REV NO.	TITLE -
68A944362	Test Specifications OVERSPEED SENSOR
CONT ON SHEET 2 SH NO. 1	FIRST MADE FOR IC3600QOXC

REVISIONS

Test Specifications for IC3600QOXC – HANDLE WITH CARE

Use high accuracy frequency counter $\pm$ .02%.

1. Check Ferrite core of L1. Should be labelled 2213-3B7-A160.
   Check T2. Should be labelled 218A4791P1.

2. Check that R3 and R4 are 220 ohms, R7 is 332 ohms and C12 is .5MFD.

3. Apply power to card as follows:

   +12V   (27)
   -12V   (29)
   ACOM   (2, 50)
   DCOM   (1, 51)

   Attach 8 20KC loads to each of the following: OTPL (37),
   TPL (49, 31), TRP1 (47), TRP2 (38), OCHKOR (45) and OCHKAND
   (43).

4. Set a sine wave signal generator with 600 ohm output impedance to
   3000HZ, 24V P-P. Connect signal generator to IN (8) and ACOM
   (2, 50) the signal level should drop to 10 $\pm$ 3V P-P.

5. Change signal on IN (8) to 4.0V RMS, 3000HZ
   TP1 (16) and TP2 (20) signals should be 21 $\pm$ 2V Peak to Peak
   square waves with rise and fall times below 100μsec.

6. A. With signal on IN (8) at 4.00V RMS $\pm$ 0.01V RMS and at RUN
   frequency, Measure the voltage from A (4) to B (36). Should
   be 4.5 – 8.5 Volts. Measure C (14) to D (39). Should be
   4.5 – 8.5 Volts. Slug may be adjusted if necessary but both
   readings apply to one slug setting. (See meter note in 6C).

   B. Check that output TRP1 (47) and TRP2 (38) are less than .4 volts
   and OCHKOR (45) and OCHKAND (43) are 4.0 to 6.6V.

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PRINTS TO

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DRIVE SYSTEMS
Salem, Va. U.S.A.

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68A944362

LOCATION   CONT ON SHEET 2   SH NO. 1

	TITLE Test Specifications	
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CONT ON SHEET 3 SH NO. 2	FIRST MADE FOR IC3600QQXC	

6. (Cont'd)

C. With oscillator set to run check frequency, tie TP6 (18) to COM and check volts A(4) to B(36). It should be less than 1.8V. (Measure with no filtering, no capacitance and meter impedance 1 megohm or greater.) Check that TRP1(47) and TRP2(38) are 7.75 ± 1.25V and OCHKOR(45) and OCHKAND(43) are less than .4 volts

7. Overspeed Check.

A. Remove ground from Pin 18. Turn slug in T2 full CCW and increase input frequency to the value shown in the table below. Use a counter to insure frequency is set accurately. Remove all instrumentation from points A-D.

IC3600QQXC1	3960Hz	IC3600QQXC10	7383Hz
IC3600QQXC2	5610Hz	IC3600QQXC11	5350Hz
IC3600QQXC3	7150Hz	IC3600QQXC12	6650Hz
IC3600QQXC4	7590Hz	IC3600QQXC13	4787Hz
IC3600QQXC5	11,320Hz	IC3600QQXC14	7952Hz
IC3600QQXC6	12,254Hz	IC3600QQXC15	7410Hz
IC3600QQXC7	5137Hz	IC3600QQXC16	5814Hz
IC3600QQXC8	3302Hz	IC3600QQXC17	5712Hz
IC3600QQXC9	5460Hz	IC3600QQXC18	5324Hz
		IC3600QQXC19	7814Hz
		IC3600QQXC20	5478Hz
		IC3600QQXC21	8090Hz
		IC3600QQXC22	3630Hz
		IC3600QQXC23	7990Hz

B. With a scope on OCHKOR (45) slowly turn the slug in T2 CW until OCHKOR (45) goes to a 0. If trip will not occur, check that C22 and CX are the value listed in table 1 of elementary. If trip occurs with T2 slug full CCW (out and loose) decrease C22 to the next standard value to move the slug into the tuning hole. If trip occurs with T2 slug full CW (in tight) or will not occur at all but is approaching (monitor volts A to B which is decreasing from Approx. 6 towards approx. 2V at trip) increase C22 to the next standard value to move the slug outward. C22 should not have to be changed more than 3 steps to correct the problem. Changing C22 does not apply to form 8.

C. Reduce the frequency until OCHKOR is again 1 and very slowly increased frequency until OCHKOR is 0. This frequency must be within ± 6 HZ of frequency listed in table.

D. With signal generator at 500 HZ above trip frequency check DC voltage from A (4) to B (36). Must be less than 1.5 Volts. OCHKOR must remain a 0.

* Monitor volts A to B only if trip will not occur, to determine C22. Remove meter after selecting C22. See meter note in 6C.

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68A944362
CONT ON SHEET 3   SH NO. 2

REV NO.	TITLE	CONT ON SHEET 4	SH NO. 3
68A944362	**Test Specifications** OVERSPEED SENSOR		
CONT ON SHEET 4 SH NO. 3	FIRST MADE FOR IC360000XC		

REVISIONS

8. Check that trip speed on Card Front is correct. I.E. It is within 6HZ of the speed tested in Step #7. Seal the slug in T2 with RTV.

9.A. Set the input frequency below the trip frequency. Push PB1 to turn off lamp. Check that OTPL (37) is 5.4 to 6.6 Volts and TPL (49) is 0 to .4V. Tie TRP1 (47) to DCOM. Increase frequency until TRP2 (38) goes to a 1 check that:

    1. Lamp is on.

    2. OTPL (37) is a 0 (0 - .4V)

    3. TPL (49) goes to a 1 (5 - 7V)

    4. Note exact trip frequency.

Reduce the frequency to below trip value and note that lamp stays on. Reset circuit with PB1. Untie TRP1 (47) from DCOM.

B. Repeat with TRP2 (38) tied to DCOM looking at TRP1 (47). Verify that one circuit is within ± 6Hz from trip frequency, the other ± 0.5% (of trip frequency 39.95Hz.)

C. Check that with 4(42) or HM (44,33) shorted to COM that lamp does not come on when trip frequency is reached. Unshort pin 42.

C. With HM (44) shorted to DOM, turn off +12V buss and check that lamp is off upon application of power. Unshort pin 44.

10. Check that card meets specifications on P.U. and D.O. per below table with input amplitude reduced to 2.3 VRMS measured at 1N(8).

	Pick-up (Pin 47 0)	Drop-out (Pin 47 1)
Q0XC1	Under 324 HZ	Over 145 HZ
Q0XC2	Under 460 HZ	Over 202 HZ
Q0XC3	Under 584 HZ	Over 260 HZ
Q0XC4	Under 620 HZ	Over 276 HZ
Q0XC5	Under 925 HZ	Over 350 HZ
Q0XC6	Under 1000 HZ	Over 370 HZ
Q0XC7	Under 420 HZ	Over 186 HZ
Q0XC8	Under 302 HZ	Over 120 HZ

REVISIONS (right margin):
7) 7MAY86 JMT

5) 8B496KD HB 3-17-80
6) 8494SAAF 8-21-80 MM
REV.A DWG 12/5/76

3. 8U945VC JVG 780523

1. CGL 8/5/77
2. REH 12-2-77

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68A944362
CONT ON SHEET 4   SH NO. 3

LOCATION   CODE IDENT NO.

68A944362	**Test Specifications**	
CONT ON SHEET FL SH NO. 4	**OVERSPEED SENSOR**	
	IC3600GXC	

REVISIONS

10.   Continued

	Pick-up (Pin 47 <u>0</u>)	Drop-out (Pin 47 <u>1</u>)
Q0XC9	Under 460 HZ	Over 202 HZ
Q0XC10	Under 620 HZ	Over 276 HZ
Q0XC11	Under 436 HZ	Over 195 HZ
Q0XC12	Under 544 HZ	Over 242 HZ
Q0XC13	Under 390 HZ	Over 174 HZ
Q0XC14	Under 620 HZ	Over 275 HZ
Q0XC15	Under 584 HZ	Over 260 HZ
Q0XC16	Under 460 HZ	Over 202 HZ
Q0XC17	Under 460 HZ	Over 202 HZ
Q0XC18	Under 420 HZ	Over 188 HZ
Q0XC19	Under 691 HZ	Over 307 HZ
Q0XC20	Under 448 HZ	Over 199 HZ
Q0XC21	Under 665 Hz	Over 290 Hz
Q0XC22	Under 300 Hz	Over 130 Hz
Q0XC23	Under 655 Hz	Over 285 Hz

11.   Check that device T2 is properly secured to the board with RTV.
Change sine wave to square wave (same source impedance) at 11Vp-p.
Set frequency to 1/3 trip frequency (lamp is reset off) +
4% of trip freq. Sweep through + 300 Hz in 1 Hz steps at the
rate of 10Hz per second. Card should not trip.
Perform Step 12 a minimum of 30 minutes after RTV is applied to
T2 sleg.

12.   Reduce the frequency to 100Hz below the trip frequency and verify

that OCMON (45) is a "1". Press the reset button and the

lamp should be Off. Very slowly increase the frequency until

the lamp comes On. The trip frequency must be within $\pm$ 6 HZ of

the value on the Card Front.

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