# What would I build?...
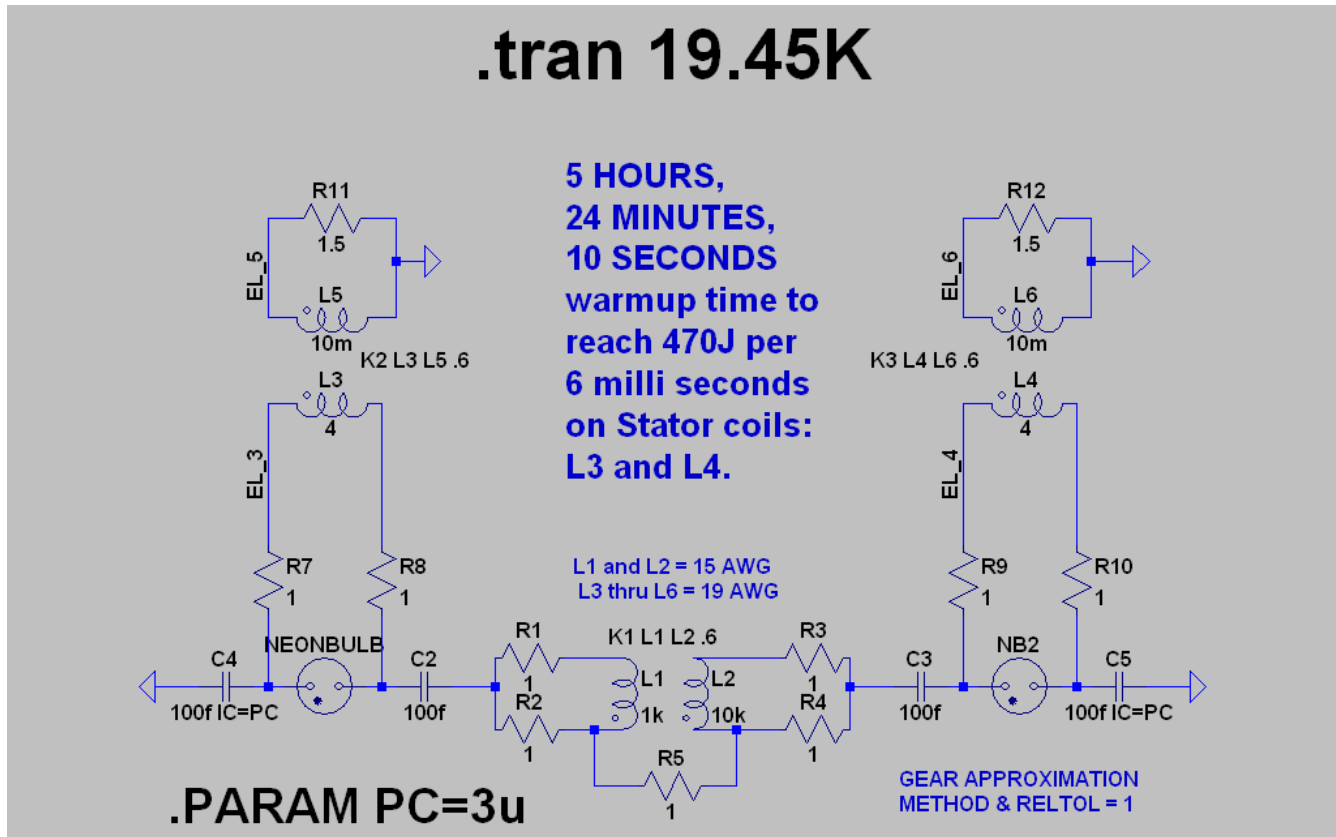
LTSPICE is more exacting, ie. challenging, than Micro-Cap electronic simulator. If I had to design and tweak an overunity circuit intended to be built, I would design it in LTSPICE...and hope for the best...
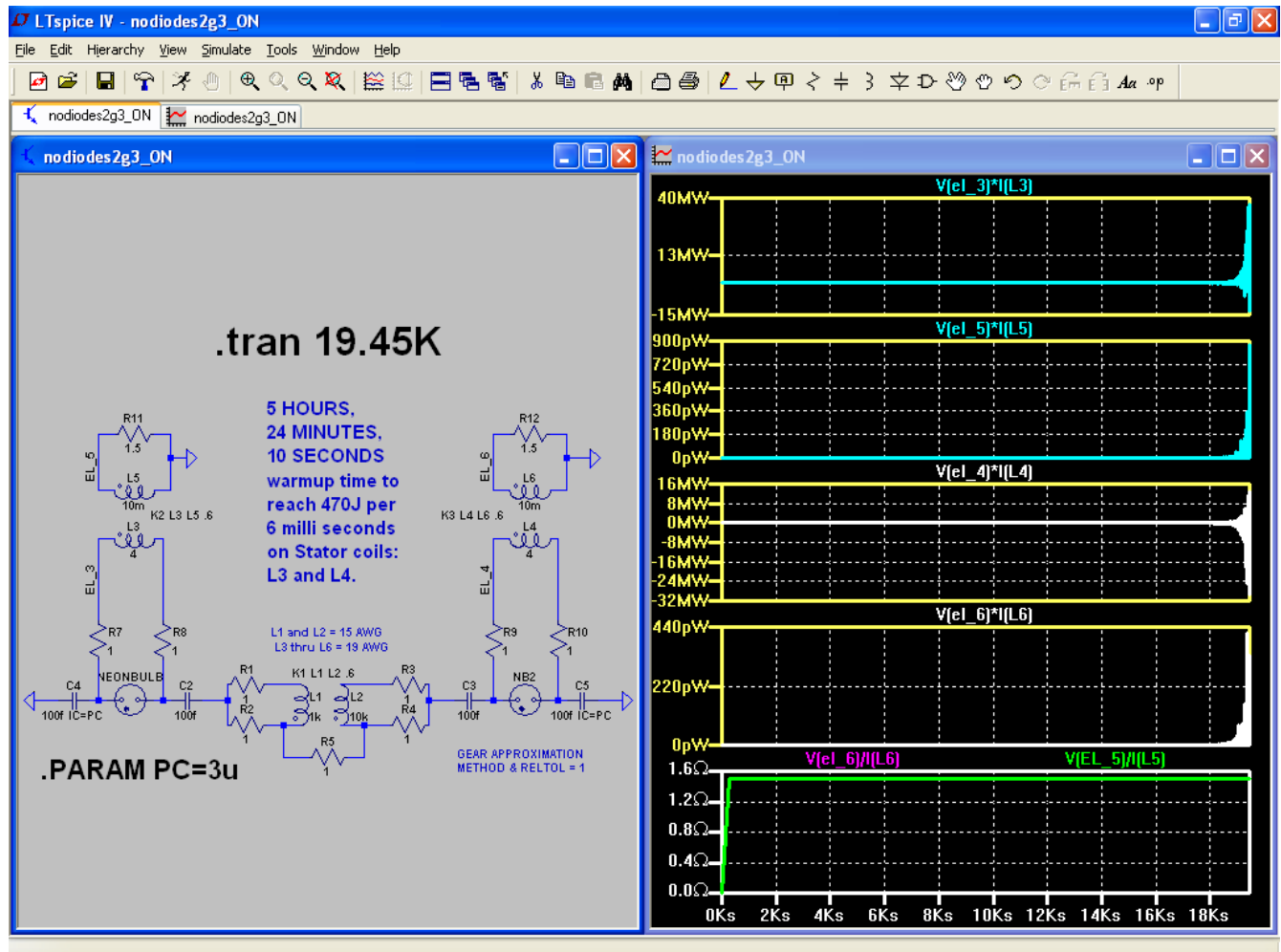


The series resistance for inductors, L1 and L2, is one-tenth units of Ohms versus the units of Henrys for their inductance. So, inductor, L1, possesses 100 Ohms of series resistance while inductor, L2, possesses 1k Ohms. The series resistance for inductors, L3 through L6, are one-fourth the Ohms by comparison to the Henrys of their inductance. So, inductor, L3 and L4, each possess 1 Ohm of resistance while inductors, L5 and L6, each possess two and one-half milli Ohms of resistance.
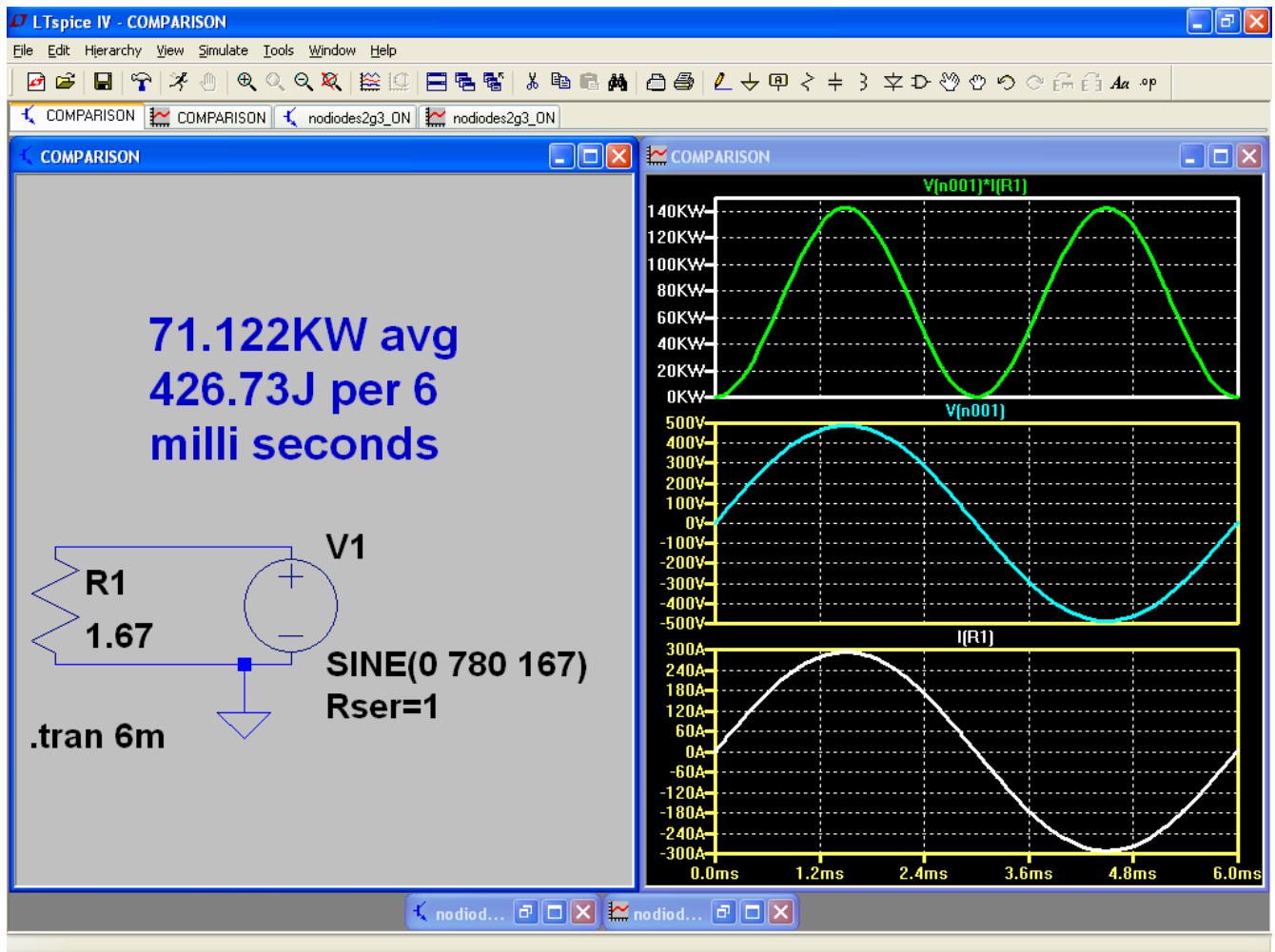
The rotor coils are represented by inductors, L5 and L6. The stator coils are represented by inductors, L3 and L4.

Whereas, the inductance for the stator coils is accurate for the RAV4EV from 2002, I'm taking a

wild guess for the inductance of its rotor coils.

LTspice IV - nodiodes2g3_ON

File  Edit  Hierarchy  View  Simulate  Tools  Window  Help

nodiodes2g3_ON    nodiodes2g3_ON

nodiodes2g3_ON

.tran 19.45K

5 HOURS,
24 MINUTES,
10 SECONDS
warmup time to
reach 470J per
6 milli seconds
on Stator coils:
L3 and L4.

R11
1.5
EL_5
L5
10m    K2 L3 L5 .6
L3
4
EL_3
R7    R8
1      1
C4    NEONBULB    C2
100f IC=PC         100f

R1    K1 L1 L2 .6    R3
1    L1    L2    1
R2    1k    10k    R4
1                  1
R5
1

L1 and L2 = 15 AWG
L3 thru L6 = 19 AWG

R12
1.5
EL_6
L6
10m    K3 L4 L6 .6
L4
4
EL_4
R9    R10
1      1
C3    NB2    C5
100f         100f IC=PC

GEAR APPROXIMATION
METHOD & RELTOL = 1

.PARAM PC=3u

nodiodes2g3_ON

V(el_3)*I(L3)
40MW
13MW
-15MW

V(el_5)*I(L5)
900pW
720pW
540pW
360pW
180pW
0pW

V(el_4)*I(L4)
16MW
8MW
0MW
-8MW
-16MW
-24MW
-32MW

V(el_6)*I(L6)
440pW
220pW
0pW

V(el_6)/I(L6)    V(EL_5)/I(L5)
1.6Ω
1.2Ω
0.8Ω
0.4Ω
0.0Ω
0Ks  2Ks  4Ks  6Ks  8Ks  10Ks  12Ks  14Ks  16Ks  18Ks

For comparison, I simulated an A/C source rated at 780V and 167Hz to model the rotation rate of an electric motor at full throttle speed and a voltage input to accommodate the correct amps and volts equivalent to a RAV4EV from 2002, namely: 206A and 345V. Then I matched the Joules per 6 milli seconds of the circuit, above, with the comparison circuit below...

COMPARISON | COMPARISON | nodiodes2g3_ON | nodiodes2g3_ON

COMPARISON

COMPARISON

**71.122KW avg
426.73J per 6
milli seconds**

R1
1.67

V1

SINE(0 780 167)
Rser=1

.tran 6m

V(n001)*I(R1)

140KW
120KW
100KW
80KW
60KW
40KW
20KW
0KW

V(n001)

500V
400V
300V
200V
100V
0V
-100V
-200V
-300V
-400V
-500V

I(R1)

300A
240A
180A
120A
60A
0A
-60A
-120A
-180A
-240A
-300A

0.0ms    1.2ms    2.4ms    3.6ms    4.8ms    6.0ms

nodiod...    nodiod...

The average kilo watts for the comparison circuit came out to be right on target for the 2002 RAV4EV at 71kW. Cool....