I. EQUIPMENT REQUIRED FOR TEST

A. 3 PHASE 115V 60HZ CONTROL POWER

B. 3 SINGLE PHASE TRANSFORMERS 115/42V CENTERTAPPED OR 1 3 PHASE DELTA/STAR TRANSFORMER, DRAWING NUMBER 183B2526G1. IF 3 SINGLE TRANSFORMERS ARE USED, THEY MUST BE CONNECTED AS SHOWN IN FIGURE 1 SHEET 3. THIS 3 PHASE CONTROL POWER MUST BE RELATIVELY FREE FROM NOISE SPIKES SINCE THEY ARE CAPABLE OF PRODUCING EXTRA PULSES IF THEY OCCUR AT ZERO CROSSINGS.
SET 3 PHASE POWER FOR 21V RMS FROM EACH PHASE TO COM.

C. ±15V DC POWER SUPPLY 100MA CAPABILITY - 0.1%

D. 1 - 2K POTENTIOMETER, PREFERABLY A 10 TURN HELIPOT OR EQUIVALENT.

E. OSCILLOSCOPE

II. 3 PHASE TEST - ZERO CONTROL VOLTAGE

A. PROCEDURE

1. CONNECT THE TEST CARD AS SHOWN IN FIGURE 1 SHEET 5.

2. SET THE POTENTIOMETER SO THAT THE VOLTAGE AT PIN 5 IS 0.0 VOLTS.

3. CHECK THE PHASE SEQUENCE OF THE DELTA-STAR TRANSFORMER CONNECTION AS IT ENTERS THE TEST CARD.

A) TRIGGER THE OSCILLOSCOPE ON THE AC SIGNAL APPEARING AT PIN 6.

B) CONNECT THE SCOPE PROBE TO PIN 6 AND DISPLAY THE WAVEFORM. UNCALIBRATE THE TIME BASE SUCH THAT 1 CYCLE COMPRISES 6 HORIZONTAL DIVISIONS AND POSITION THE START OF THAT CYCLE SO THAT THE POSITIVE GOING SINE WAVE STARTS ON THE ZERO TIME DIVISION.

C) MOVE THE SCOPE PROBE TO PIN 45 AND VERIFY THAT THE SINE WAVE WHICH IS OBSERVED BEGINS ITS POSITIVE TRANSITION 1 DIVISION TO THE RIGHT OF THE ZERO TIME MARK. IF THE START OF THE SINE WAVE MOVES ONE DIVISION TO THE LEFT, A REVERSE PHASE ROTATION IS INDICATED AND THE PHASE 1 AND 3 INPUT VOLTAGES SHOULD BE INTERCHANGED.

D) IN SUCCESSION, MOVE THE SCOPE PROBE TO PINS 48, 4, 46, AND 7 AND VERIFY THAT EACH SINE WAVE OBSERVED BEGINS ITS POSITIVE TRANSITION 1 DIVISION TO THE RIGHT OF THE PRECEEDING POINT. IF THE PHASE ROTATION DIFFERS FROM THE ABOVE, RECONNECT THE SECONDARY LEADS TO OBTAIN THE CORRECT RELATIONSHIP.
PERFORM TEST 3A THRU 3D ON INITIAL SET UP ONLY.

4. OBSERVATION OF OUTPUT PULSES

A) TRIGGER THE OSCILLOSCOPE ON PIN 22 OF THE TEST CARD.

B) WITH THE SCOPE UNCALIBRATED AS IN 3B, OBSERVE THE WAVEFORM AT PIN 33 OF THE TEST CARD WHICH SHOULD APPEAR AS IN FIGURE 1 SHEET 4.

C) MOVE THE OSCILLOSCOPE TO PIN 22 AND VERIFY THAT THE OUTPUT MEETS THE REQUIREMENTS OUTLINED IN FIGURE 2A SHEET 4. REPEAT STEP 4C FOR PINS 20, 18, 32, 30, 28 AND FIGURES 2B THROUGH 2F RESPECTIVELY.

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Retyped MAC 7-31-72

DL12
DL32
252

PRINTS

III. 3 PHASE TEST - PHASE CONTROL APPLIED

A. PROCEDURE

1. CONNECT THE CARD UNDER TEST IN FIGURE 1 SHEET 5.
2. TRIGGER THE OSCILLOSCOPE ON PIN 6 OF THE TEST CARD.
3. CONNECT THE SCOPE PROBE TO PIN 22 AND OBSERVE THE WAVEFORM DISPLAYED ON THE SCREEN. UNCALIBRATE THE TIME BASE SUCH THAT EACH PULSE IS SEPARATED BY 1 DIVISION AND POSITION THE START OF THE FIRST PULSE ON THE ZERO TIME MARK.
4. CONNECT THE SCOPE PROBE TO PIN 33 AND OBSERVE THE WAVEFORM SHOWN IN FIGURE 1 SHEET 4.
5. MONITOR THE VOLTAGE AT PIN 5 AND ROTATE THE POTENTIOMETER SO THAT THE VOLTAGE AT PIN 5 INCREASES FROM 0.0 THROUGH +6.0 ± 0.8V. AS THE VOLTAGE INCREASES FROM 0.0 THE PULSES OBSERVED AT PIN 33 SHOULD MOVE LINEARLY TO THE LEFT OF THE SCREEN WHILE MAINTAINING 1 DIVISION SEPARATION. THE PULSES WILL CEASE THEIR MOTION WHEN THE +6.0 ± 0.8V LEVEL IS REACHED AND WILL NOT MOVE FURTHER REGARDLESS OF ADDITIONAL INCREASE IN CONTROL VOLTAGE. NONE OF THE PULSES SHOULD DISAPPEAR AS THE CONTROL VOLTAGE IS INCREASED UP TO OR BEYOND THE +6.0 ± 0.8V LEVEL.
6. ROTATE THE POTENTIOMETER SUCH THAT THE VOLTAGE AT PIN 5 DECREASES FROM ZERO THROUGH -6.0 TO ±0.8V. AS THE VOLTAGE IS DECREASED FROM ZERO, THE PULSES OBSERVED AT PIN 33 SHOULD MOVE LINEARLY TO THE RIGHT OF THE SCREEN WHILE MAINTAINING 1 DIVISION SEPARATION. AT THE LEVEL OF -6.0 ± 0.8V, ALL PULSES WILL DISAPPEAR ALTHOUGH NOT NECESSARILY ALL AT THE SAME LEVEL.
7. RETURN THE VOLTAGE AT PIN 5 TO 0.0V AND RETURN THE TIME BASE TO A CALIBRATED POSITION.
8. MOVE THE SCOPE PROBE IN SUCCESSION FROM PIN 22, 20, 18, 32, 30, 28, AND VERIFY THAT EACH PULSE OBSERVED MEETS THE REQUIREMENTS SHOWN IN FIGURE 3.

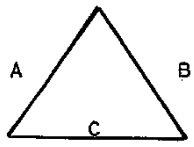
REV NO. B

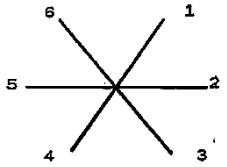
68A9445551
CONT ON SHEET 4 SH NO. 3

TITLE
TEST SPECIFICATIONS
GATE PULSE GENERATOR

FIRST MADE FOR IC3600TPGE1

DELTA STAR CONNECTION





3 SINGLE PHASE TRANSFORMERS

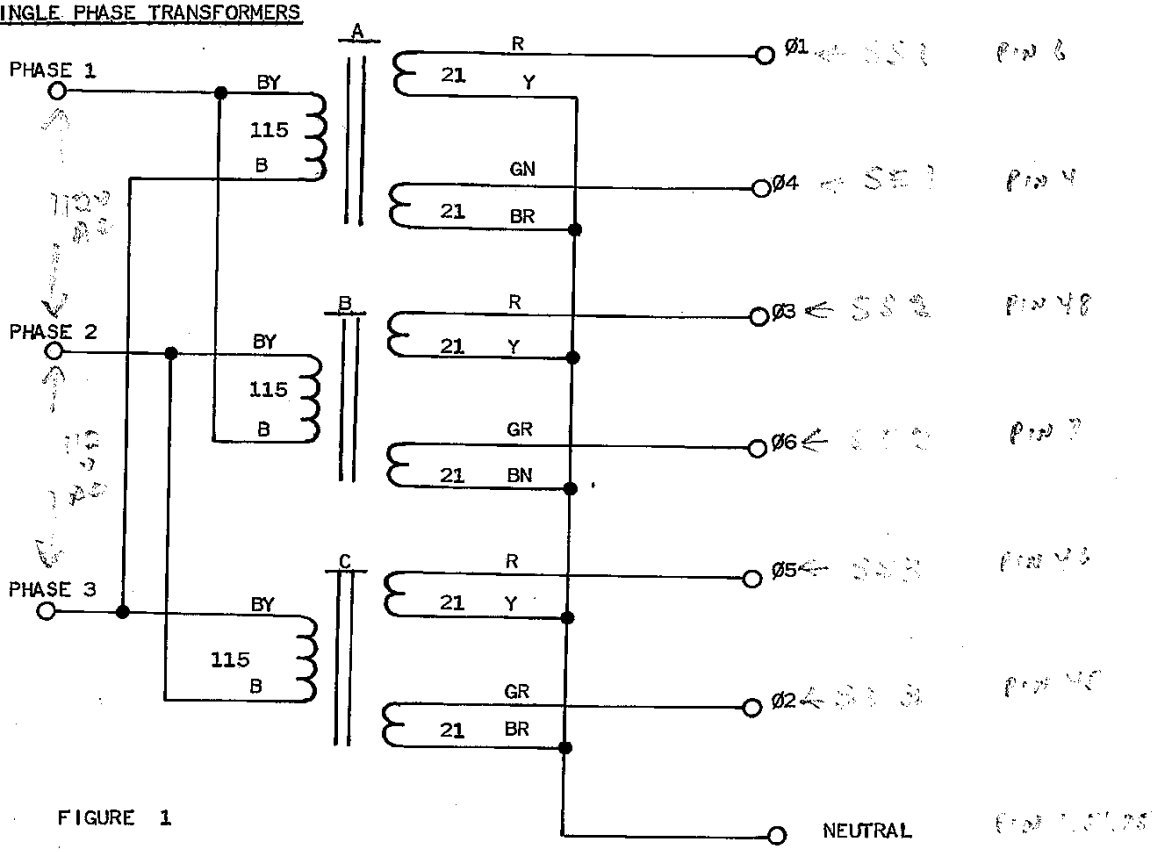
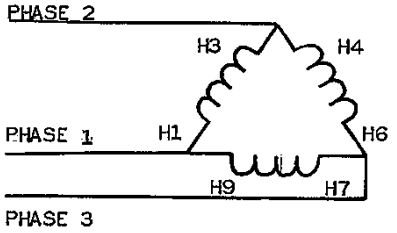


FIGURE 1

3 PHASE TRANSFORMER



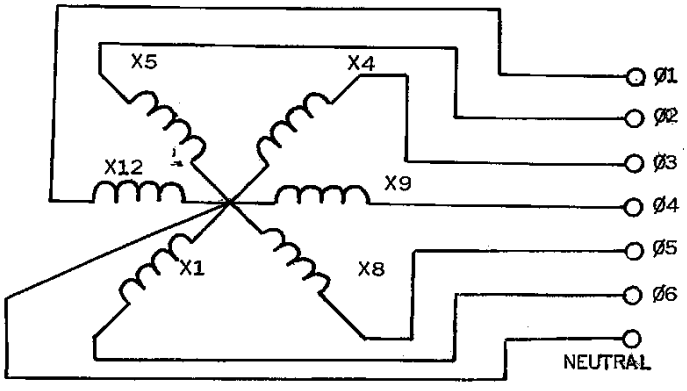


FIGURE 2

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CHG. PER SH. 4 TO SH 3.
1. TYPING CHANGES

DL1
DL3
25

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INDUSTRY CONTROL DIV OR DEPT.
SALEM, VA LOCATION

68A9445551
4
CONT ON SHEET SH NO. 3

CODE ID

REV NO. B

68A9445551
CONT ON SHEET 5 SH NO. 4

TITLE
TEST SPECIFICATIONS
GATE PULSE GENERATOR
FIRST MADE FOR IC3600TPGE1

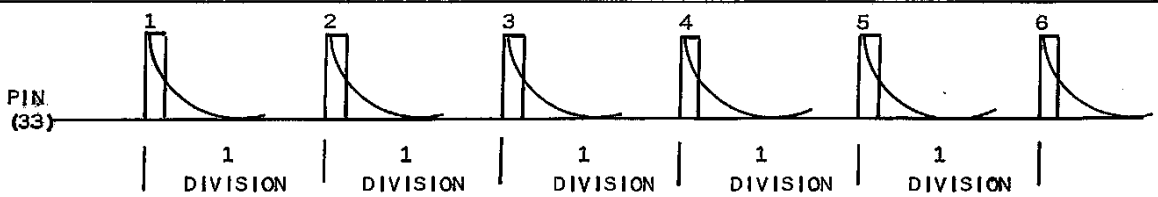

FIGURE 1

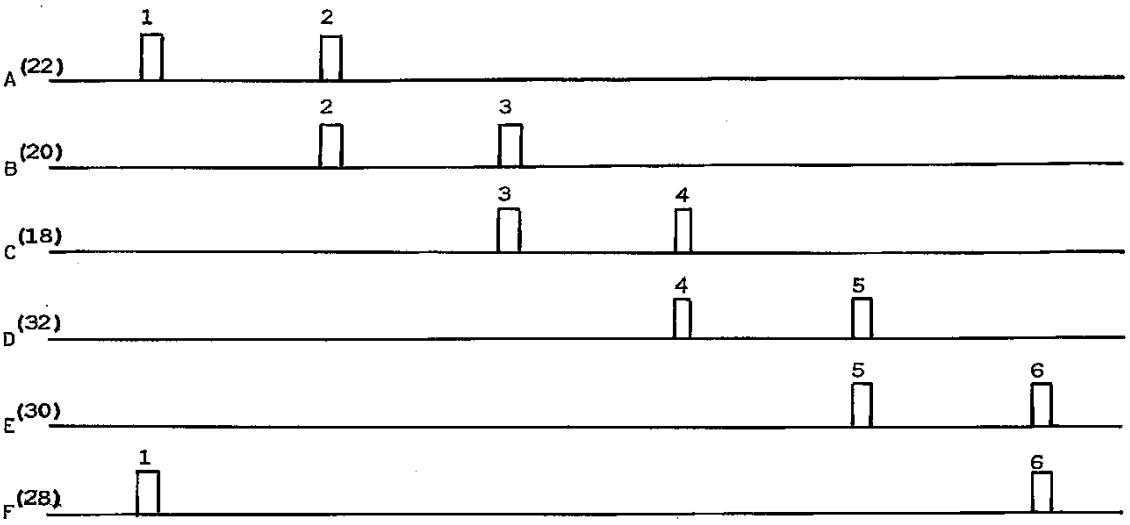

FIGURE 2

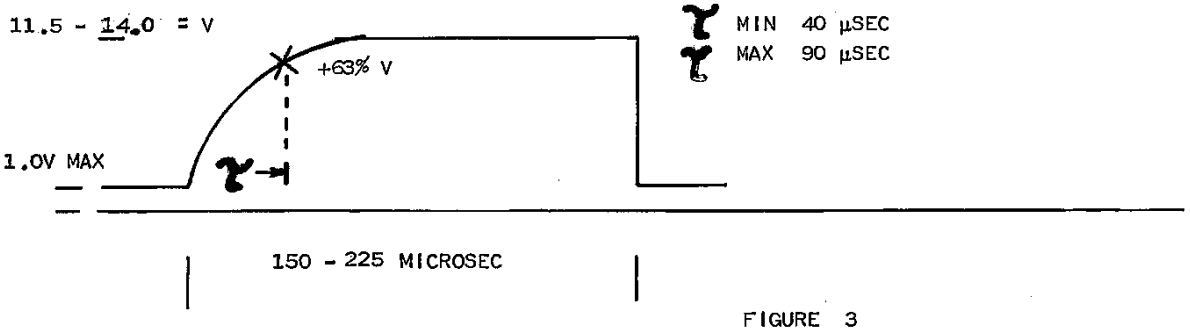

FIGURE 3

REVISI
3 TYPING CLG 4/16/75
CHG FROM SH. 3 TO SH 4
DL1
DL3
252
PRINTS

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GENERAL ELECTRIC

68A9445551
CONT ON SHEET FL. SH NO. 5

REV NO. B

68A9445551
CONT ON SHEET FL. SH NO. 5

TITLE
TEST SPECIFICATIONS
GATE PULSE GENERATOR
FIRST MADE FOR IC3800TPGE1

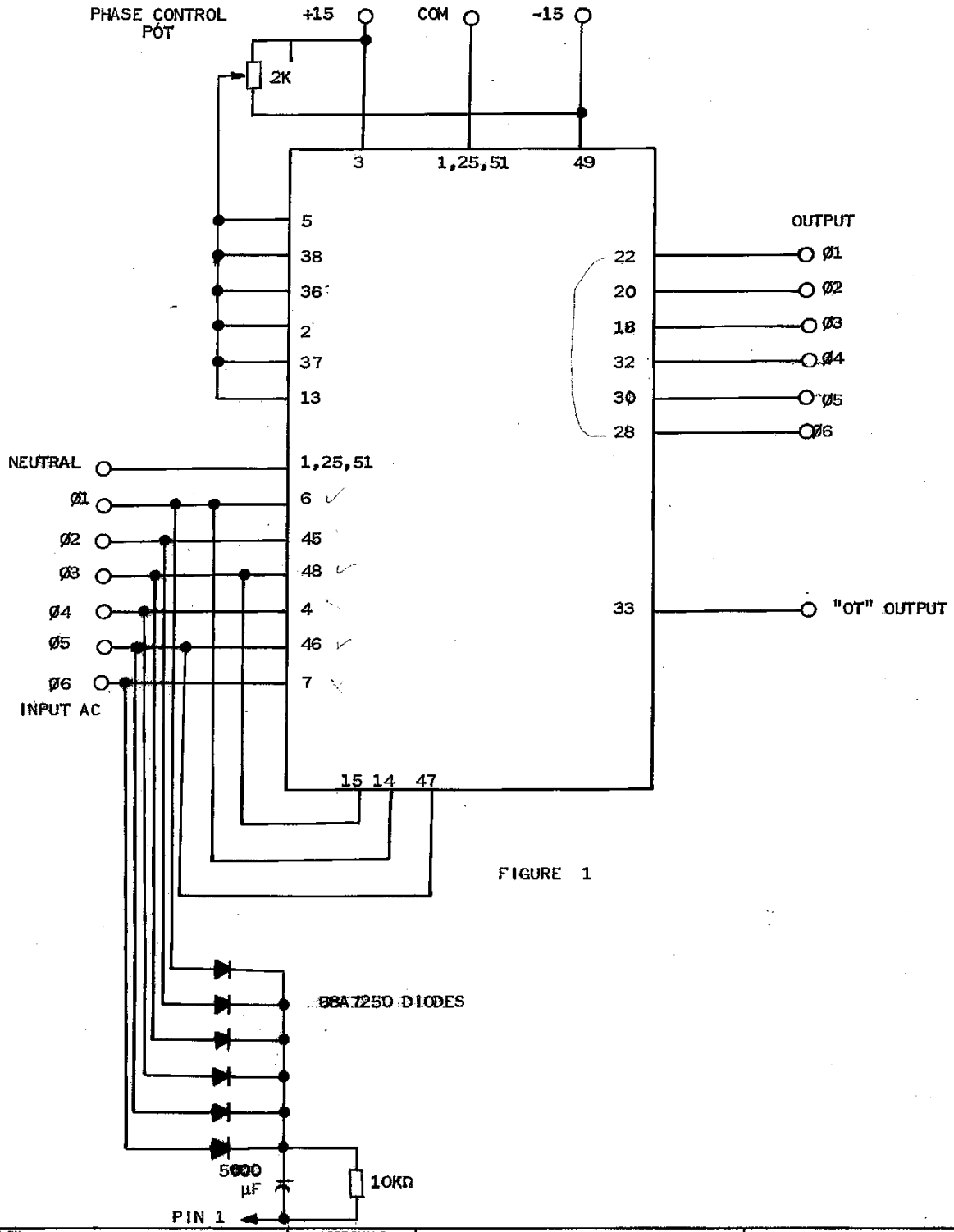

FIGURE 1

REVISI

Changed from SH. 6 to SH. 5, RE. TIMING CHG. MADE 9/1972

DL1:
DL3:
25

PRINT

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ISSUED July 28, 1972

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SALEM, VA — LOCATION

68A9445551
CONT ON SHEET FL. SH NO. 5
CODE IDE