

# 56

## **S & F** GEAR TESTERS

### CAN'T BE WRONG!

### AND THEY NEVER ARE— AT ECLIPSE-PIONEER

Division of Bendix Aviation Corp., Teterboro, N. J.

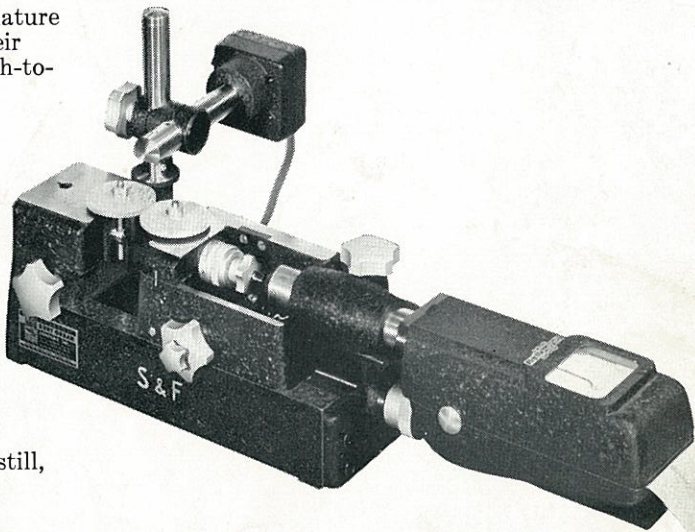
Turning out Precision Class 3 Gears is almost second nature to Eclipse-Pioneer. These are the gears that go into their famous directional gyros for aircraft and missiles. Tooth-to-tooth error, .0002". Total composite error, .0003".

The first S & F Tester bought by Eclipse-Pioneer four years ago told them what they wanted: no other gear checker was so accurate, so easy to use.

So they kept buying them. For floor after floor. Section after section. Year after year. Now, 56 S & F Testers act as guardians of precision all over the plant—assurance that Eclipse-Pioneer gears really hold to the tolerances called for.

Would *you* like to be assured that the gears you make—or buy—are as accurate as they're supposed to be? Check them on an S & F—guaranteed to repeat within .00001"—as 359 plants now do.

Ask us to send you the name of a nearby user. Better still, may we demonstrate the S & F for you?

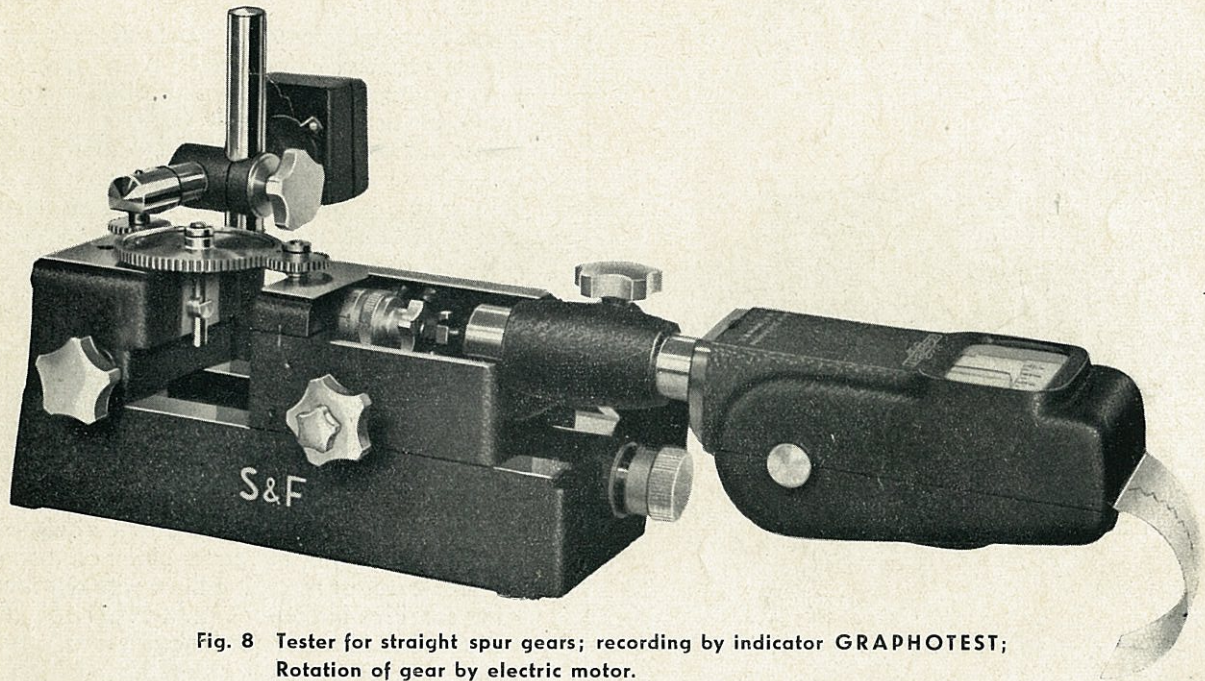


# HIGHLY SENSITIVE GEAR TESTER

*hand operated and semi-automatic, for*  
**FINE PITCH GEARS of SMALLEST DIMENSIONS**  
*(Two-Flank Roll Tester)*

## TYPE 101

**SPECIAL FEATURE - SYNCHRONOUS DRIVE ON RECORDING PAPER AND GEAR;  
 RATIO ADJUSTABLE. MANY RATIOS PAPER SPEED - GEAR SPEED CAN BE SET.**



**Fig. 8** Tester for straight spur gears; recording by indicator GRAPHOTEST;  
 Rotation of gear by electric motor.

Experience shows that, frequently, the accuracy of the gear generating machine is not used to its best advantage because the means for testing small gears are inadequate. This particularly holds true for fine pitch gears used by the instrument industries.

The Gear-Tester type Strelow-Dinger, was built to meet the requirements of those gear makers and users who are concerned with gears of design and dimensions too small to give accurate recordings and readings on conventional gear testers. — Because of its high sensitivity, it is not used in the shop alone, but is also ideal for the testing room and the laboratory.

### Advantages:

1. Testing of any type and kind of gears; such as - straight spur, helical, bevel gears, gear shafts, worms; as well as straight and round gear racks.
2. Smallest center distances without any additional equipment.
3. Simple arbors; cylindrical shafts, which eliminate the difficulty of machining tapers and the difficulty of height adjustments.
4. Simple and quick setting-up, by clamping the cylindrical arbors in prismatic guides.
5. No distortion of teeth; when setting up and meshing teeth with each other because a light is located underneath the gears.
6. Minute and adjustable load on gears, which makes it possible to test the finest and most delicate precision gears of small wrist watches, e. g.
7. High-speed of testing cycle; because of minute dimensions and weight of the measuring slide. This explains the high sensitivity and reliability.

**INDICATION OF ERROR:** Either by observing on the indicator in 100 or 1000 fold magnification; or by graphic record in the form of rolling diagrams by GRAPHOTEST in magnifications of 100, 200, 250 or 400 fold.

Gears turned by hand or motor.

### Specification.

			short type	long type
Max. centre distance for spur gears:	130 mm.	-	42	mm.
Max. centre distance for spur wheels and pinions:	65 mm.	-	40	mm. - 31.5 mm.
Max. diameter of pinion.	70 mm.	-	50	mm. - 230 mm.
Max. length of pinion shaft.	70 mm.	-	11.5	mm. - 31.5 mm.
Max. centre distance for bevel gear in the horizontal plane.	40-46 mm.	-	68	mm. - 165 mm.
Max. centre distance for bevel gear in the vertical plane.	36-42 mm.	-	38	mm. -
			10	mm. -
		Max. centre distance for worms and wheels.		
		Max. diameter of worm.		
		Max. length of worm.		
		Max. dia. of worm shaft.		
		Max. length of shaft from centre line of worm.		
		Max. distance from centre line of pinion to rear face of rack.		
		Max. diameter of round racks.		