rod at the same time the blade angle moves toward reverse. This causes the reset lever and reset post to move down in the CSU, bringing the reset lever closer to the speeder spring cup. As propeller speed increases due to the increase in engine power, the governor counterweights begin to move outwards. Since the reset lever is closer to the speeder spring cup, the cup contacts the reset lever before the counterweights would normally reach the on-speed position (95 percent propeller speed instead of 100 percent). As the reset lever is pushed up by the counterweights/speeder spring cup, the Py air bleeds from the fuel control unit (FCU) which lowers the fuel flow, engine power, and thus propeller speed. In reverse, propeller speed remains 5 percent below the selected propeller speed so that the control valve remains fully open, and only the beta valve controls the oil flow to the propeller dome.

In this mode, the propeller speed is no longer controlled by changing the blade angle. It is now controlled by limiting engine power. Bringing the propeller lever to the feather position causes the speed selection lever on the CSU to

push the feathering valve plunger and allows propeller servo oil to dump into the reduction gearbox sump. The pressure loss in the propeller hub causes the feathering spring and the propeller counterweights to feather the propeller. In the event of a propeller overspeed not controlled by the propeller overspeed governor (oil governor), the counterweights in the propeller governor move outward until the speeder spring cup contacts the reset lever. [Figure 7-53] The movement of the reset lever around its pivot point opens the Py air passage. Py bleeds into the reduction gearbox limiting the fuel supply to the engine. This prevents the propeller/power turbines from accelerating beyond 106 percent rpm.

The oil overspeed governor houses a set of counterweights connected to a control valve that is driven by a beveled gear mounted on the propeller shaft. [Figure 7-54] The counterweight's centrifugal force is acting against two springs: a speeder spring and a reset spring. When the propeller speed reaches a specified limit (4 percent over maximum propeller speed), the governor counterweights lift the control valve and bleed off propeller servo oil into the reduction gearbox sump, causing the blade angle to increase. An increase in blade pitch