

CONTROL FRICTION ADJUSTMENT

Cyclic and collective controls are equipped with adjustable friction devices. The collective friction lever is located near the aft end of the pilot's collective. It is actuated aft to increase friction and forward to release it.

The cyclic friction knob is located left of the cyclic center post. Turning the knob clockwise applies friction to both longitudinal and lateral cyclic.

CAUTION

Control friction must be used with caution during flight. Excessive friction may make the helicopter difficult to control.

The pedals actuate push-pull controls connected directly to the tail rotor pitch control and do not incorporate any friction devices. An elastomeric trim spring provides a left pedal force to balance feedback forces in flight.

RPM GOVERNOR

The governor maintains engine RPM by sensing changes and applying corrective throttle inputs through a friction clutch which can be easily overridden by the pilot. The governor is active only above 80% engine RPM and can be switched on or off using the toggle switch on the end of the right seat collective.

The governor is designed to assist in controlling RPM under normal conditions. It may not prevent over- or under-speed conditions generated by aggressive flight maneuvers.

CAUTION

When operating at high density altitudes, governor response rate may be too slow to prevent overspeed during gusts, pull-ups, or when lowering collective.

ENGINE CONTROLS

A twist-grip throttle control is located on each collective stick. The controls are interconnected and actuate the throttle valve through a mechanical linkage. The engine throttle is also correlated to collective inputs through a mechanical linkage. When the collective is raised, the throttle is opened and when the collective is lowered, the throttle is closed.

The electronic engine governor makes minor throttle adjustments by rotating the twist grip to maintain RPM within power-on limits. Manual manipulation of the twist grip is not typically required except during start up, shut down, autorotation practice, and emergencies.

An overtravel spring located in the throttle linkage allows the pilot to roll throttle off beyond the idle stop prior to a ground contact (run-on) autorotation landing. This prevents the throttle from opening when the collective is raised.

Correct throttle linkage adjustment may be verified during preflight by rolling the twist-grip through the overtravel spring and holding against the hard idle stop. The carburetor throttle arm should just barely start to move when the collective is raised full up.

Other engine controls include a mixture control located forward and to the right of the cyclic center post and a carburetor heat control located to the left of the cyclic. Later R44s are equipped with Carb Heat Assist which is described in Section 4.