

MAIN ELECTRICAL PANEL

CIRCUIT BREAKERS

CB13	CB12	CB11	CB10	CB9	CB8	CB7	CB6	CB5	CB4	CB3	CB2	CB1
30A	30A	30A	20A	30A	20A	30A	30A	30A	20A	30A	30A	20A
A/C	ACTUATORS	BACK UP	FUEL	CAB	CYLINDERS	CAB	RADIO	CONVEYORS	PARK	LEFT	RIGHT	FLASHERS
BLACK	WHITE -85	ROAD LIGHTS	PUMP	ROAD LIGHTS	2 SPEED	LIGHTS SWITCH	WIPER	DELAY RELAY	BRAKE	WORK LIGHTS	WORK LIGHTS	TURN SIGNALS
	BROWN -88	BROWN	RED -89	BROWN	4 X 4	RADIO	RED	RED	BLACK	ORANGE -91	GREEN -91	BROWN -92
	BROWN				GAUGE PANEL	MEMORY	RED		BLACK			
					BLACK -0012	AUX						
					RED	OUTLETS						
					ORANGE	BLACK						
					WHITE							

HAZ STAT

CB 1

92 (1)

TURN STAT

CB 1 BROWN

BROWN 502 (5)

DTS-0160

GREEN 607	SIGNAL	BLACK
CB4 - RED	12 VDC	BROWN
BLACK	GROUND	BLUE

CB16	CB15	CB14
20A	30A	30A
FOOT SWITCHES	CONVEYORS	CAB
	ORANGE	FIELD LIGHTS
RED 52		BROWN
TC115		
RED 020		

RELAYS

2 SPD

85 GROUND GREEN

86 BLACK 012 (1) ✓

87 BLACK CB7

30 BLACK 12 (H) ✓

4 X 4 LOCK

85 GROUND GREEN

86 BLACK 1 ✓

87 BLACK 1

88 BLACK 01 (2) ✓

SEAT RESET

85 GROUND GREEN

86 CB 5 JUMPER

87 TDR PIN 3 JUMPER

30 ORANGE 090 (1) ✓ RR PIN 8

3 JUMP	RESET	2
4 NOT USED	RELAY	1
5 NOT USED		JUMP 8
6 T.D.R.		T.D.R. 7

BACK UP LIGHTS

85 GROUND GREEN

86 BROWN 06 (2) ✓

87 BROWN CB11

30 BROWN 6 (H) ✓

4 X 4 RELAY

85 GROUND GREEN

86 ORANGE 144 (2) ✓

87 BLACK 1

30 BLACK 01 (2) ✓

MASTER RELAY

85 GROUND JUMPER*

86 ORANGE RR PIN 6 JUMPER1

87 CB 5

30 89 (1) ✓

5 (RES)	4 (RES)
6 BK804(1)	T.D.R.
7 BK810(1)	
1 R.R.7	2 GROUND 3 S.R.87

ROAD LIGHTS

85 GROUND GREEN

86 PURPLE 094 (2) ✓

87 BROWN CB11

30 PURPLE 94 (H) ✓

START RELAY

85 GROUND GREEN

86 ORANGE 144 (2) ✓

87 RED 2

30 WHITE 104 (5) ✓

MASTER RELAY

85 GROUND JUMPER*

86 ORANGE RR PIN 6 JUMPER1

87 ORANGE CB5

30 ORANGE 90 (1) ✓

77007

12VDC SUPPLY	RED 13 IGN	CB1-6 LOAD
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CAB FIELD LIGHTS

85 GROUND GREEN

86 BROWN 504 (3) ✓

87 BROWN CB14

30 BROWN 507 (3) ✓

RT WORK LIGHTS

85 GROUND GREEN

86 BLUE 036 (2) ✓

87 GREEN CB 2

30 BLUE 36 (H) ✓

T1	BLUE 30
T2	ORANGE 29
T3	BLACK 119
T4	
T5	RED 118
T6	BROWN 37
T7	WHITE 35

77007

12VDC SUPPLY	RED 13 IGN	CB8-13 LOAD
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CAB ROAD LIGHTS

85 GROUND GREEN

86 BROWN 503 (3) ✓

87 BROWN CB3 ✓

30 BROWN 526 (3) ✓

LT WORK LIGHTS

85 GROUND GREEN

86 BLUE 036 (2) ✓

87 ORANGE CB 3

30 BLACK 34 (H) ✓

GROUND BAR

MAIN ELECTRICAL PANEL

CIRCUIT BREAKERS

CB13	CB12	CB11	CB10	CB9	CB8	CB7	CB6	CB5	CB4	CB3	CB2	CB1
30A	30A	30A	20A	30A	20A	30A	30A	30A	20A	30A	30A	20A
A/C	ACTUATORS	BACK UP	FUEL	CAB	CYLINDERS	CAB	RADIO	CONVEYORS	PARK	LEFT	RIGHT	FLASHERS
BLACK	WHITE	ROAD	PUMP	ROAD	2 SPEED	LIGHTS	WIPER		BRAKE	WORK	WORK	TURN
		LIGHTS	RED	LIGHTS	4 X 4	SWITCH	RED	DELAY	BLACK	LIGHTS	LIGHTS	SIGNALS
		BROWN		BROWN	GAUGE	RADIO	RED	RELAY	RED	ORANGE	GREEN	
		BROWN			PANEL	MEMORY	RED		BLACK			BROWN
					BLACK		AUX					
					RED		OUTLETS					
					ORANGE							
					WHITE		BLACK					

GROUND SPD
MULTIPLIER

HAZ STAT

CB 1 ✓

92 (1) ✓

TURN STAT

CB 1 BROWN ✓

BROWN 502 (5) ✓

DTS-0160

GREEN 607 SIGNAL BLACK ✓

CB4 - RED 12 VDC BROWN ✓

BLACK GROUND BLUE ✓

CB16	CB15	CB14
20A	30A	30A
FOOT SWITCHES	CONVEYORS	CAB
RED 52 ✓	ORANGE	FIELD LIGHTS
TC115 ✓		BROWN
RED 020 ✓		

RELAYS

2 SPD

85 GROUND GREEN ✓

86 BLACK 012 (1) ✓

87 BLACK CB7 ✓

30 BLACK 12 (H) ✓

4 X 4 LOCK

85 GROUND GREEN ✓

86 BLACK 1 ✓

87 BLACK 1 *CB-B* ✓

30 BLACK 01 (2) ✓

SEAT RESET

85 GROUND GREEN ✓

86 CB 5 ✓ JUMPER

87 TDR PIN 3 ✓ JUMPER

30 ORANGE 090 (1) + ✓ RR PIN 8 ✓

3 JUMP	RESET	2
4 NOT USED	RELAY	1
5 NOT USED		JUMP 8
6 T.D.R.		T.D.R. 7

BACK UP LIGHTS

85 GROUND GREEN ✓

86 BROWN 06 (2) ✓

87 BROWN CB11 ✓

30 BROWN 6 (H) ✓

4 X 4 RELAY

85 GROUND GREEN ✓

86 ORANGE 144 (2) ✓

87 BLACK 1 *CB-B* ✓

30 BLACK 01 (2) ✓

MASTER RELAY

85 GROUND ✓ JUMPER*

86 ORANGE RR PIN 6 ✓ JUMPER1

87 CB 5 ✓

30 89 (1) ✓

5 (RES)	4 (RES)
6 BK804(1)	T.D.R.
7 BK810(1)	
1 R.R.7	2 GROUND 3 S.R.87

ROAD LIGHTS

85 GROUND GREEN ✓

86 PURPLE 094 (2) ✓

87 BROWN CB11 ✓

30 PURPLE 94 (H) ✓

START RELAY

85 GROUND GREEN ✓

86 ORANGE 144 (2) ✓

87 RED 2 *CB-B* ✓

30 WHITE 104 (5) ✓

MASTER RELAY

85 GROUND ✓ JUMPER*

86 ORANGE RR PIN 6 ✓ JUMPER1

87 ORANGE CB 5 ✓

30 ORANGE 90 (1) ✓

77007

12VDC SUPPLY	RED 13 IGN	CB1-6 LOAD
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CAB FIELD LIGHTS

85 GROUND GREEN ✓

86 BROWN 504 (3) ✓

87 BROWN CB14 ✓

30 BROWN 507 (3) ✓

RT WORK LIGHTS

85 GROUND GREEN ✓

86 BLUE 036 (2) ✓

87 GREEN CB 2 ✓

30 BLUE 36 (H) ✓

T1	BLUE 30
T2	ORANGE 29
T3	BLACK 119
T4	
T5	RED 118
T6	BROWN 37
T7	WHITE 35

77007

12VDC SUPPLY	RED 13 IGN	CB8-13 LOAD
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CAB ROAD LIGHTS

85 GROUND GREEN ✓

86 BROWN 503 (3) ✓

87 BROWN CB11 ✓

30 BROWN 526 (3) ✓

LT WORK LIGHTS

85 GROUND GREEN ✓

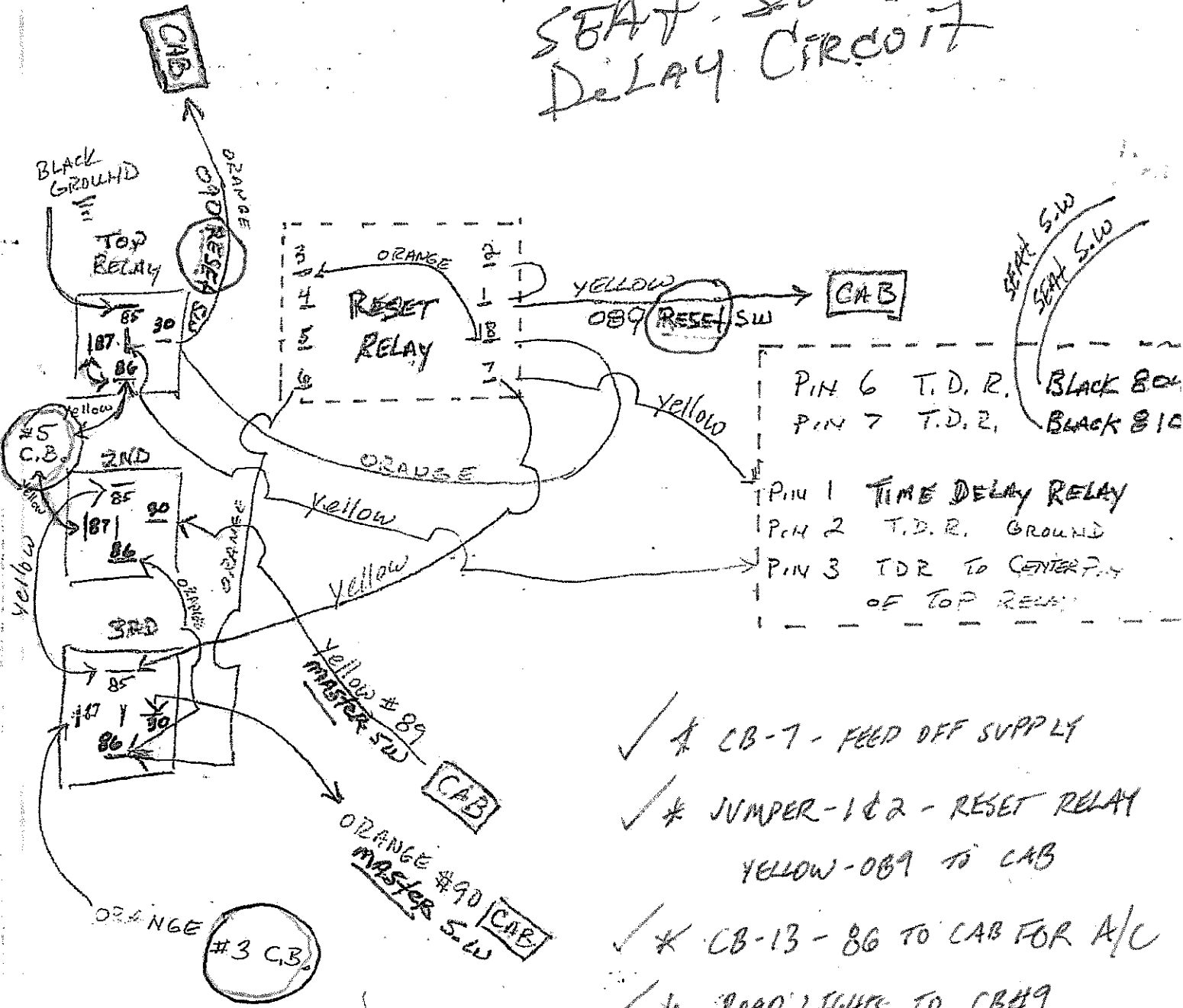
86 BLUE 036 (2) ✓

87 ORANGE CB 3 ✓

30 BLACK 34 (H) ✓

GROUND BAR

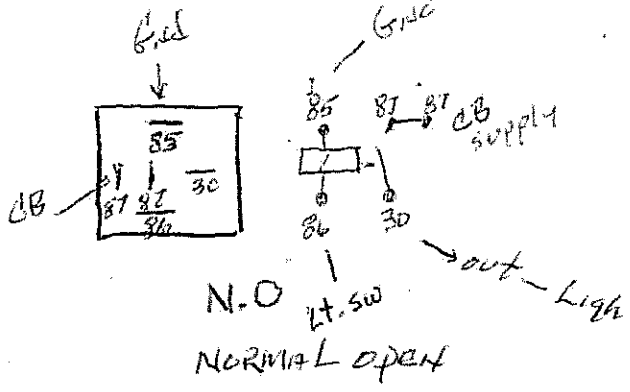
SANDYLAND SEAT SW - DELAY CIRCUIT



PIN 6 T.D.R. BLACK 804
 PIN 7 T.D.R. BLACK 810

PIN 1 TIME DELAY RELAY
 PIN 2 T.D.R. GROUND
 PIN 3 TDR TO CENTER PIN OF TOP RELAY

- ✓ * CB-7 - FEED OFF SUPPLY
- ✓ * JUMPER-1 & 2 - RESET RELAY
YELLOW-089 TO CAB
- ✓ * CB-13 - 86 TO CAB FOR A/C
- ✓ * ROAD LIGHTS TO CB#9
- ✓ * FIX GREEN-607 ON 4X
- ✓ * MASTER/SEAT RELAY - 87'S TO CB15
- ★ RED #11 "HOT SIDE" OF 77007 out to PLUG 5

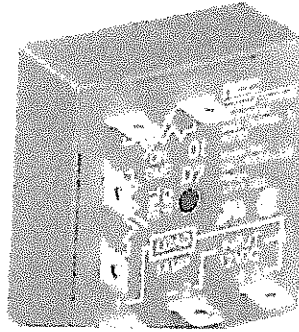


Solid-State Cube Timers

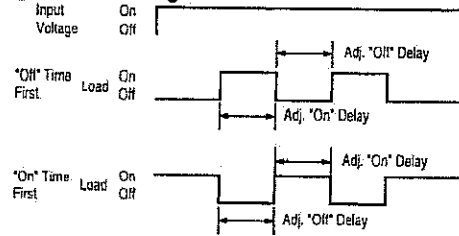
Repeat Cycle Q6F Series

Operating Logic: Upon application of input voltage, the "off" delay is initiated. At the end of the "off" preset time, the load is activated and the "on" delay starts. At the end of the "on" preset time, the load is deactivated and a new cycle begins. The "on" and "off" cycles will continue to alternate until input voltage is removed. This timer is available with "on" time occurring first logic.

Note: 1) Remote potentiometer leads should be shielded when running close to other wires; 2) The minimum time setting on external resistor-adjustable time delay relays is obtained by shorting together the external resistor terminals of the relay; 3) The maximum time setting within tolerance limits is obtained by using a 1 megohm resistor; 4) Timing values between the minimum and maximum limits are linear with resistance within 10%; 5) Recommend 1/4 watt minimum resistor be used.



Logic Function Diagram:



Specifications

Time Delay

Adjustment: External resistor, factory fixed on special order (Minimum order requirement)

Range: 50 mS to 10 hours in 9 ranges

Repeatability: ±5% + 8 mS maximum (.25% typ) at constant temperature

Accuracy:

Maximum time ±2% at $R_t = 1$ megohms
Minimum time +0%, -30% at $R_t = 0$ ohm

Input

Operating Voltage: 120, 240 VAC; 12 VDC; 24 VAC/DC ±10%; (D.C. models have reverse polarity protection. Unfiltered input voltage to them must be full-wave rectified)

Frequency: 50/60 Hz

Mechanical

Termination: .25"x.032" male fast-on terminals
Mounting: Surface mount with one #8 screw

Output

Type: Solid-state, normally open

Rating: 1 amp steady state

Life: 100,000,000 operations

Protection

Transient Voltage: Metal oxide varistor see rating below

Dielectric Breakdown: 3000 VAC, RMS, terminals to mounting

Insulation Resistance: 100 megohms minimum between terminals and case

Environmental

Storage Temperature: -40°C to 85°C

Operating Temperature: -40°C to 65°C

Humidity: 95% relative

Ordering Information

"Off" Time First Logic		Input Voltage and Appropriate Part Numbers			
Time Range	12 VDC ± 10%	24 VAC/DC ± 10%	120 VAC ± 10%	240 VAC ± 10%	
.05-1 Second	Q6F-00001-326	Q6F-00001-327	Q6F-00001-321	Q6F-00001-325	
.25-5 Seconds	Q6F-00005-326	Q6F-00005-327	Q6F-00005-321	Q6F-00005-325	
.5-10 Seconds	Q6F-00010-326	Q6F-00010-327	Q6F-00010-321	Q6F-00010-325	
3-60 Seconds	Q6F-00060-326	Q6F-00060-327	Q6F-00060-321	Q6F-00060-325	
15-300 Seconds	Q6F-00300-326	Q6F-00300-327	Q6F-00300-321	Q6F-00300-325	
30-600 Seconds	Q6F-00600-326	Q6F-00600-327	Q6F-00600-321	Q6F-00600-325	
180-3600 Seconds	Q6F-03600-326	Q6F-03600-327	Q6F-03600-321	Q6F-03600-325	
2.5-5 Hours	Q6F-18000-326	Q6F-18000-327	Q6F-18000-321	Q6F-18000-325	
5-10 Hours	Q6F-36000-326	Q6F-36000-327	Q6F-36000-321	Q6F-36000-325	
"On" Time First Logic		Input Voltage and Appropriate Part Numbers			
3-60 Seconds	Q6F-00060-336		Q6F-00060-331		
15-300 Seconds					
30-600 Seconds			Q6F-00600-331		
180-3600 Seconds					
2.5-5 Hours					

Trigger Time (Start Sw. Closure)	500 mS	500 mS	500 mS	500 mS
Reset Time	500 mS	500 mS	500 mS	500 mS
Min. Load	5 mA	5 mA	2 mA	2 mA
Max. Leakage Current	100 µA	100 µA	100 µA	100 µA
Voltage Drop @ 1A	2.1 Volts max.	3.2 Volts max.	3.3 Volts max.	5.8 VA Max.
Power Consumption	2.6 Watts Max.	3.7 VA Max.	4.3 VA Max.	5.8 VA Max.
Peak 1 Cycle Surge	4 Amp	4 Amp	20 Amp	20 Amp
Protection	rev. voltage	8.8µ MOV	36µ MOV	36µ MOV

Optional Potentiometer: Part Number ASY-0001M-450

AMETEK NCC

National Controls Corp.

Phone 800-323-2593

630-231-5900

Fax 630-231-1377

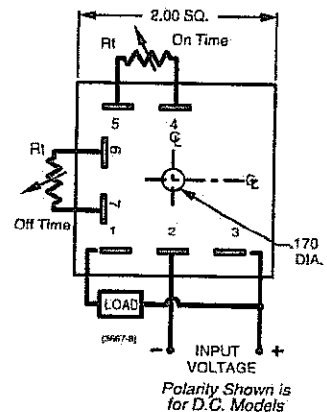
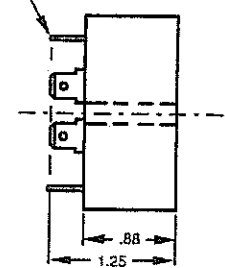
Internet www.natcon.com

www.nationalcontrols.com

Features

- File #E65038
- Time Delays To 10 Hours Standard
- 100% Life Tested
- Solid-State Digital Timing
- 20:1 Maximum To Minimum Timing Ratio
- Low Cost
- Compact Size
- Superior Transient Protection
- Flame-Retardant and Solvent-Resistant Polyester Thermoplastic Housing
- Made in U.S.A.

.25 X .032 MALE FAST-ON TERMINALS (7 PL.)

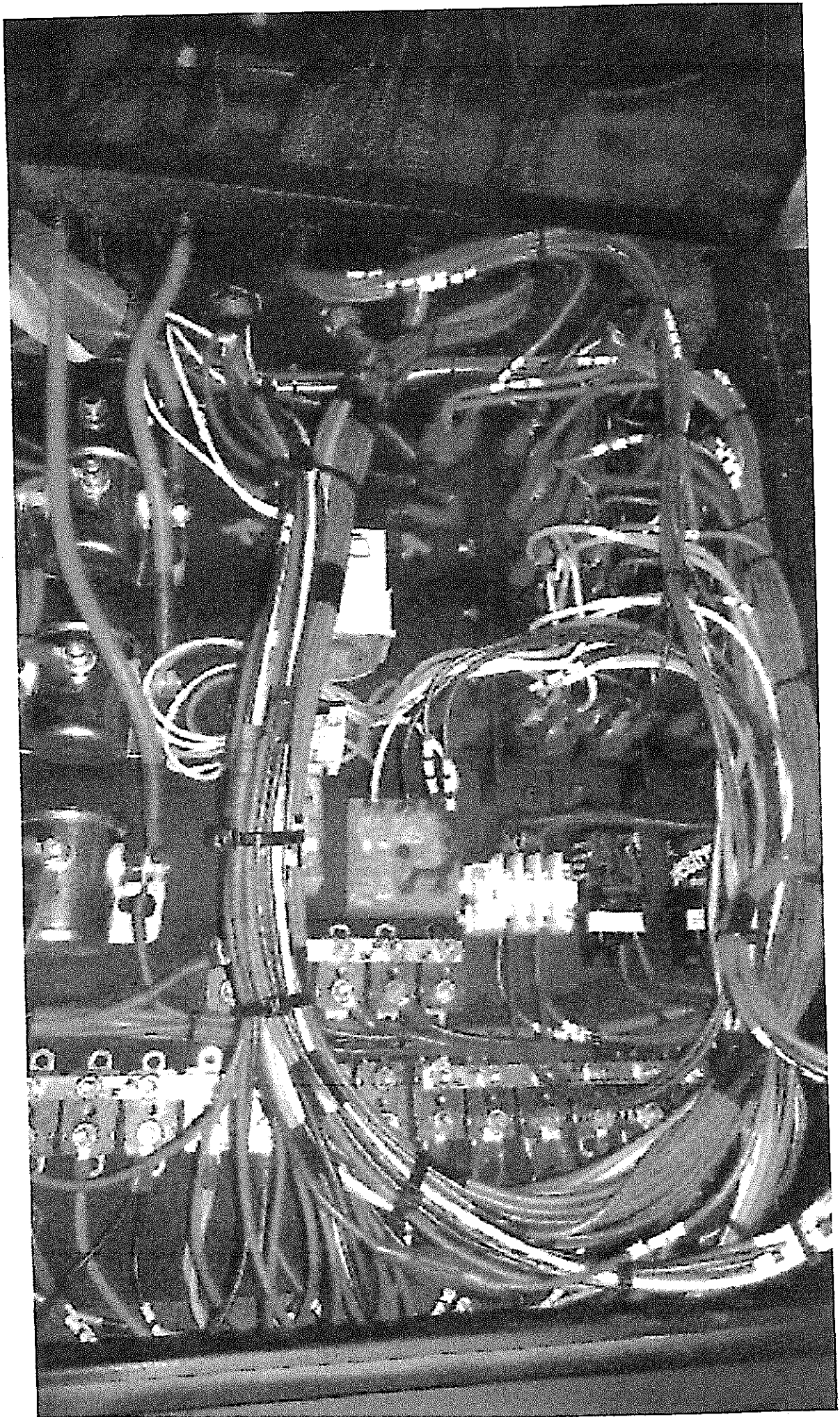


External Resistance/Time Delay Relationship

1 megohm external resistance is required to obtain the maximum time for all ranges. To determine the actual resistance needed to obtain the required time delay, use the following formula:

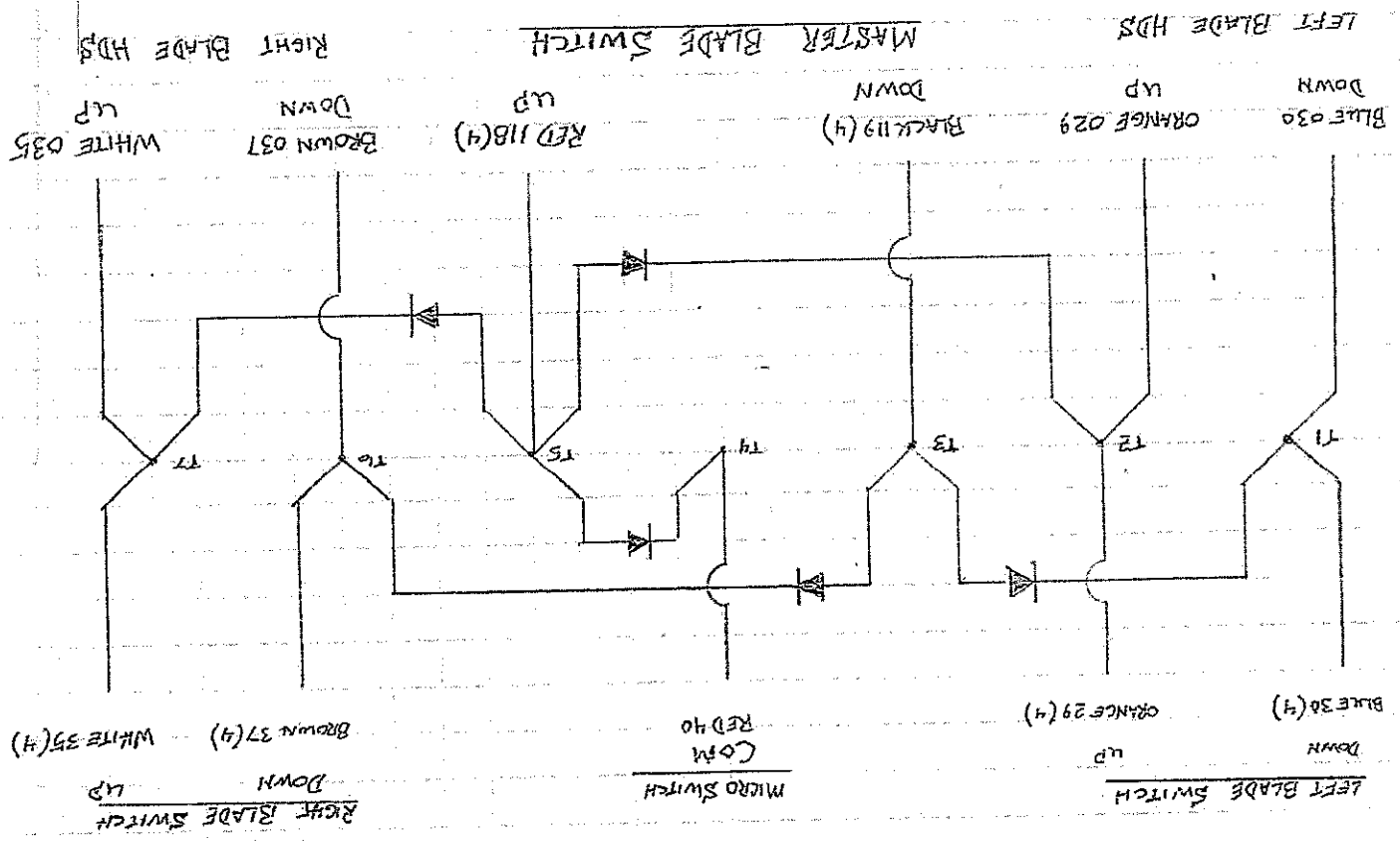
$$R_t = \frac{T_{\text{required}} - T_{\text{minimum}}}{T_{\text{maximum}} - T_{\text{minimum}}} \times 1,000,000 \text{ ohms}$$

Note: Due to component tolerances, the actual time obtained will normally be within 5% of desired time.



#170871
GROSS BROS.

BLADE/COULTER CONTROL
(TOP TERMINAL STRIP)



PLUG #1

PIN 1	BLUE 30 (4)	8866GH ENCLOSURE (2001-0160)
2	ORANGE 29 (4)	10-2001-0179 DIODE
3	RED 40	8"-2001-0619 #3 DIN RAIL (35MM)
4	BROWN 37 (4)	14-2001-1003 TERMINAL BLOCK
5	WHITE 35 (4)	4-2001-1079 END CLAMP
6		2-2001-0941 END BARRIER
7	BLUE 030	2-2001-0125 12 PIN MOUNTED RECEPTACLE
8	ORANGE 029	2-2001-0276 12 PIN PLUG
9	BLACK 119 (4)	2-2001-0136 WIRE
10	RED 118 (4)	2-2001-0134 WIRE
11	BROWN 037	2-2001-0055 CAVITY PLUG
12	WHITE 035	22-2001-0078 CONTACT PINS
		22-2001-0080 CONTACT SOCKETS

160 FT - 2001-0305 WIRE

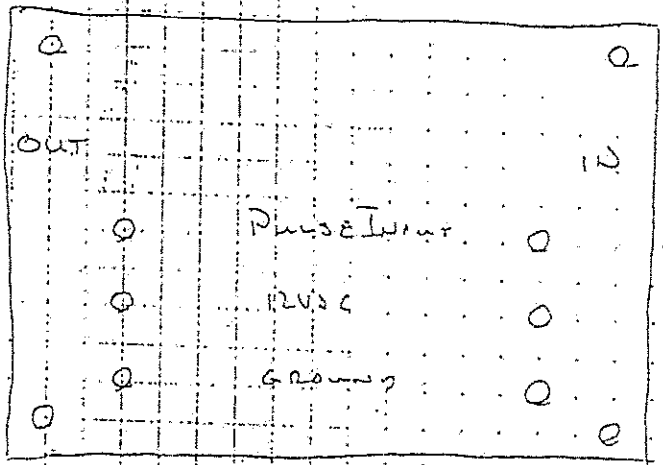
SPEEDOMETER 4X MULTIPLIER 1995

04.00
03.70
02.60
01.50

- # 1 12V DC + BROWN FUSE #15
- # 2 GROUND $\frac{1}{2}$ BLUE
- # 3 IMPULSE DARK GREEN (LOT 23(2))
- # 4
- # 5 12V DC + BROWN
- # 6 GROUND $\frac{1}{2}$ BLUE
- # 7 IMPULSE BLACK
- # 8

POCORN HARNESS }
 REG GREEN } TERMINAL WIRE
 WHITE }

1996



Case
 GREEN 607
 RED
 GREEN

POCORN
 - BLACK (CASE) WHITE (TERMINAL WIRE)
 BROWN (CASE) RED (TERMINAL WIRE)
 BLUE (CASE) GREEN (TERMINAL WIRE)

FINAL 12-2-19

Road Light

Back up Light

Work Light

Rmt2 Float

Rmt1 Float

Boom PWR

2nd Star PWR

1st Star PWR

Upr Shkr PWR

Lwr Shkr PWR

Prim PWR

Mist PWR

SEAT RESET

HAZARD LIGHT

STROBE LIGHT

2nd Star Rvs

1st Star Rvs

Boom Rvs

Rmt3 ON/OFF

Boom Spd

2nd Star Spd

1st Star Spd

Upr Shkr Spd

Lwr Shkr Spd

R. Prim Spd

L. Prim Spd

Rmt2 U/D

Rmt1 U/D

Star Angle

Mast Blade Up/Dn

TRK Brake
2 SPD
4V4