

TITLE: MULTIPLE CLUTCH GEARBOX

TECHNOLOGY DESCRIPTION

The proposed multiple-clutch gearbox incorporates double, concentric shafts and double clutches electronically controlled, both in the gearbox input shaft and output shaft (or shafts).

In this multiple-clutch gearbox, all ordinary gears are permanently engaged. The desired

transmission ratio is simply selected by the combined coupling of an input clutch and an output clutch.

BUSINESS APLICACIÓN SECTORS

The automotive industry sector.

Sector mechanical vehicle repair workshops.

THÉCNICAL ADVANTAGES AND INDUSTRIAL BENEFITS

The main advantage of this technology lies in that all pairs of ordinary gears are permanently engaged, avoiding the use of synchronizers for the gear shifting. Thus, the described gearbox is mechanically simpler and more compact than those already known. In addition, proposed gearbox allows making automatic changes, e.g. in vehicles, but keeping the usual efficiency values of manual changes.

In addition, proposed gearboxes will be cheaper and smaller in comparison with automatic gearboxes known currently.

TECHNOLOGY DEVELOPMENT LEVEL

It has been developed exclusively at laboratory level

INTELECTUAL PROPERTY RIGHTS

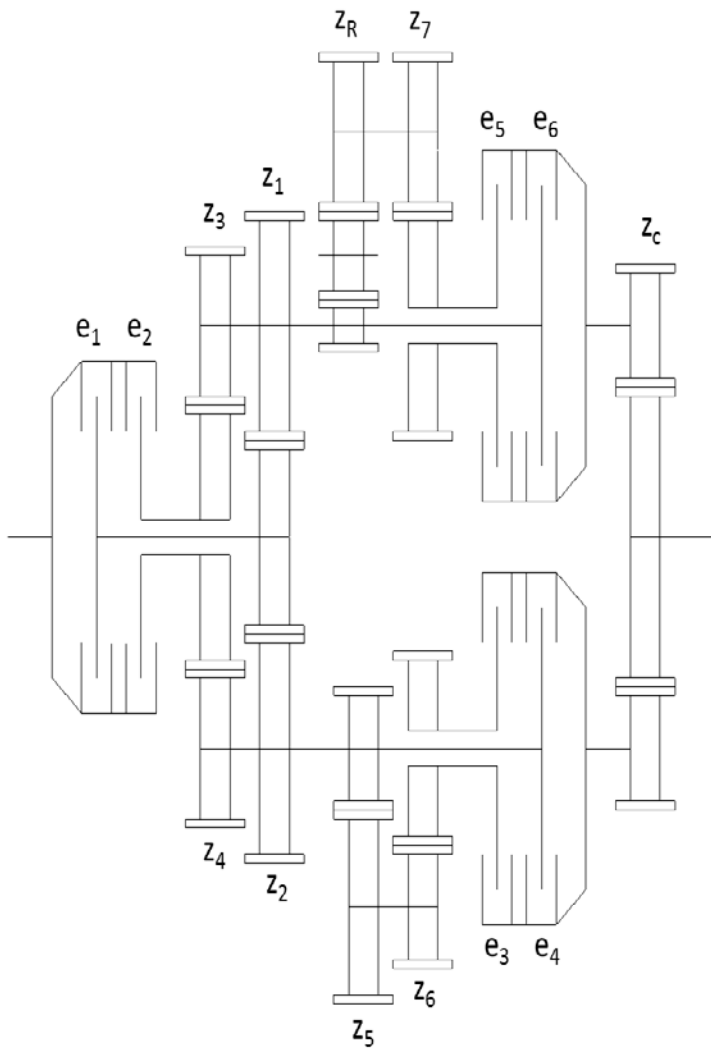
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SEARCHED COLLABORATION

Collaboration with interested companies to carry out proofs of concept of technology that facilitate commercialization and industrial implementation.

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RELATES PICTURES



RELACIÓN DE
CAMBIO

$$i_1 = z_2 \times z_5 \times z_6 \times z_C$$

$$i_2 = z_4 \times z_5 \times z_6 \times z_C$$

$$i_3 = z_2 \times z_C$$

$$i_4 = z_4 \times z_C$$

$$i_5 = z_1 \times z_C$$

$$i_6 = z_3 \times z_C$$

$$i_R = z_1 \times z_R \times z_7 \times z_C$$

EMBRAGUES
ACOPLADOS

$e_1 - e_3$

$e_2 - e_3$

$e_1 - e_4$

$e_2 - e_4$

$e_1 - e_6$

$e_2 - e_6$

$e_1 - e_5$

Figure 1: Scheme of an application example of the gearbox

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