

Synchro Engine **Synchro Engine**

Scientific Internal Combustion Engine

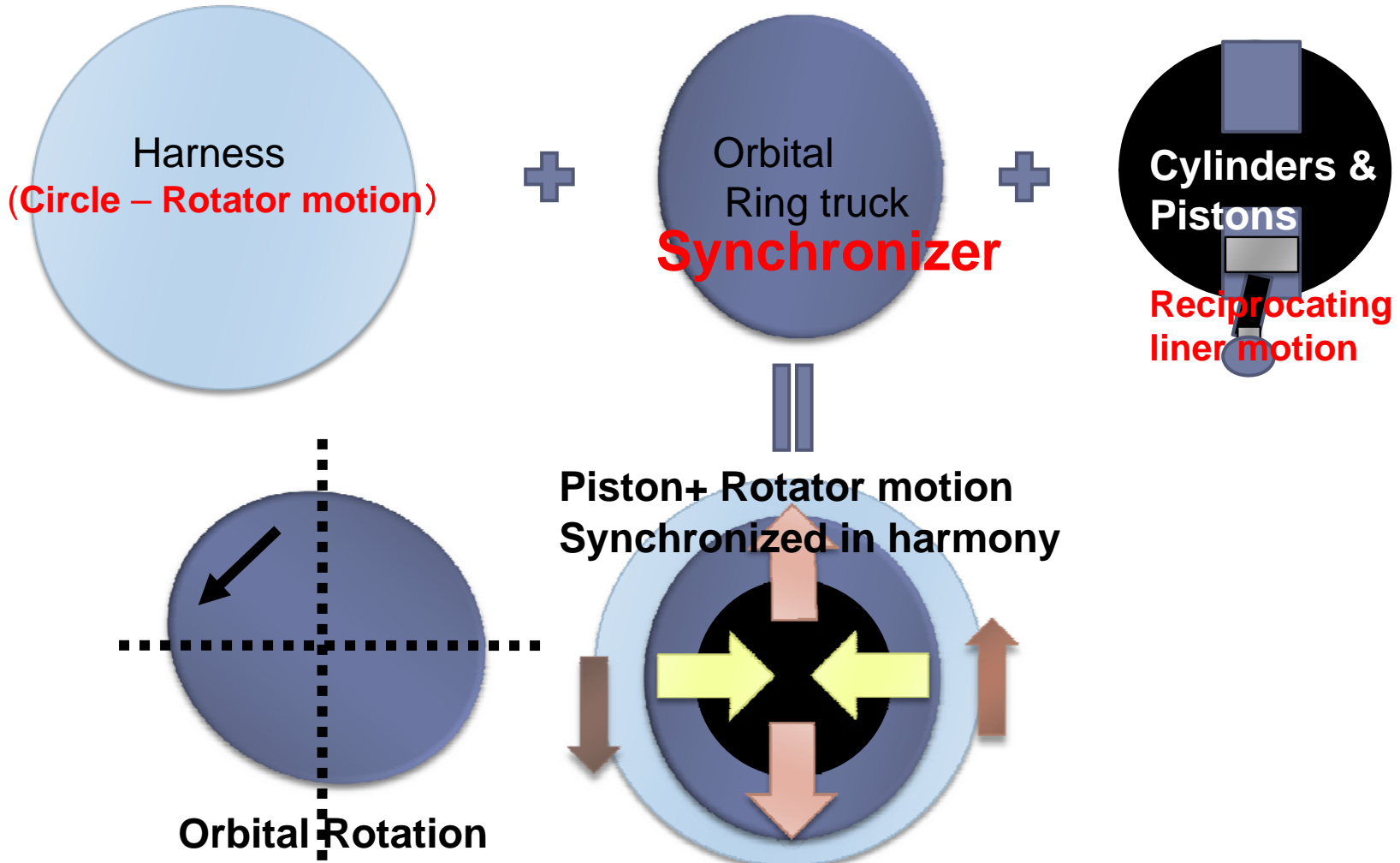
Yasuo WATANABE Orbit Motor Ltd

Synchro Engine means Scientific I.C.E. Orbital Technology – Optimal structure

- ◆ Use Orbital ring rather than Crankshaft which synchronizes reciprocating and rotator motion while creating large rotator torque.
 - ◆ Each stroke is made by 90 degree rotator motion but there is Tangent force, also Centrifugal or Centre of circle force are working.
 - ◆ Less friction +- 80%
 - ◆ Optimal Gas fluid less heat energy.
 - ◆ Two pistons placed on the axis of symmetry.
-



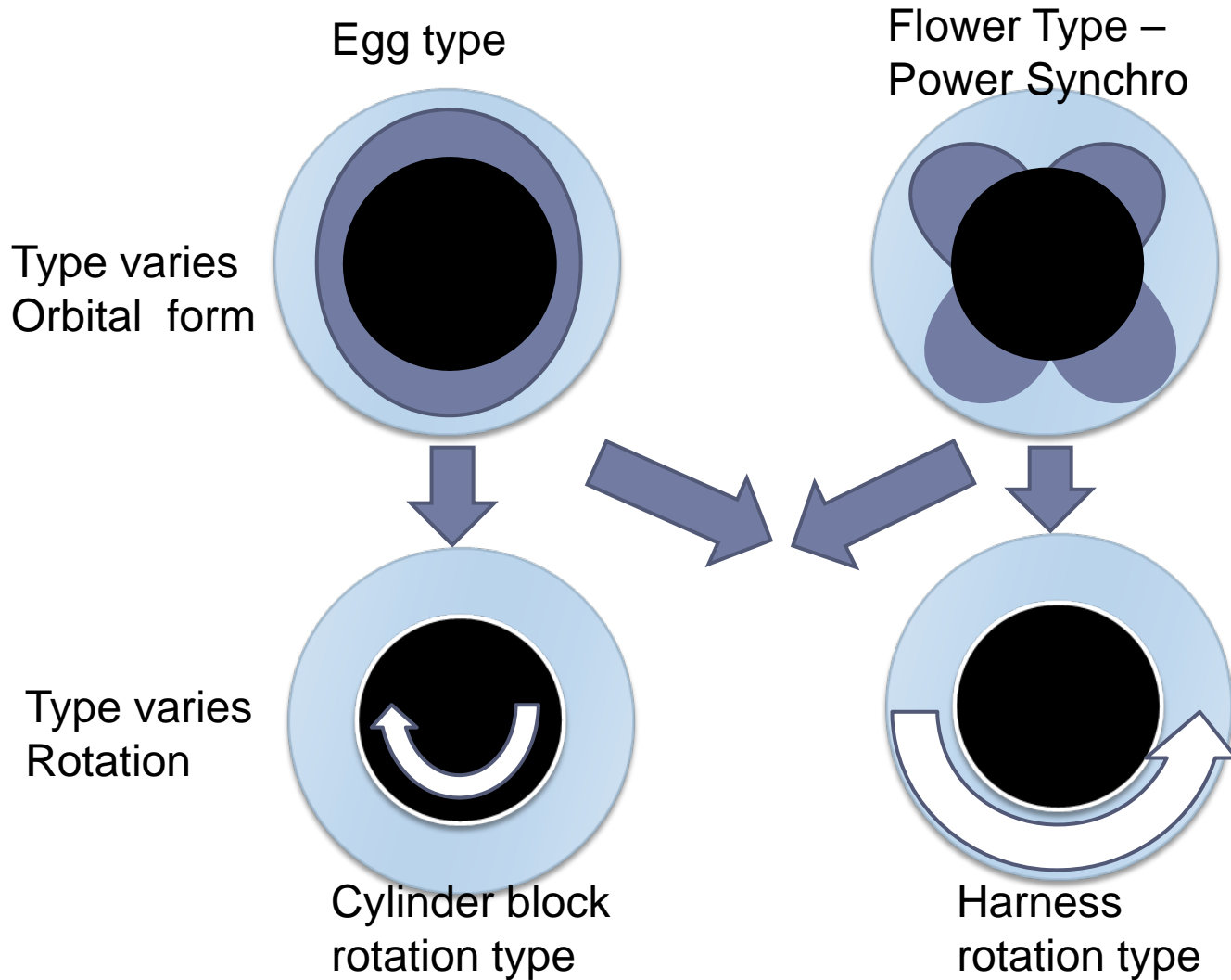
What is the Orbital technology ?



- ▶ To use the Orbital ring truck as the synchronizer (is engraved in side the harness) makes synchronizing piston motion (installed in the harness with the cylinder) and harness motion (rotator) in harmony..
- ▶ Orbital shape is also optimized by the physical and mathematical science that considered gravitation and rapid velocity curve .
- ▶ There is two kinds truck Synchro Engine, Egg and flower type.
- ▶ Also type varies with rotation type as harness rotation type and cylinder block rotation type.



The type of Synchro Engine



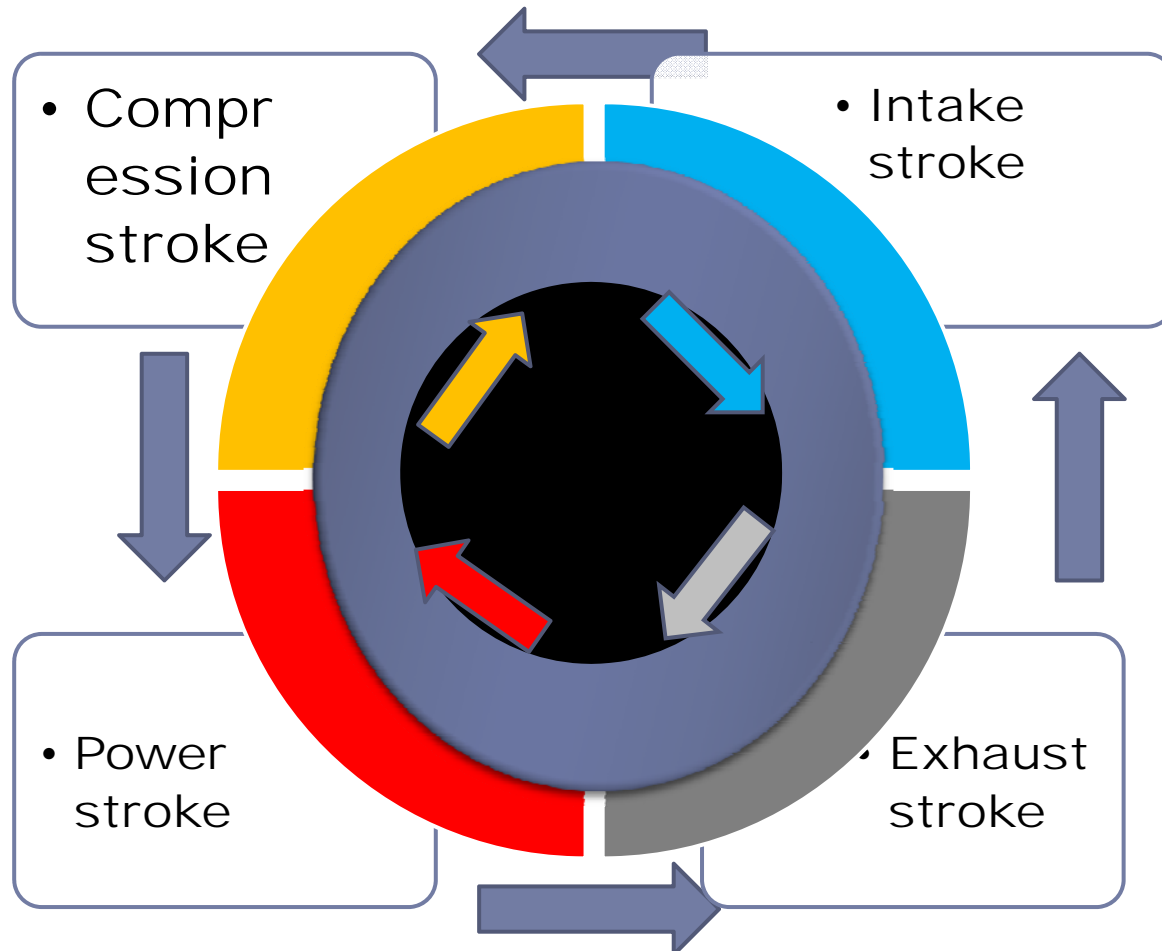
The image of Orbital truck
and cylinder & pistons - Egg
type Synchro Engine



The image of Flower type Synchro
Engine (power Synchro E) truck



Four stroke cycle of Egg type, completes in one rotation / per cylinder.



2 combustion made /Rotation/ cylinder
It generates minimum 1,7 time bigger torque
than Egg type

▶ Intake stroke



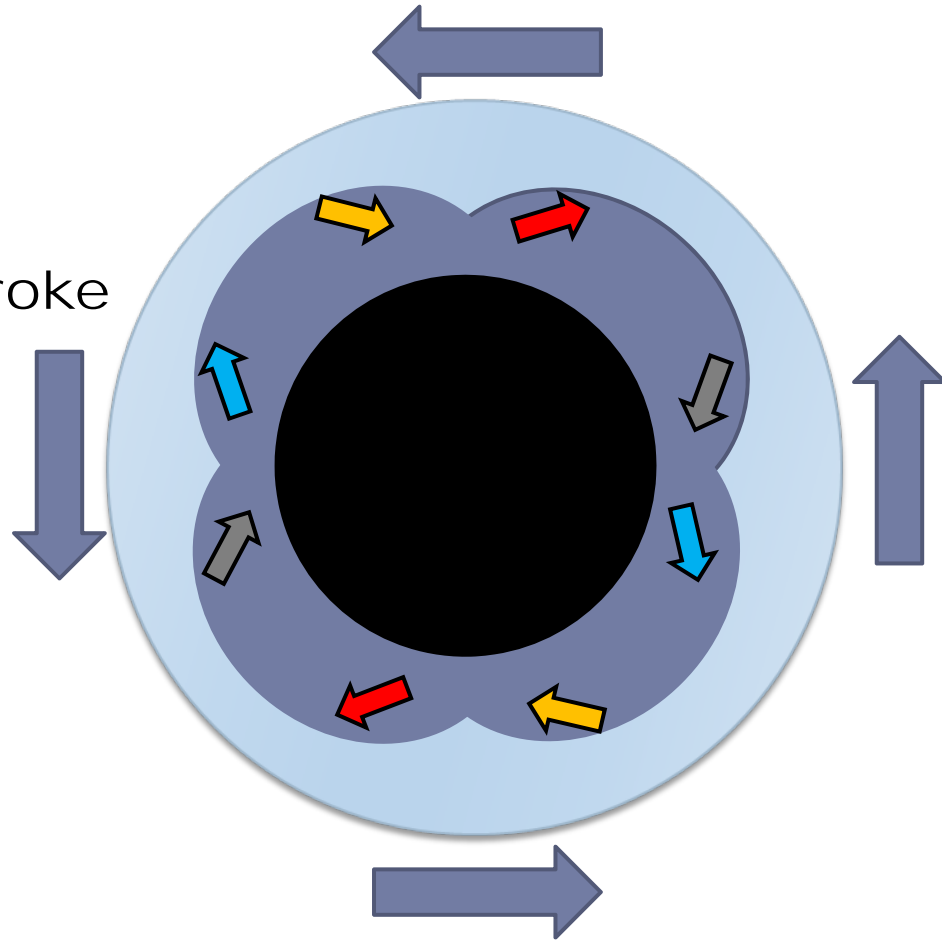
▶ Compressing Stroke



▶ Power Stroke



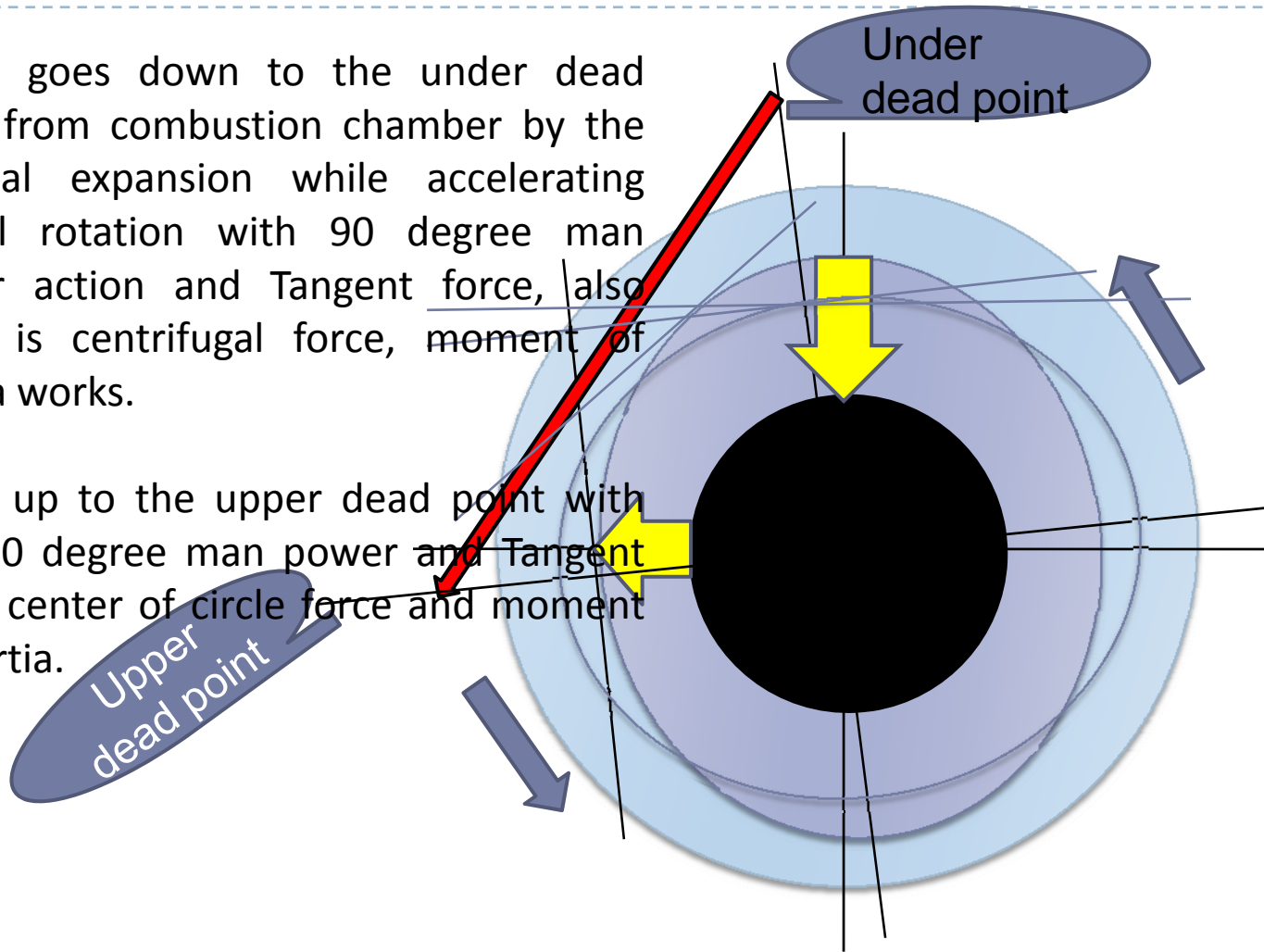
▶ Exhaust Stroke



Mechanics

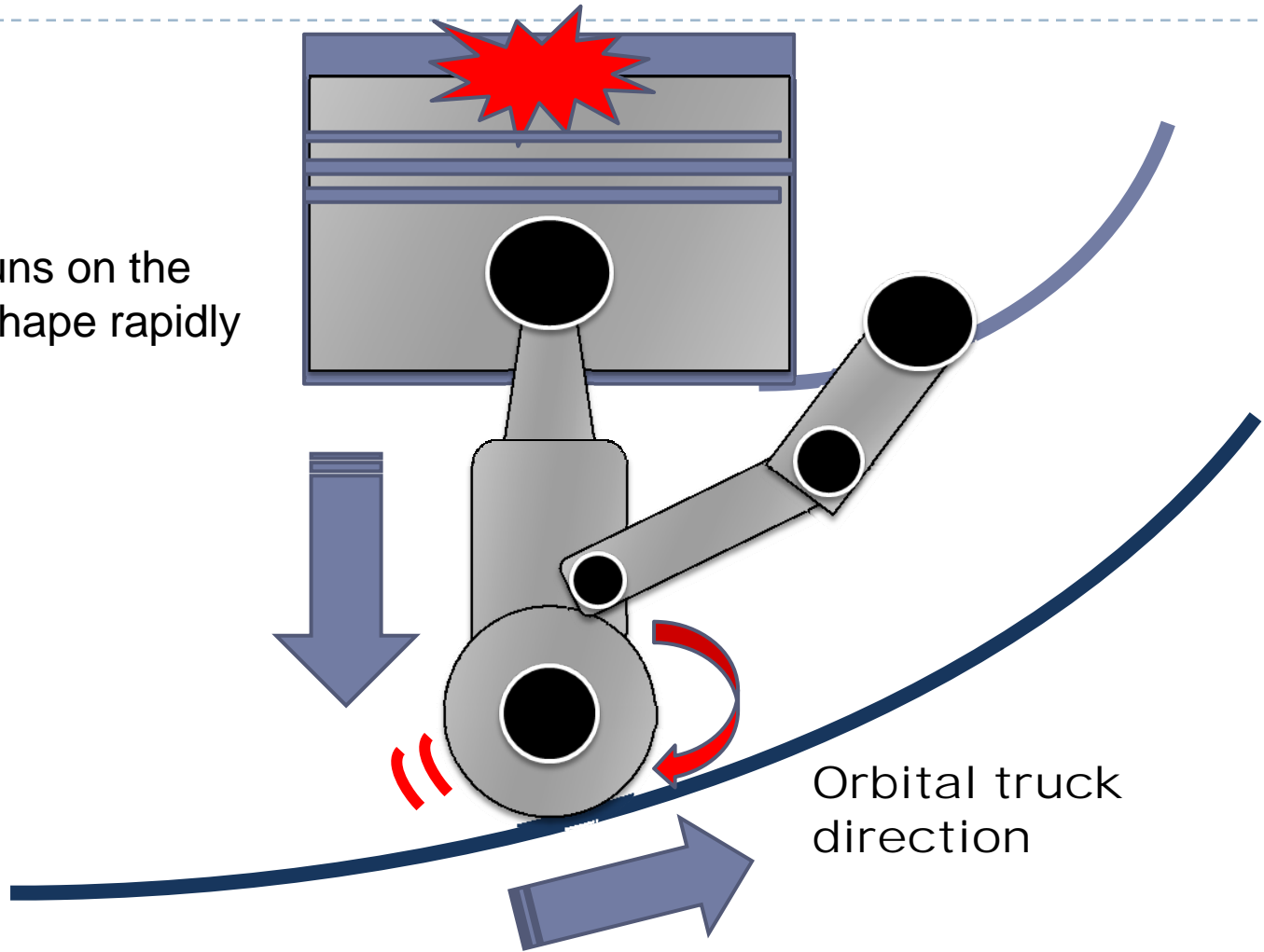
Piston goes down to the under dead point from combustion chamber by the thermal expansion while accelerating orbital rotation with 90 degree man power action and Tangent force, also there is centrifugal force, moment of inertia works.

To go up to the upper dead point with also 90 degree man power and Tangent force, center of circle force and moment of inertia.



Less friction +/- 80% with roll friction

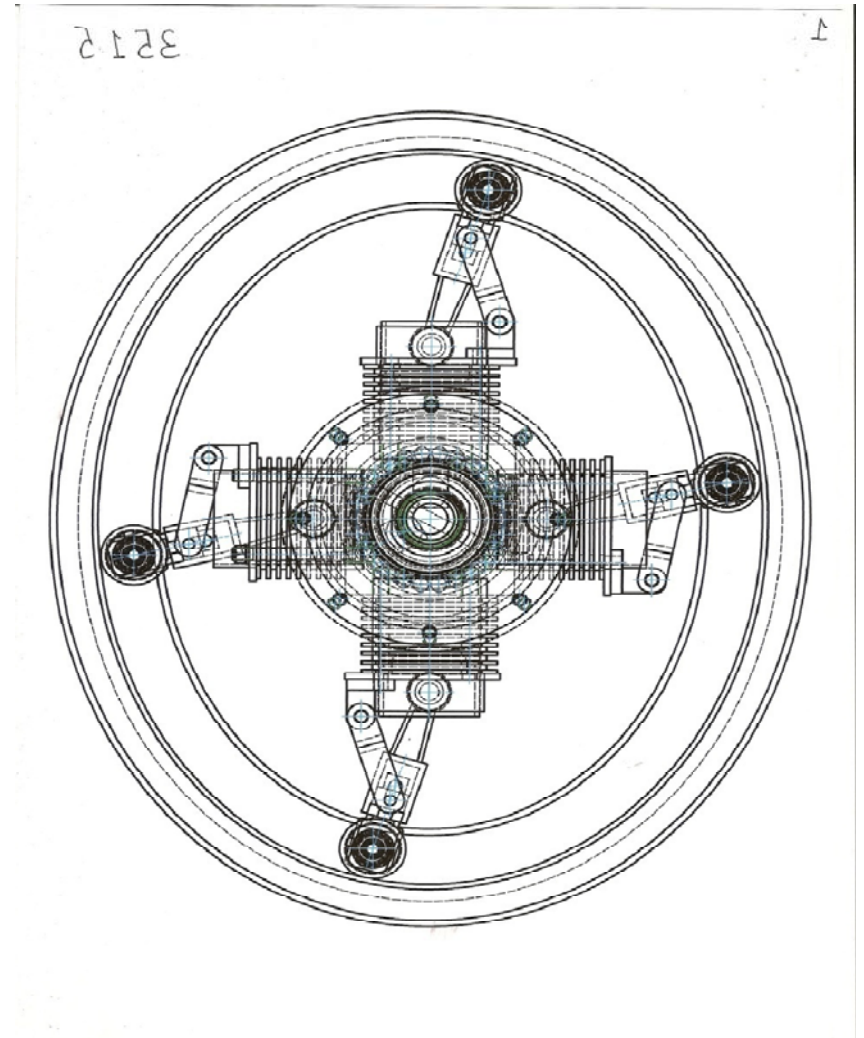
Pin roll runs on the optimal shape rapidly



Orbital truck direction

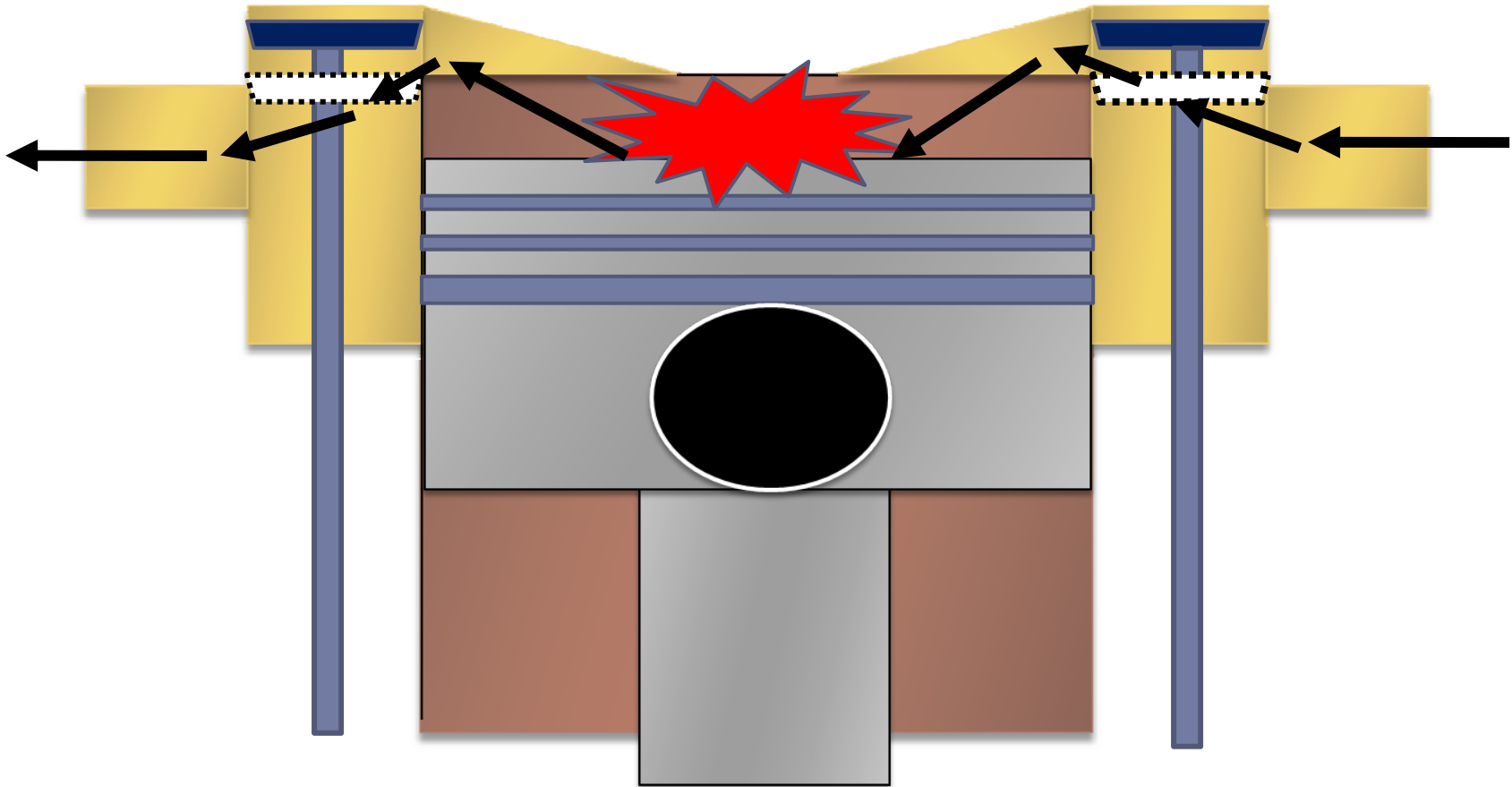


The images of pin roll with Orbital truck

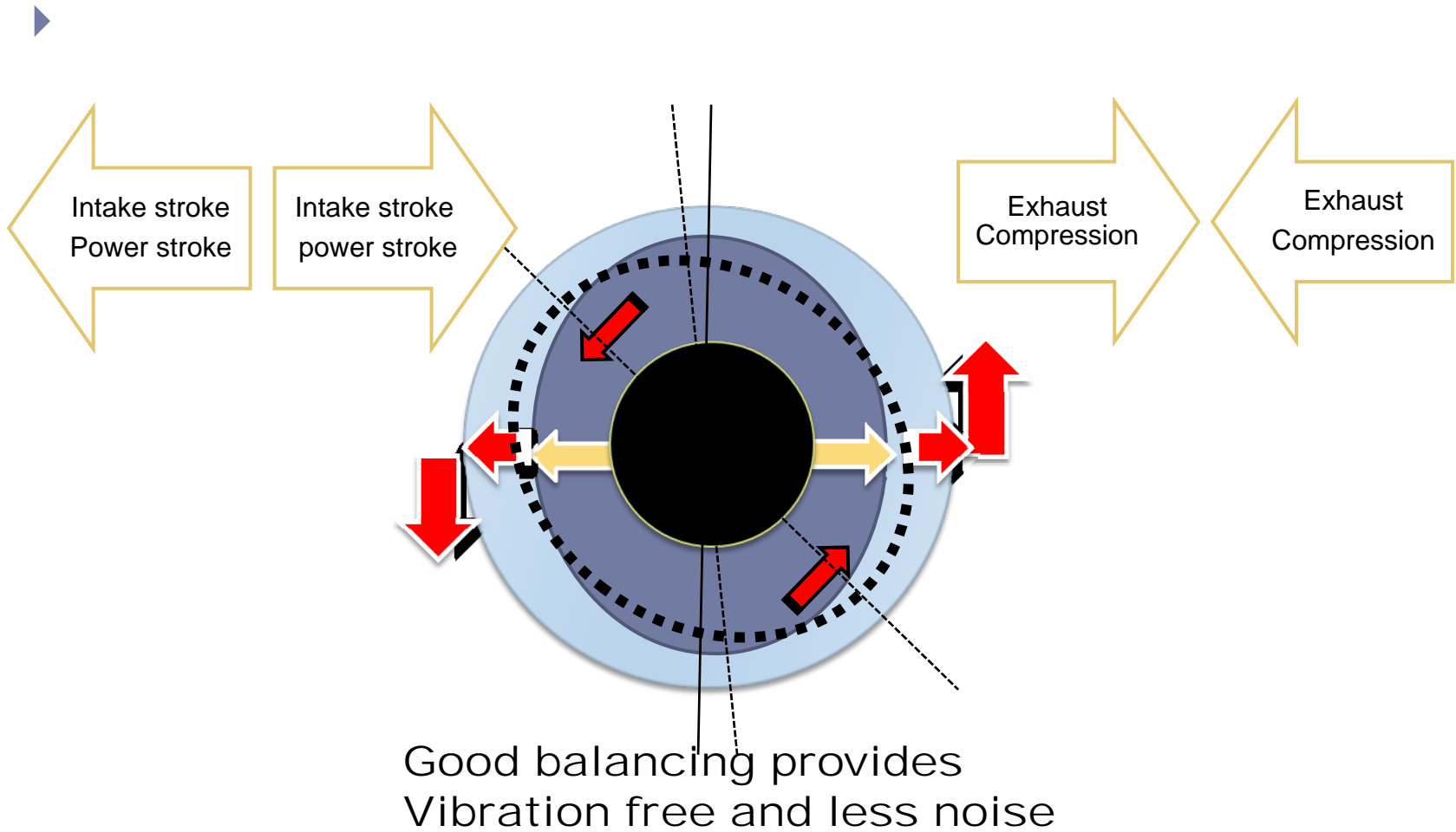


Fluid dynamics

Optimal Gas stream, less lose power



Same volume rotator moment at both sides by same motion of two pistons placed on an axis symmetry.



New technology brought

- ▶ 70~80% less compact size.
 - ▶ Produce minimum 300hp / 1 L Egg type Synchro, and Flower type generates minimum 1,7 time bigger power than Egg type. Thus 350 cc, 4 cycles NA Synchro Engine will generate 105hp ~ 180 hp. Our prototype 805cc, 2 cylinders demonstration purpose shown 302Nm/ 1750rpm.
 - ▶ Egg type (Normal Synchro)
 - ▶ Flower Type (Power Synchro)
 - ▶ Useful power is available from low engine speed to high engine speed and will not down force in high engine speed.
 - ▶ Low friction needs only 100~200cc engine oil per km as others as normal.
 - ▶ 50~60% less parts.
 - ▶ Vibration free, low noise and gives more space.
 - ▶ Provides very low production cost
-



Who is inventor?

GE3515 - WO/2007/090248

Dr. Ramzan Goytemirov Usmanovich, is Physical and Mathematical Scientist, was former professor of Chechen-Ingush State University, higher Physic & Mathematic (Molecular Physics) scientist in USSR as had more than 20 experimental works with Physics, Mathematics and Cybernetics published / reported in leading faculties, high research institute Centre and conference in USSR. He developed things in Gravitation, Mathematics, Strain Measurement, Cybernetics and etc..



He gotten first images of circle type Engine when he was 15 years old, and developed basic Synchro Engine structure in 1999 when second Chechen war was started . Also he had created several types of I.C.E also gotten many patents related Synchro Engine based on new Physical principal theory. Also he found new physical effect in Gas processes of emission from combustion chamber - The Sound effect – is contained in the Synchro Engine.



▶ Thank you !!

▶ Synchro Engine



Orbit Motor Ltd

Yasuo Watanabe Managing Director

