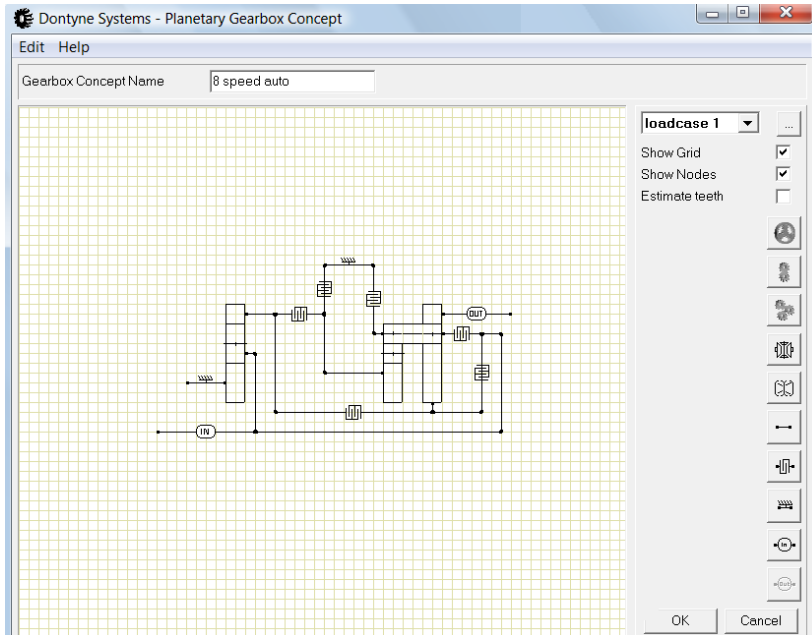


# CONCEPT PLANETARY GEARBOX DESIGN

## Layout of concept planetary gearbox system

Rapid development of automatic planetary type transmissions

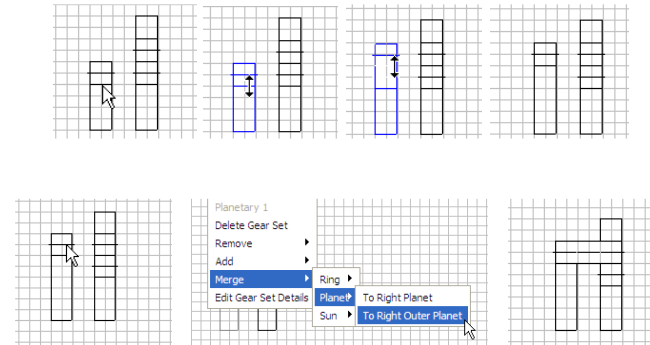
8 - speed Lepelletier transmission shown



## Determine clutching sequence

	1st	2nd	3rd	4th	5th	6th	7th	8th
Clutch C2		X		X				X
Clutch C1						X	X	X
Clutch C5	X	X	X					
Clutch C6								
Clutch C4	X				X		X	
Clutch C3			X	X	X	X		

## Resize and merge components



## Calculate component speeds

	1st	2nd	3rd	4th	5th	6th	7th	8th	rev
Planetary IN									
Sun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Planet i (abs)	7500.000	7500.000	7500.000	7500.000	7500.000	7500.000	7500.000	7500.000	7500.000
Planet i (journal)	5000.000	5000.000	5000.000	5000.000	5000.000	5000.000	5000.000	5000.000	5000.000
Ring	3750.000	3750.000	3750.000	3750.000	3750.000	3750.000	3750.000	3750.000	3750.000
Carrier	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000
Ravigneaux L									
Sun	-0.000	-0.000	-0.000	625.000	2500.000	3750.000	3750.000	3750.000	-3750.000
Planet i (abs)	7500.001	11250.002	12500.002	10000.000	2500.000	-2499.999	0.001	3750.001	15000.001
Planet i (journal)	6000.001	9000.002	10000.002	7500.000	0.000	-4999.999	-2999.999	0.001	15000.001
Planet o (abs)	-4500.001	-6750.002	-7500.002	-5000.000	2500.000	7499.999	5999.999	3749.999	-15000.001
Planet o (journal)	-6000.001	-9000.002	-10000.002	-7500.000	0.000	4999.999	2999.999	-0.001	-15000.001
Carrier	1500.000	2250.000	2500.000	2500.000	2500.000	2500.000	3000.000	3750.000	0.000
Ravigneaux R									
Sun	2500.000	3750.000	4166.667	3750.000	2500.000	1666.667	2500.000	3750.000	2500.000
Planet i (abs)	-4500.001	-6750.002	-7500.002	-5000.000	2500.000	7499.999	5999.999	3749.999	-15000.001
Planet i (journal)	-6000.001	-9000.001	-10000.002	-7500.000	0.000	4999.999	2999.999	-0.001	-15000.001
Ring	750.000	1124.999	1250.000	1562.500	2500.000	3125.000	3375.000	3750.000	-1875.000
Carrier	1500.000	2250.000	2500.000	2500.000	2500.000	2500.000	3000.000	3750.000	-0.000
Power load out	750.000	1124.999	1250.000	1562.500	2500.000	3125.000	3375.000	3750.000	-1875.000
Power load in	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000	2500.000
Ground 2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ground 1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clutch C3	0.000	0.000	2500.000	2500.000	2500.000	2500.000	0.000	0.000	0.000
Clutch C4	2500.000	0.000	0.000	0.000	2500.000	0.000	2500.000	0.000	2500.000
Clutch C6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

## Calculate component torques

	1st	2nd	3rd	4th	5th	6th	7th	8th	rev
Planetary IN									
Sun to planet i	0.000	-100.000	0.000	180.000	0.000	-60.000	-77.778	-100.000	0.000
Planet i to ring	0.000	50.000	0.000	-90.000	0.000	30.000	38.889	50.000	0.000
Ravigneaux L									
Sun to planet i	700.000	466.667	300.000	0.000	0.000	120.000	155.556	140.000	0.000
Planet i to planet	-175.000	-116.667	-75.000	0.000	0.000	-30.000	-38.889	-35.000	0.000
Ravigneaux R									
Sun to planet i	300.000	200.000	0.000	-360.000	-225.000	0.000	66.667	60.000	300.000
Planet i to ring	125.000	83.333	75.000	60.000	37.500	30.000	27.778	25.000	-50.000
Power load out	1000.000	666.667	600.000	480.000	300.000	240.000	222.222	200.000	-400.000
Power load in	300.000	300.000	300.000	300.000	300.000	300.000	300.000	300.000	300.000
Ground 1	-700.000	-466.667	-300.000	0.000	0.000	0.000	0.000	0.000	700.000
Ground 2	0.000	100.000	0.000	-180.000	0.000	60.000	77.778	100.000	0.000

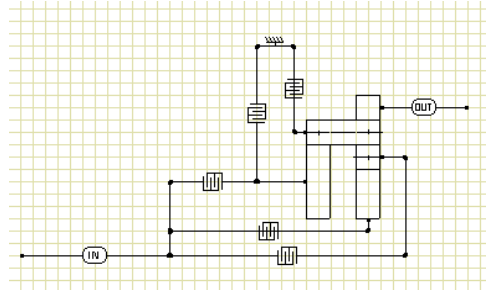
## The standard features include :-

- Drag and drop layout of components, shafts, planet stages, coupling, clutches
- Construction of single planet, double planet and merged planets, rings and suns arrangements
- Component speeds and torques
- Multiple load cases and clutching
- Testing of power
- Multiple speed input/output allowing differentials to be modelled

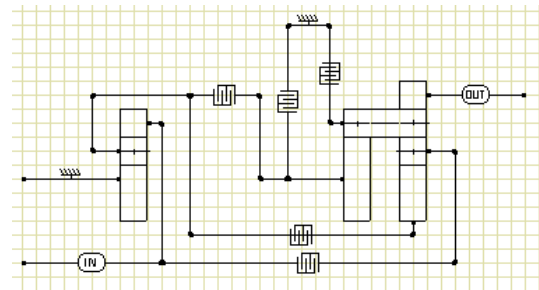
# CONCEPT PLANETARY GEARBOX DESIGN

No fixed arrangement - additional examples shown

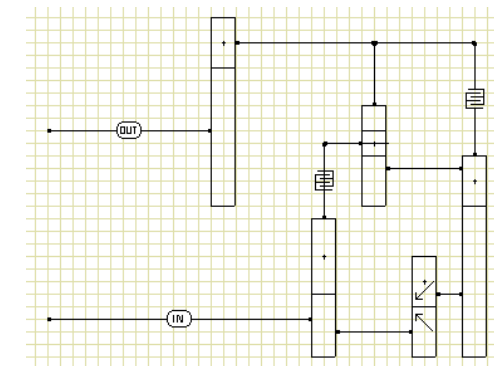
4 speed auto Ravigneaux



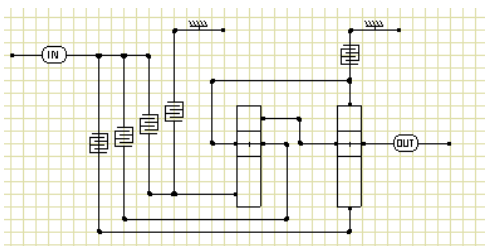
6 speed auto Lepelletier



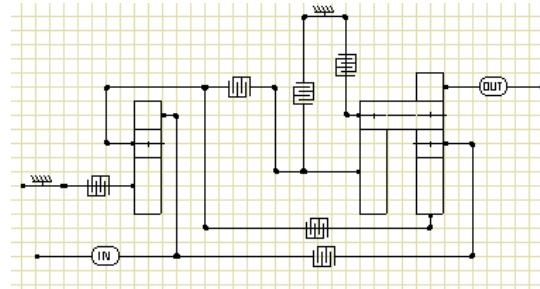
IVT



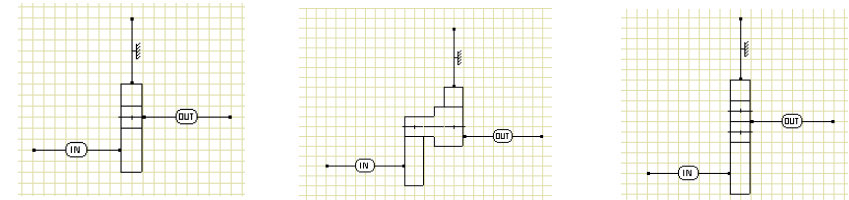
4 speed auto 2 planetary



7 speed auto Lepelletier



AGMA 6123 A-88 examples



## Contact Details

Europe

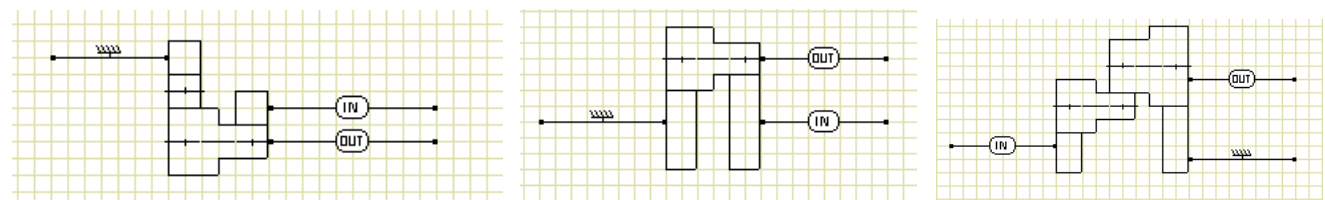
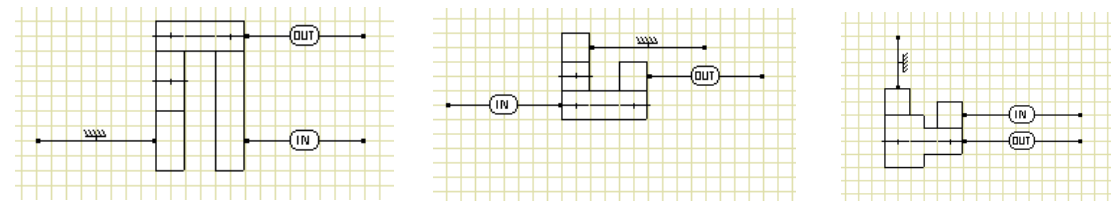
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