

Service Information Letter

SIL 4300-XXX-05

Electric Attitude Indicator

4300-XXX Series

Special Tools, Fixtures, & Test Equipment

1. PLANNING INFORMATION

A. Effectivity

This service information is applicable to the 4300-XXX Series Electric Attitude Indicators manufactured by Mid-Continent Instrument Co., Inc.

B. Reason

To notify current manual holders of tooling list changes.

C. Description

This information letter is an addendum to MCI 34-20-42, 4300-XXX Overhaul Manual, Rev. 1 dated Oct. 16, 2006. Some tooling has been added and some of the tooling and tooling part numbers have changed. This change will be incorporated into future revisions of the Overhaul Manual.

D. Material

1. Special Tools, Fixtures, & Test Equipment

Table 1 contains the list of tools, fixtures, and equipment that were designed and built by Mid-Continent Instrument Co., Inc. for the repair of the 4300-XXX Electric Attitude Indicator. Table 2 contains a list of commercially available equipment used in addition to Table 1. These lists do not include typical shop tools such as screwdrivers, pliers, etc. Equivalent substitutes are acceptable.

Table 1	
MCI Part Number	Description
9016380	Continuity Tester (to aid in setting brush tension)
8012932-1	6-32 x 3/4" Mounting Screws (for test fixtures)
RP-2	Graduated Test Stand (capable of pitch, roll, and yaw)
T-4300-4XX	Battery Voltage Adjuster (to simulate battery input)
T-4300-HG-X	Angle Tilt Block (T-4300-HG-1 through -19) (for setting inner gimbal tilt)
T-4300-TG-1A	3" Adapter Plate. (Gyro Mounting Plate for RP-2 & TG-1)
T-9010075-1	Spanner Wrench (for inner gimbal bearing housings)
T-9015357	Gyro Holder bench block
T-9015386-R3	Bearing Puller (R3 bearings)
T-9015386-R4	Bearing Puller (R4 bearings)
T-9015386-R6	Bearing Puller (R6 bearings)



Table 1	
T-9015396-1	End Play Tool (for setting inner gimbal endplay)
T-9015445	Vane Centering Tool (to align for taping during static balance)
T-9015759	Gimbal Assembly Mounting Plate (for seating and holding outer gimbal bearings during adhesive cure) (specify number of spindles when ordering)
T-9015620	Bearing Alignment & Insertion Tool (2 pieces) (to aid in inserting outer gimbal bearings into outer gimbal support)
T-9016054	Bearing Inserter Tool (to aid in inserting inner gimbal bearings into housings)
T-9016270	Outer Gimbal Endplay Adapter (for checking outer gimbal endplay)
TB-0	Tilt Block (used with TG-1 & T-4300-HG-X to set inner gimbal tilt)
TG-1	Gyro Fixture
TG-1-PO	Removable Plastic Overlay (to check display alignment)
36029	Battery Charger / Tester

2. Commercially Available Tools, Fixtures, & Test Equipment

Table 2		
Part Number	MCI Part Number	Description
MS3116F8-4S	9015514	Gyro Mating Connector
1-480318-0	7018336	Battery connection mating connector housing (AMP)
60617-4	7018328	Battery connection mating connector sockets (AMP)
1630	N/A	Variable DC Power Supply (BK Precision)
87	N/A	Digital Volt-Ammeter (Fluke)
1411	N/A	Scorsby Table (Ideal-Aerosmith)
1863	N/A	Dielectric Tester (General Radio)
N/A	N/A	Bench Vibrator (capable of .002" – .005" double amplitude at 1500 – 2000 cpm)
134	N/A	Level (Starrett)
62-6394-00	T-9015370	Gram Gauge (0-5 grams, S-T Industries) (for brush tensions)
N/A	N/A	Arbor Press
N/A	N/A	Press Inserts or Pin Punches: 1.75" min. length X .0625"(1/16") O.D. (to press out vane assy. bearing pins) .375" min. length X .125" (1/8") O.D. (to press out left pivot slipring) 2.75" min. length X .125" (1/8") O.D. with a 2.75" X .050" groove to avoid interference with wires. (to press out the slipring from the roll gimbal shaft) .150" O.D. (to press out horizon pointer assy. bearings and vane assy.)

Table 2		
		bearings.) .085" I.D. X .150" deep hole (to press in pitch gimbal solder terminals)
AN116	N/A	Anvil with holes (Jules Borel) Hole sizes: .190" - .200" I.D. (support for removal of left pivot slipring) .155" - .170" I.D. (support for removal of rear shaft slipring) .205" - .210" I.D. (support for removal of horizon pointer assy. bearings and vane assy. bearings) .160" - .165" I.D. (support for removal of vane assy. bearing pins)
N/A	N/A	Hex keys .050" (setscrew for locknut on rear shaft and setscrew for inner gimbal bearing housing) 1/16" (adjust balance weights) 5/64" (adjust rotor wheel assy.) 7/64" (gimbal support and rear shaft assy.)
N/A	N/A	6-flute spline wrench .048" (setscrew for airplane pointer adjust knob and horizon pointer assy. bearing pins) .060" (setscrew for caging knob)

E. Other Publications

34-20-42, 4300-XXX Overhaul Manual, Rev. 1 dated Oct. 16, 2006 or earlier.