

## Students aid in research of propellers

By KEVIN S. INDA  
Reporter

The current widespread use of jet engines on aircraft might be replaced soon by a modernized propeller concept, says Dr. Kenneth Korkan, a Texas A&M professor of aerospace engineering.

Several aerospace engineering students at A&M are helping with the propeller concept, he said.

The aviation industry has begun to seek better fuel efficiency due to rising costs, Korkan said, and the new propeller systems are more fuel efficient and can develop the same type of velocity as a jet engine.

"One type of propeller system we are working on is the counter-rotating propeller," Korkan said. "This system involves one propeller turning one way and the other propeller turning the other way."

This type of propeller system has two propellers with one placed in front of the other. Both propellers have six blades and turn in opposite directions, he said.

Another benefit of the counter-rotating propeller system is that it can be used in the military, he said. A surveillance plane with this new type of propeller can reach an area quickly. Once the plane reaches a designated area it can turn off one of the propellers to save fuel, Korkan said.

Even though the new type of propeller systems are more fuel efficient and develop the same amount of velocity as a jet engine, a few problems still are associated with the new systems, Korkan said.

"Noise is the biggest problem," Korkan said. "This new system is as noisy as a turbofan, but it's a different type noise."

Korkan said once the source of the noise is identified, it can be eliminated by making different noises cancel themselves out.

The research conducted by several graduate aerospace engineering students is dealing with the testing of acoustics in a counter-rotating system to find ways to reduce cabin vibration, Korkan said.

Before the students could test the noise levels of the system they had to build a model propeller test rig. This model test rig is one of only a few in universities or industry, Korkan said.

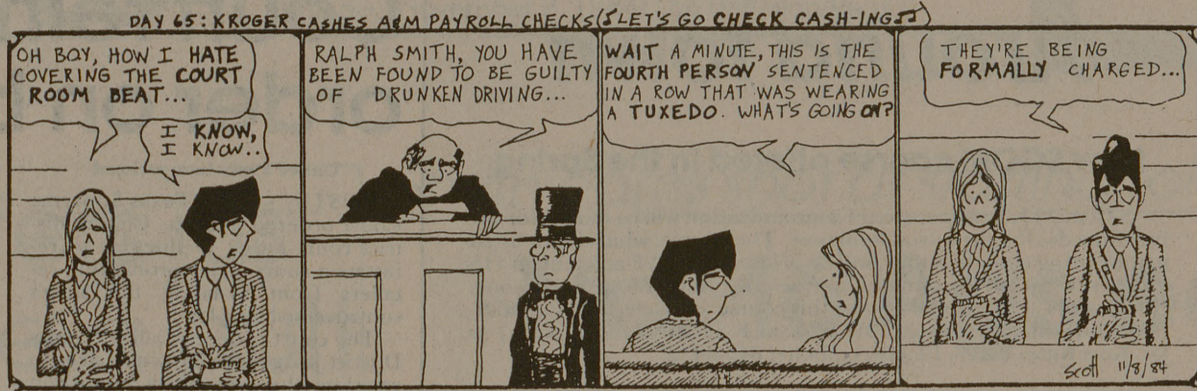
The model propeller test rig was built with parts "bought off the shelf" and through a combination of efforts, Korkan said.

"The distinct feature about this rig is the fact that it can individually monitor the front and rear blades," Korkan said.

Korkan said he expects to see the counter-rotating propeller system widely used in the aviation industry within 10 years.

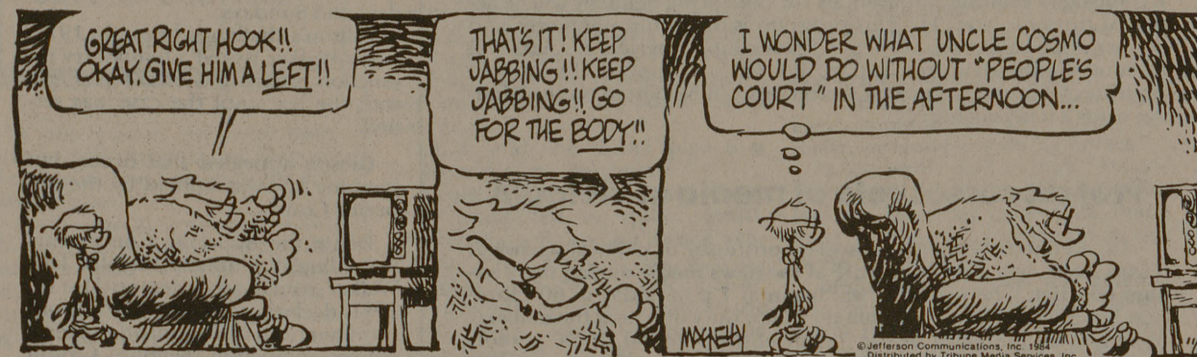
## Warped

by Scott McCullar



## SHOE

by Jeff MacNelly



## GOP picks up 17 seats in Texas House, Senate

United Press International

AUSTIN — Republicans gained a crucial 16 seats in the Texas House and picked up one seat in the Senate, prompting state GOP officials to brag Wednesday that the conservative movement has finally found its way to the statehouse.

One incumbent Democratic senator lost a re-election bid, 13 Democratic House incumbents were defeated and three previously Democratic districts without incumbent candidates switched to the GOP. Every Republican legislator who sought re-election was successful.

"The smashing triumph of the president and Phil Gramm was obvious to all, but there was a lot more that took place last night that means something for the long-range future of the Republican Party in Texas and of the conservative movement," state GOP Chairman George Strake said at a news conference.

Strake said voters' dissatisfaction with Democratic lawmakers who approved a \$4.6 billion tax increase last summer — the biggest tax hike in Texas history — was a "significant" factor in the GOP's 17-member gain in the Legislature.

The House's previous 113-37

edge for the Democrats dropped to 97-53 after Tuesday's election.

Since many crucial procedural votes in the House require a two-thirds majority, the Democrats' failure to retain at least 100 seats increases the chance that partisan voting will block major legislation when the next legislative session convenes in January.

"It virtually gives us a veto power on all legislation that comes down the pipe," Strake said.

In the Senate, the GOP's one-seat gain also gives the upper chamber its only female member. Cynthia Taylor Krier, a political novice and a former aide to retiring GOP Sen. John Tower, ousted 20-year legislative veteran Bob Vale by a resounding 61 percent to 39 percent margin in a traditionally Democratic district in San Antonio.

Krier's victory decreased the Democratic edge in the Texas Senate to 25-6.

Incumbent Democratic Sen. Ted Lyon of Mesquite fought off a strong showing by Richard Harvey of Tyler, squeaking out a win with 50.5 percent of the vote.

The two other contested Senate races saw wide-margined wins by incumbent Democrat John Montford

of Lubbock over Republican Sol Thomas and Democratic state Rep. Gonzalo Barrientos over GOP challenger Pat McNamara in the race to fill the seat vacated by unsuccessful U.S. Senate candidate Lloyd Doggett.

Ninety-five incumbents in the 150-member House and 10 newcomers faced no opponents on Tuesday's ballot, while 11 incumbent senators had no opposition. Sixteen incumbents in the 31-member Senate are not up for election until 1986.

Eight incumbent House members — all Democrats — lost primary bids.

Other Democratic incumbents defeated Tuesday include: Hill Kemp of Manvel, losing to Jack Harris of Pearland in District 27; Bill Harrison Jr., losing to Ted Roberts in Corpus Christi's District 36; Bob Barton of San Marcos, losing to Anne Cooper in District 47 in Central Texas; Russ Tidwell, losing to Bob Richardson in Austin's District 49; and Tip Hall of Denton losing to Ben Campbell of Lewisville in District 61.

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