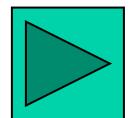


TP : chaîne de solides : Ouvre Portail

ROOSEVELT



SCHEMATISATION CINÉMATIQUE

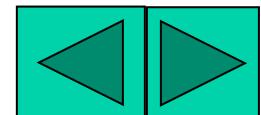
Pourquoi schématiser ?

Afin de faciliter la compréhension.

Afin d' associer un modèle au mécanisme réel après avoir posé des hypothèses.

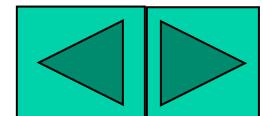
On peut y analyser :

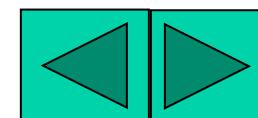
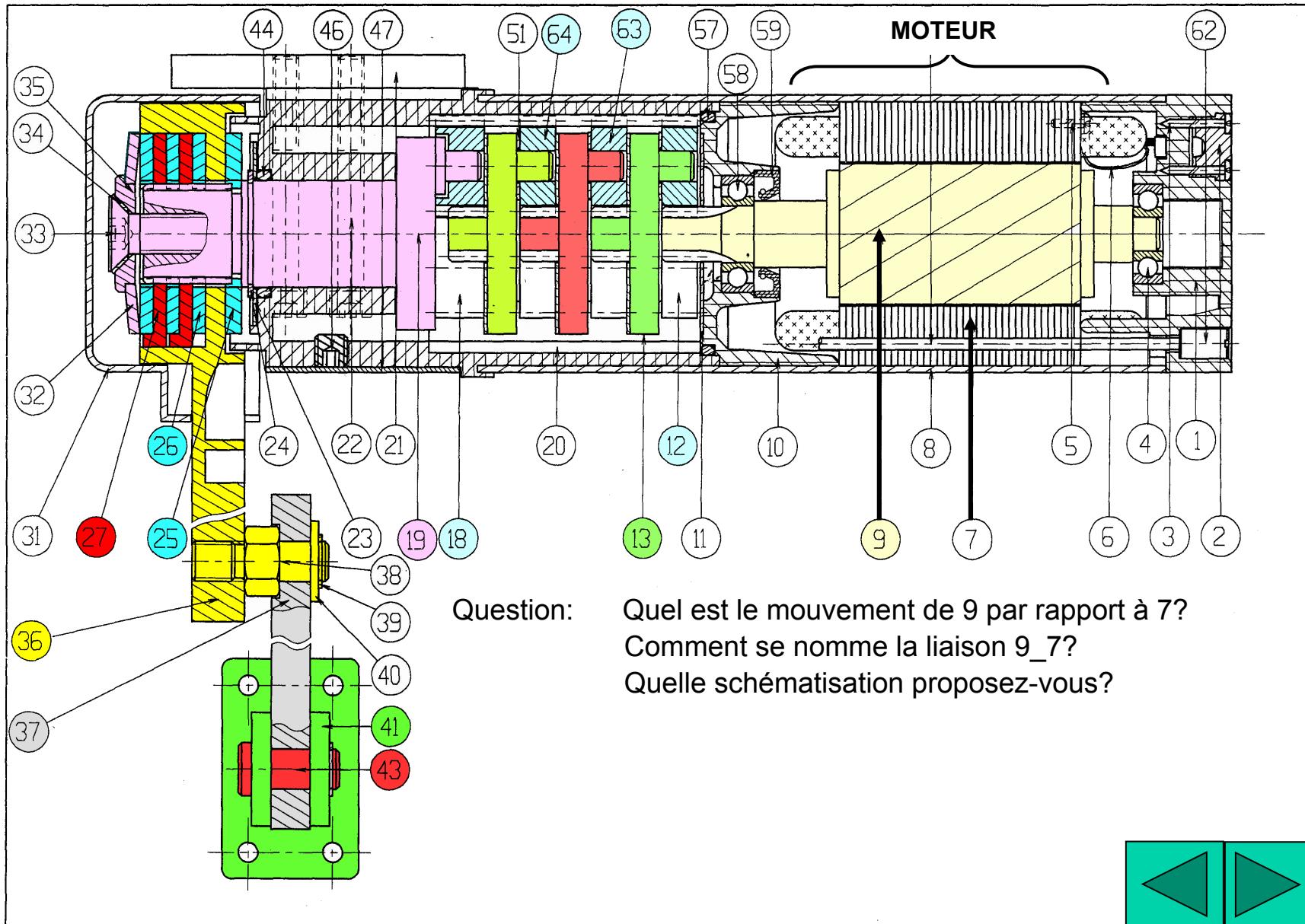
- Les efforts
- Les mouvements
- La relation effort-mouvement

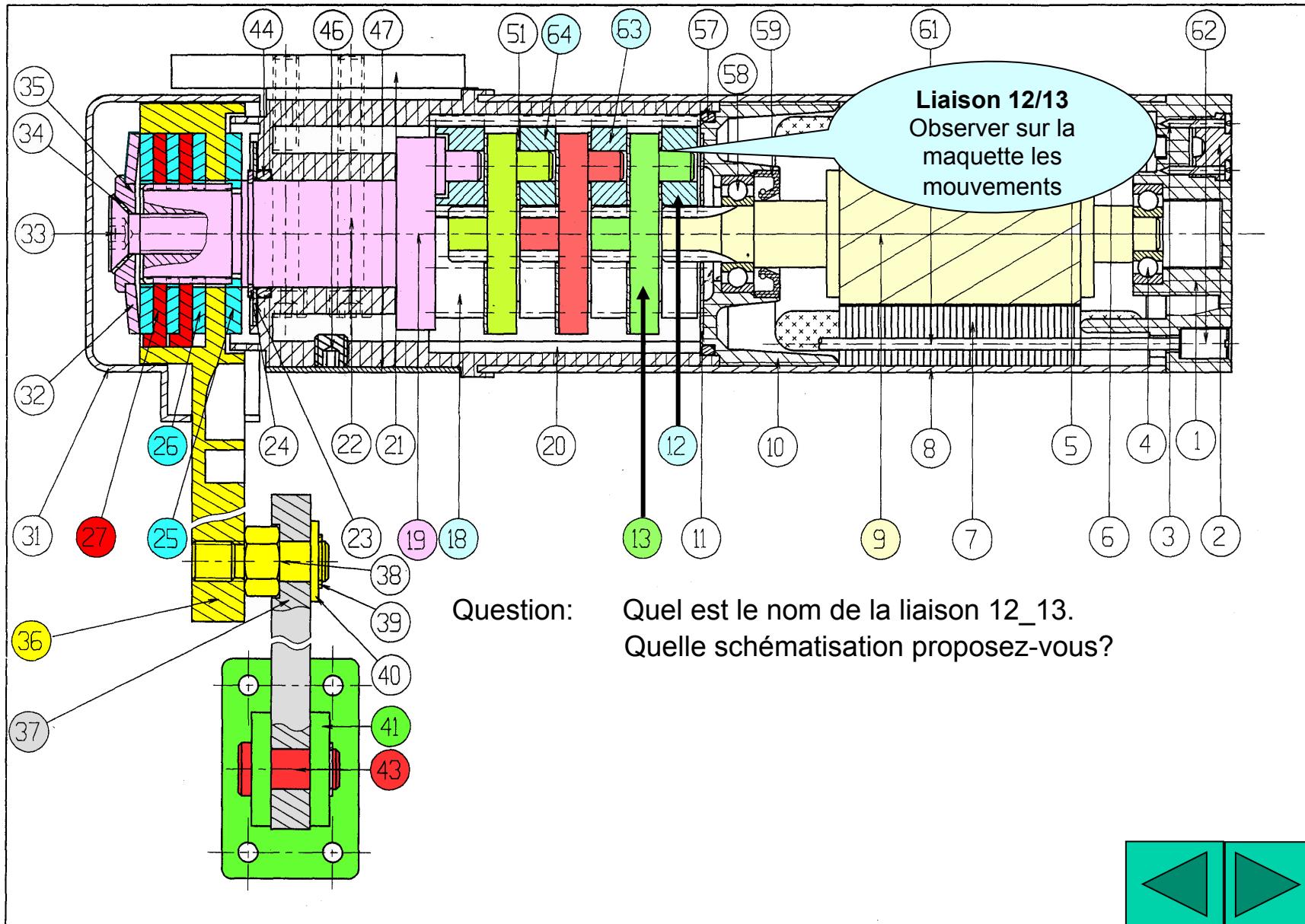


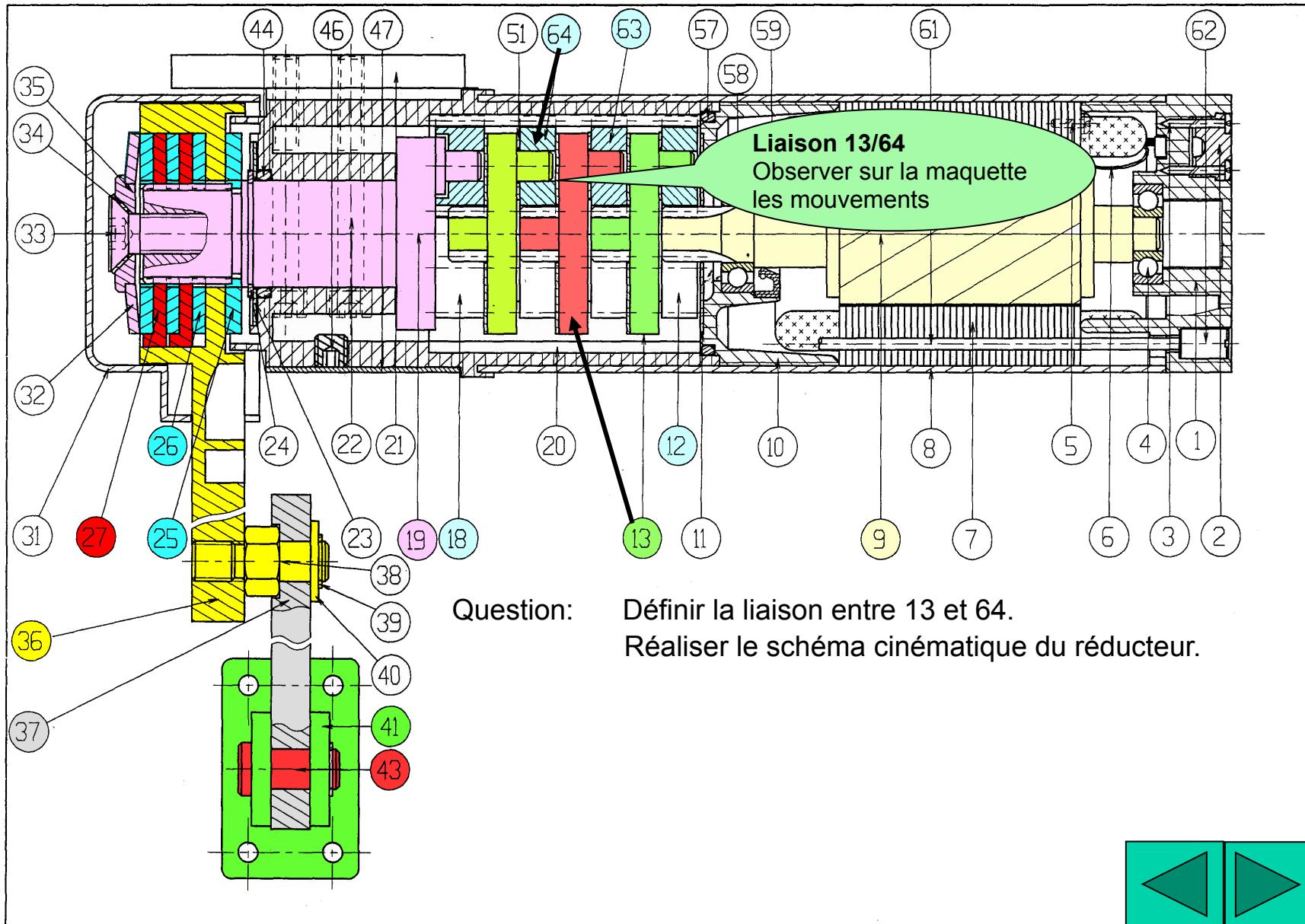
COMMENT SCHEMATISER

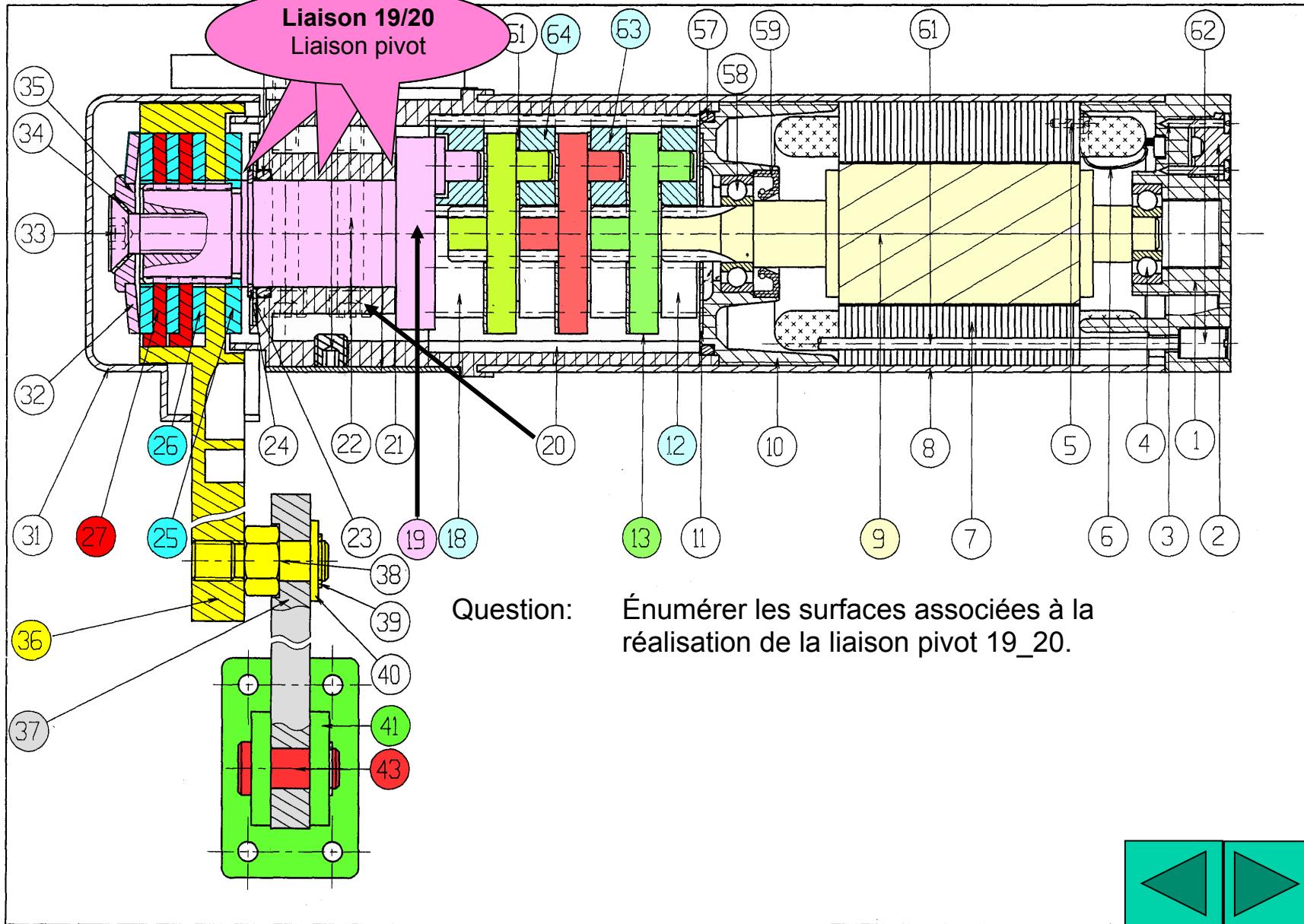
- identifier les classes d'équivalence.
- identifier les liaisons entre les classes.
- identifier les surfaces en contact entre les classes
- caractériser géométriquement les surfaces.
- définir dans un repère les mouvements relatifs.

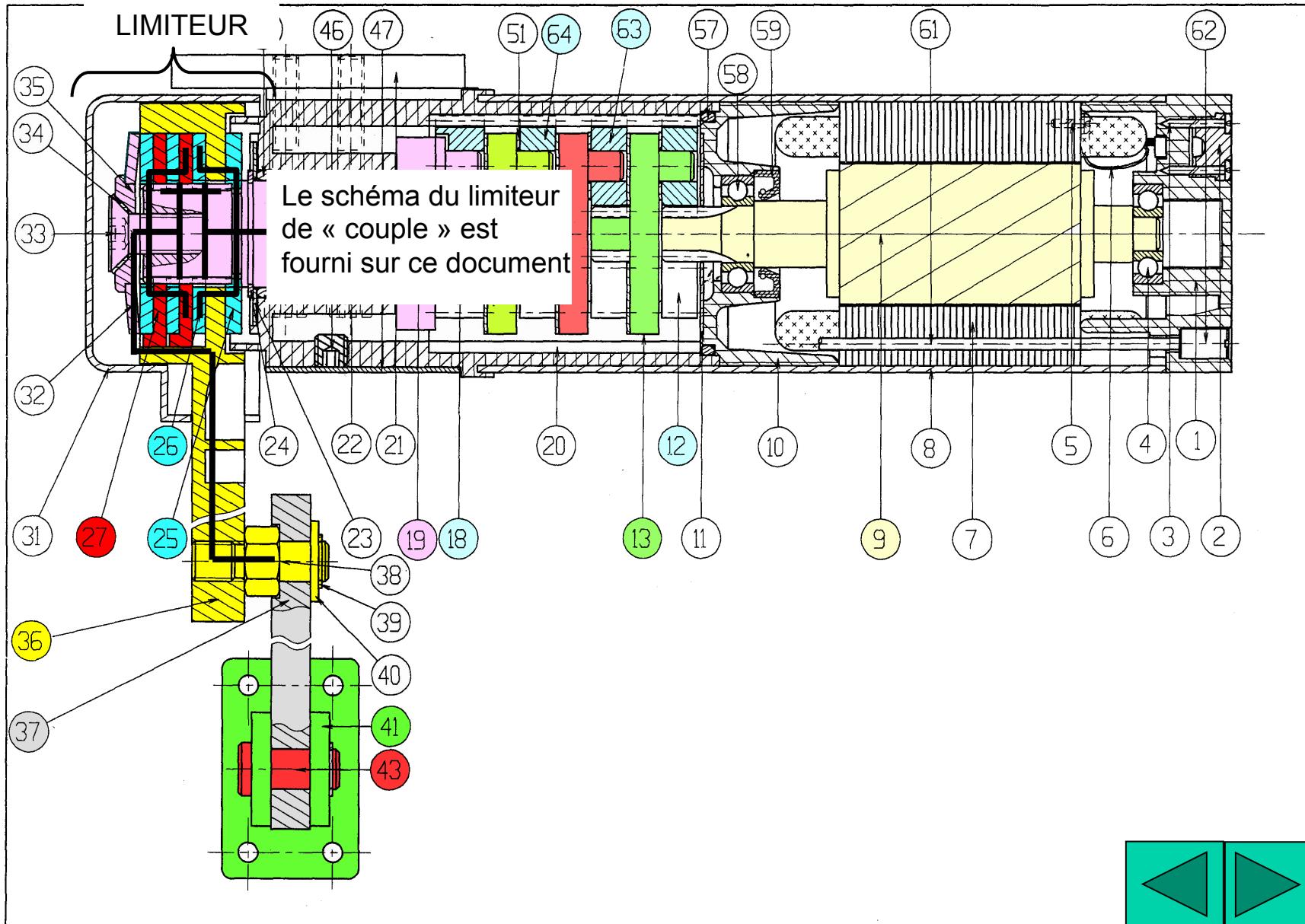


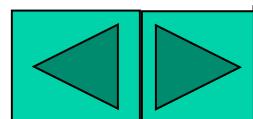
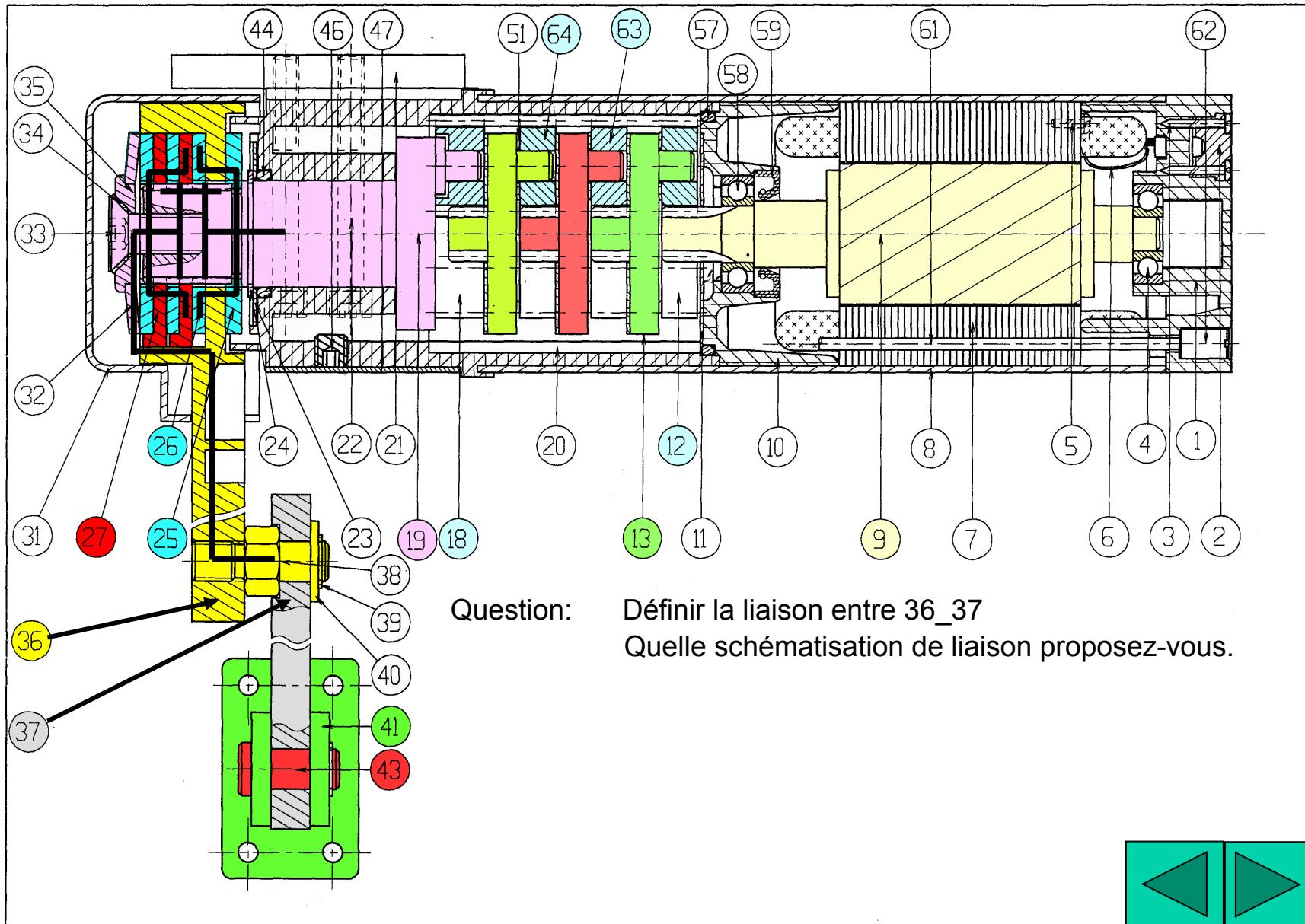


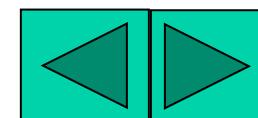
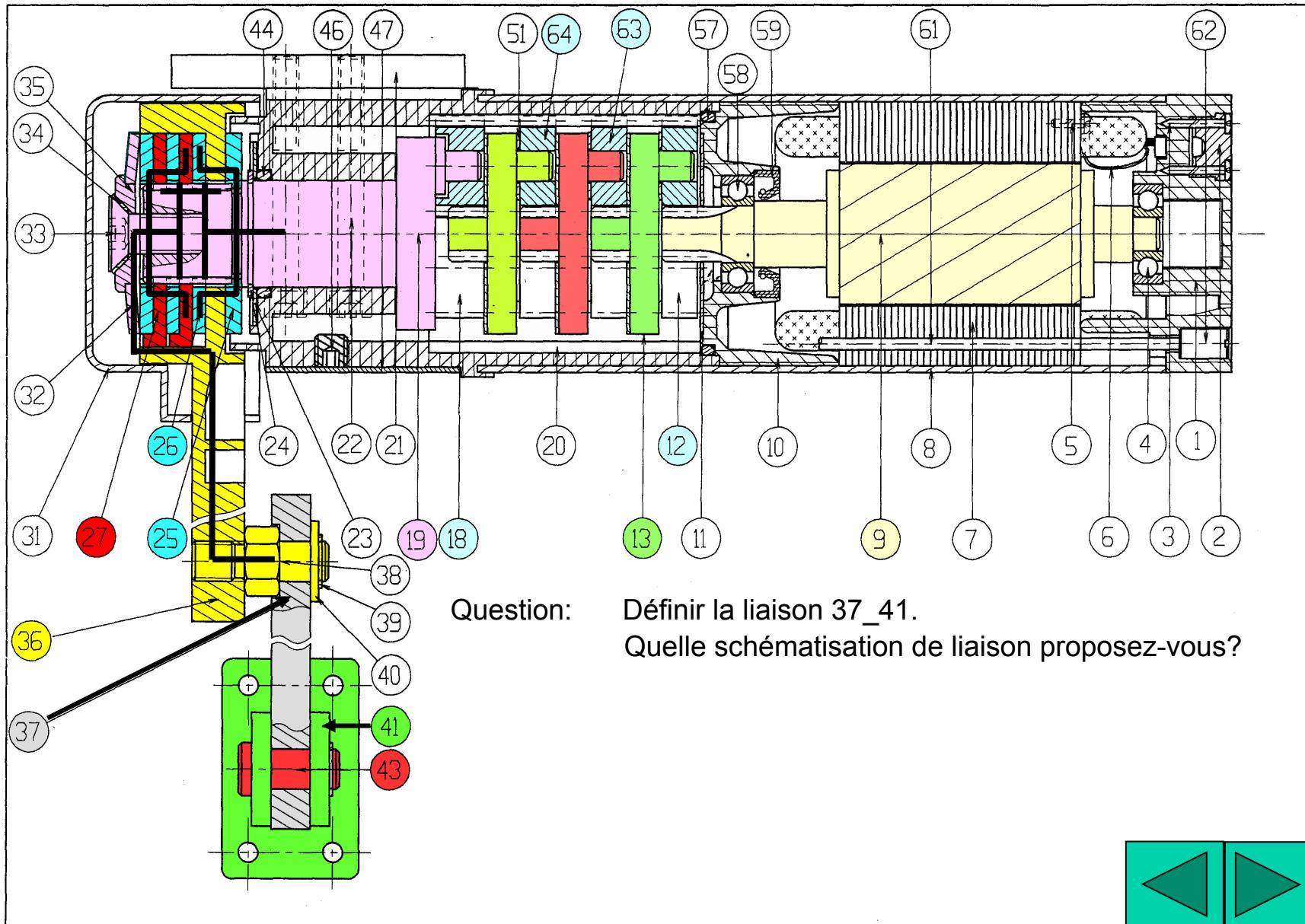


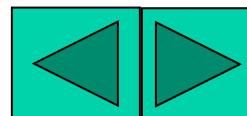
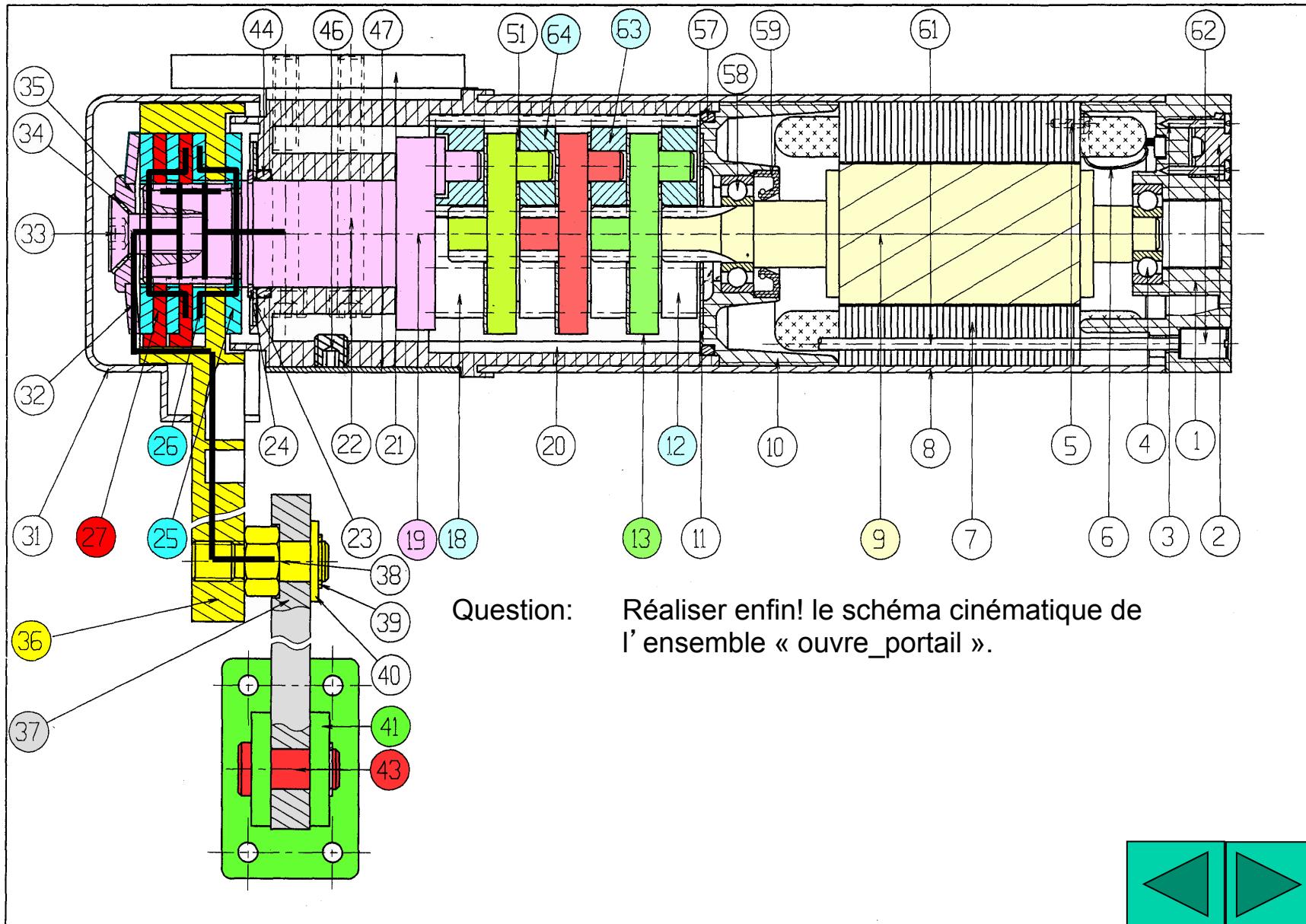




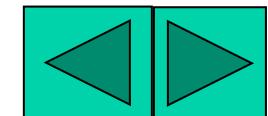


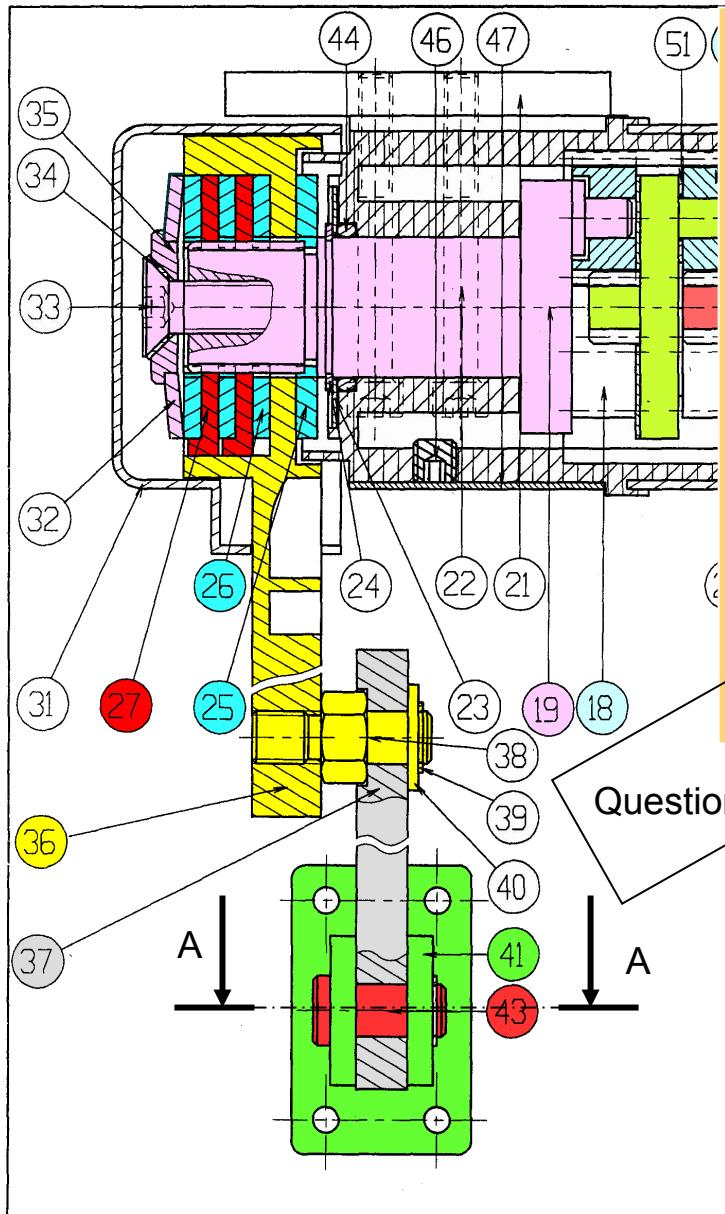






Un peu de technique





On peut définir le montage de la liaison par les termes ci-dessous :



Liaison en chape OU Liaison en porte à faux

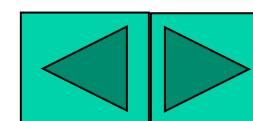


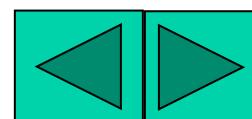
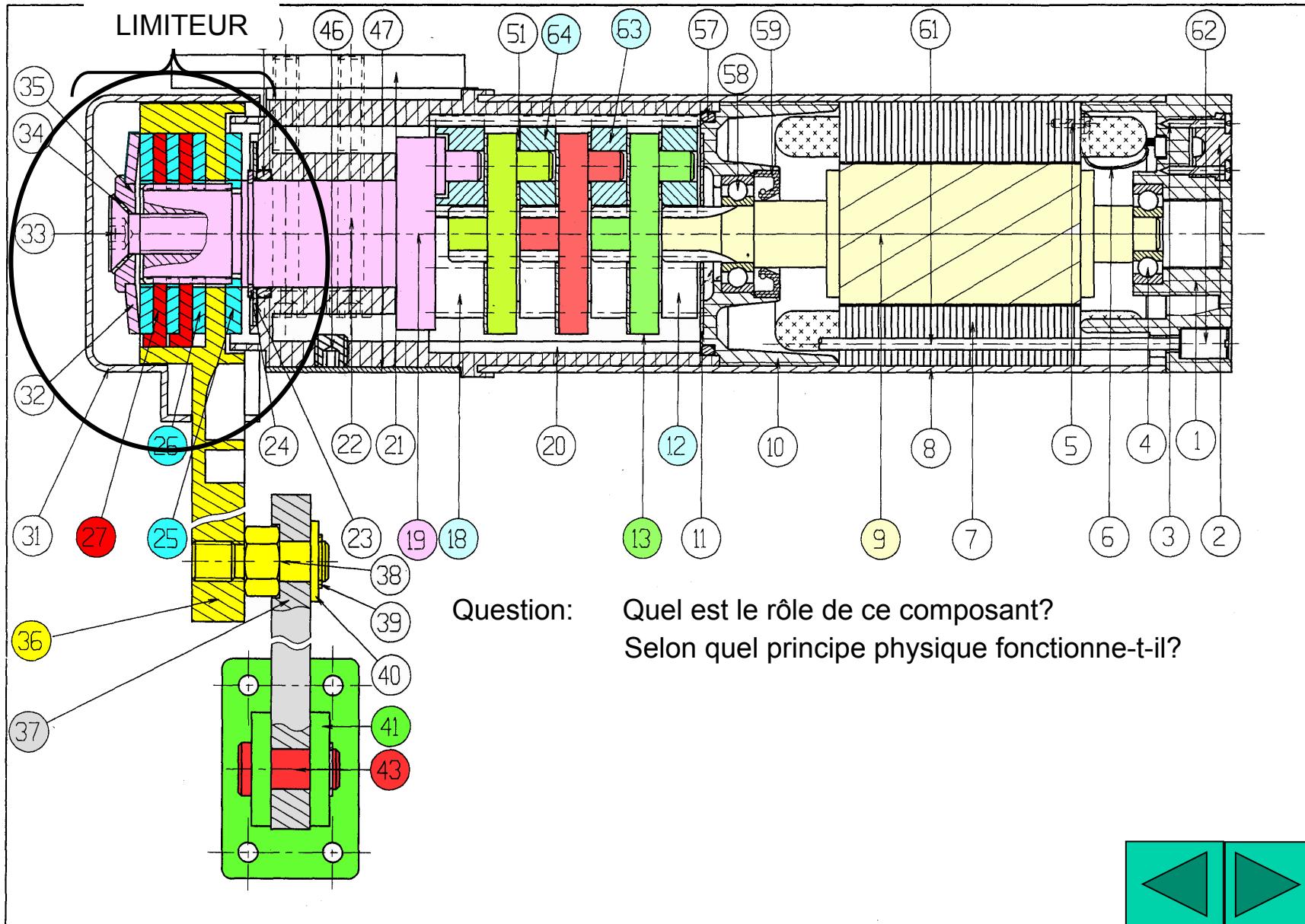
Question:

Caractériser la liaison 37_41.

Quel est l'intérêt d'une telle liaison?

Représenter à main levée le dessin de la liaison en coupe A-A







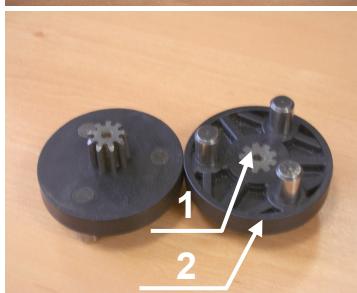
Question: Quel nom donne-t-on aux formes réalisées sur l' arbre?



Question: Monter un disque sur l' arbre.
Quels mouvements constatez-vous?
Quelle schématisation proposez-vous?

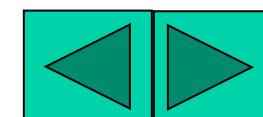


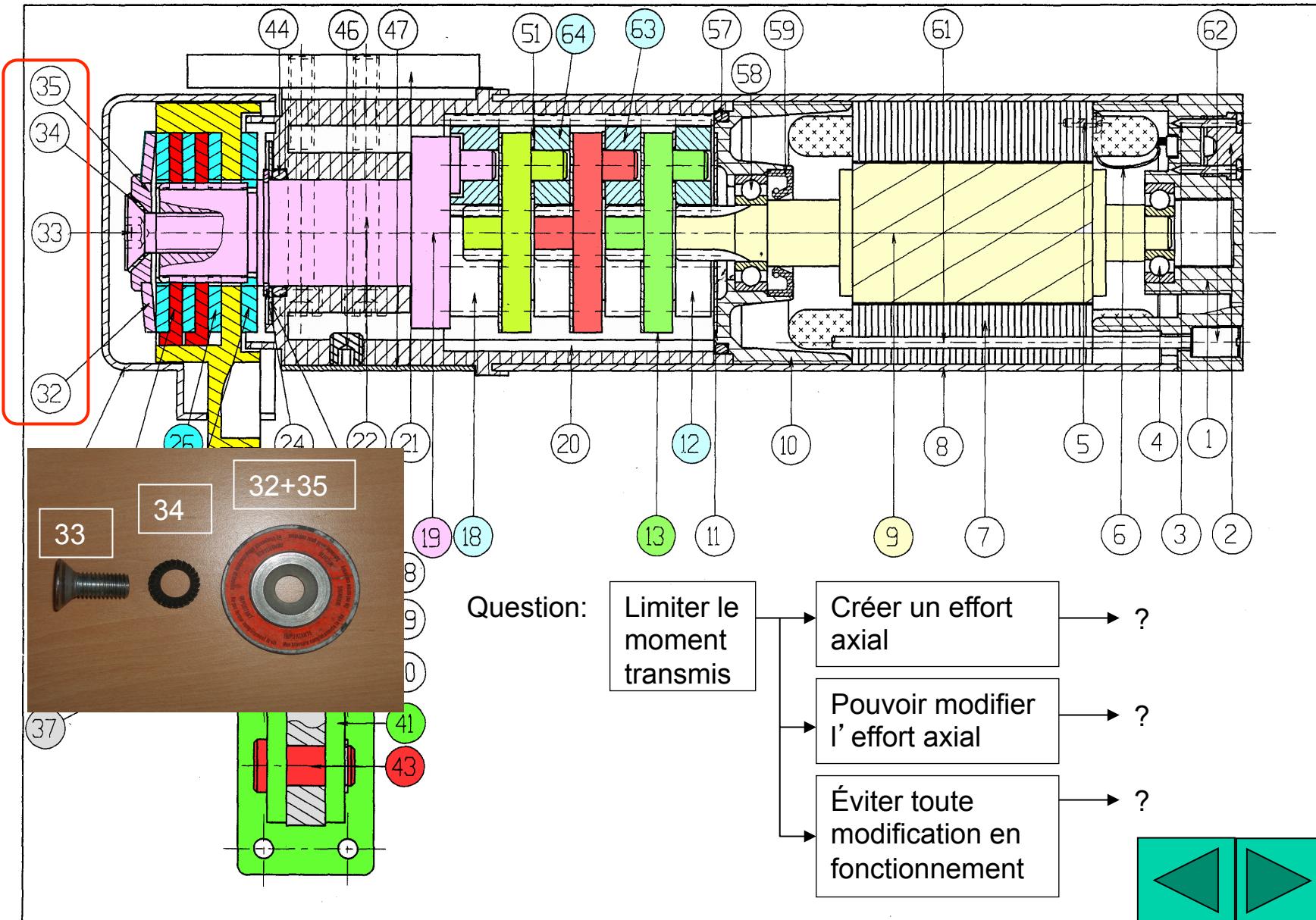
Question: Comment est assuré l' entraînement en rotation du bras ?

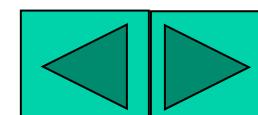
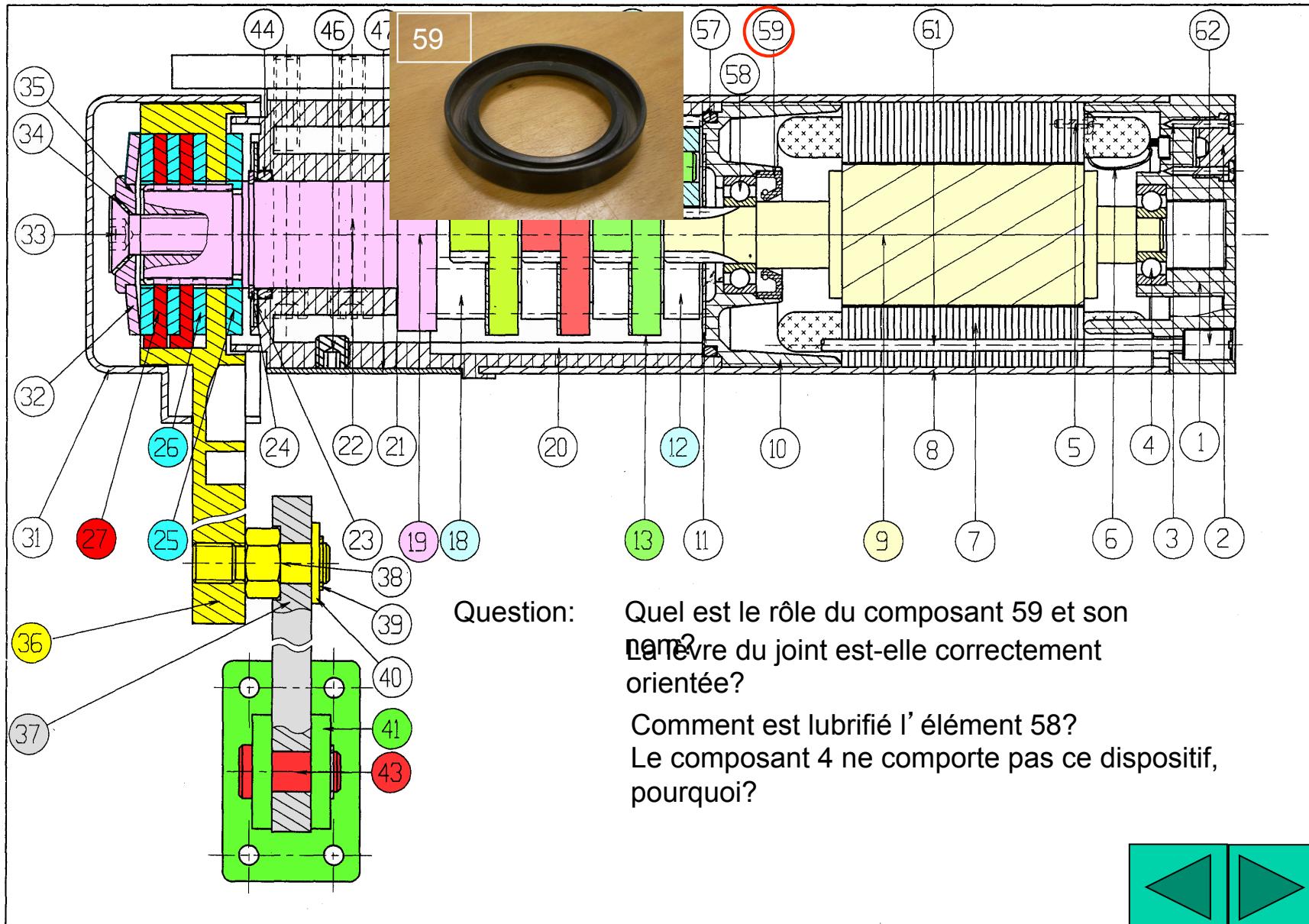


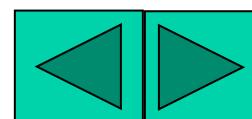
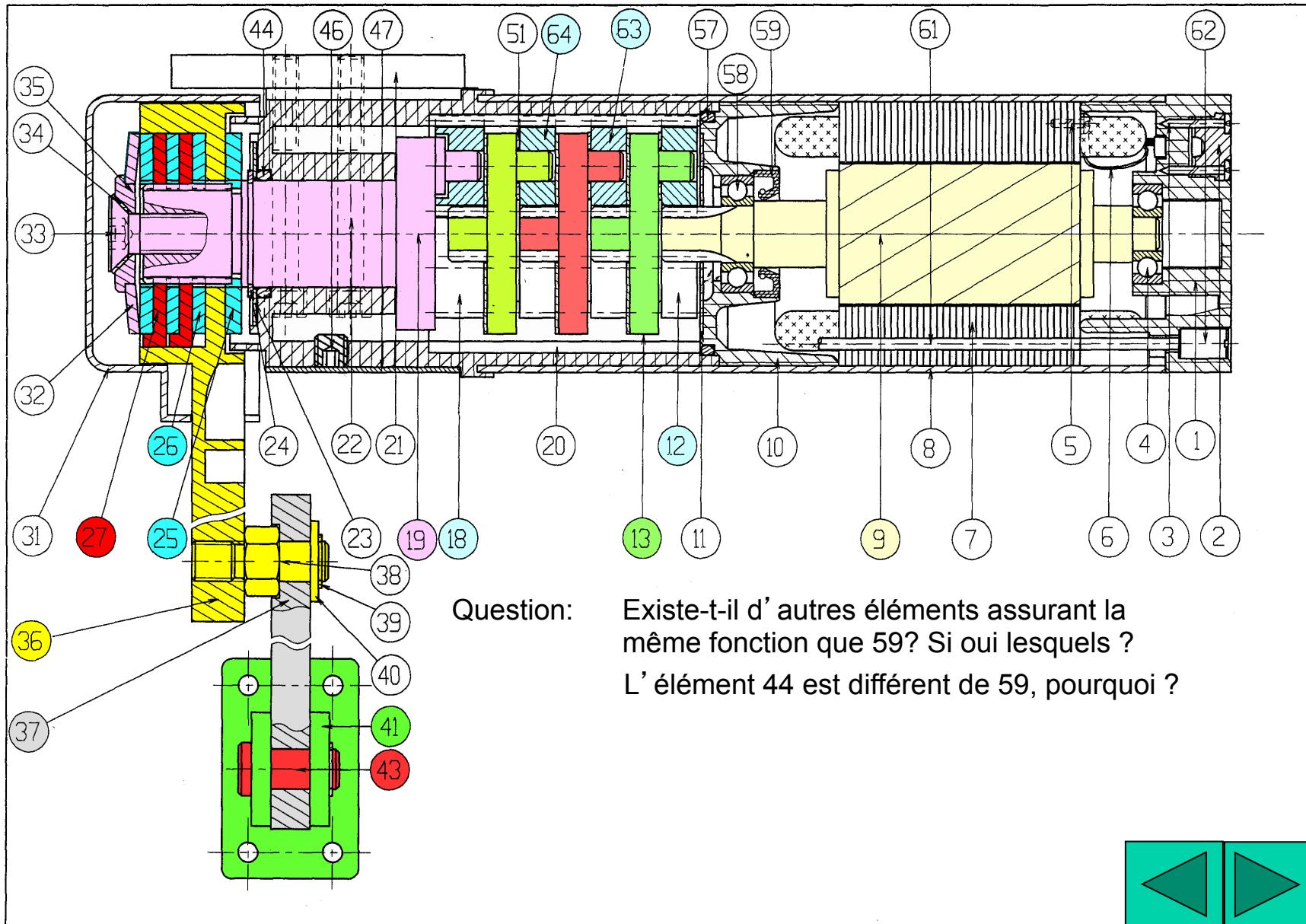
Question: Quelle est la liaison entre l' élément 1(acier) et 2 (plastique)est-elle réalisée?

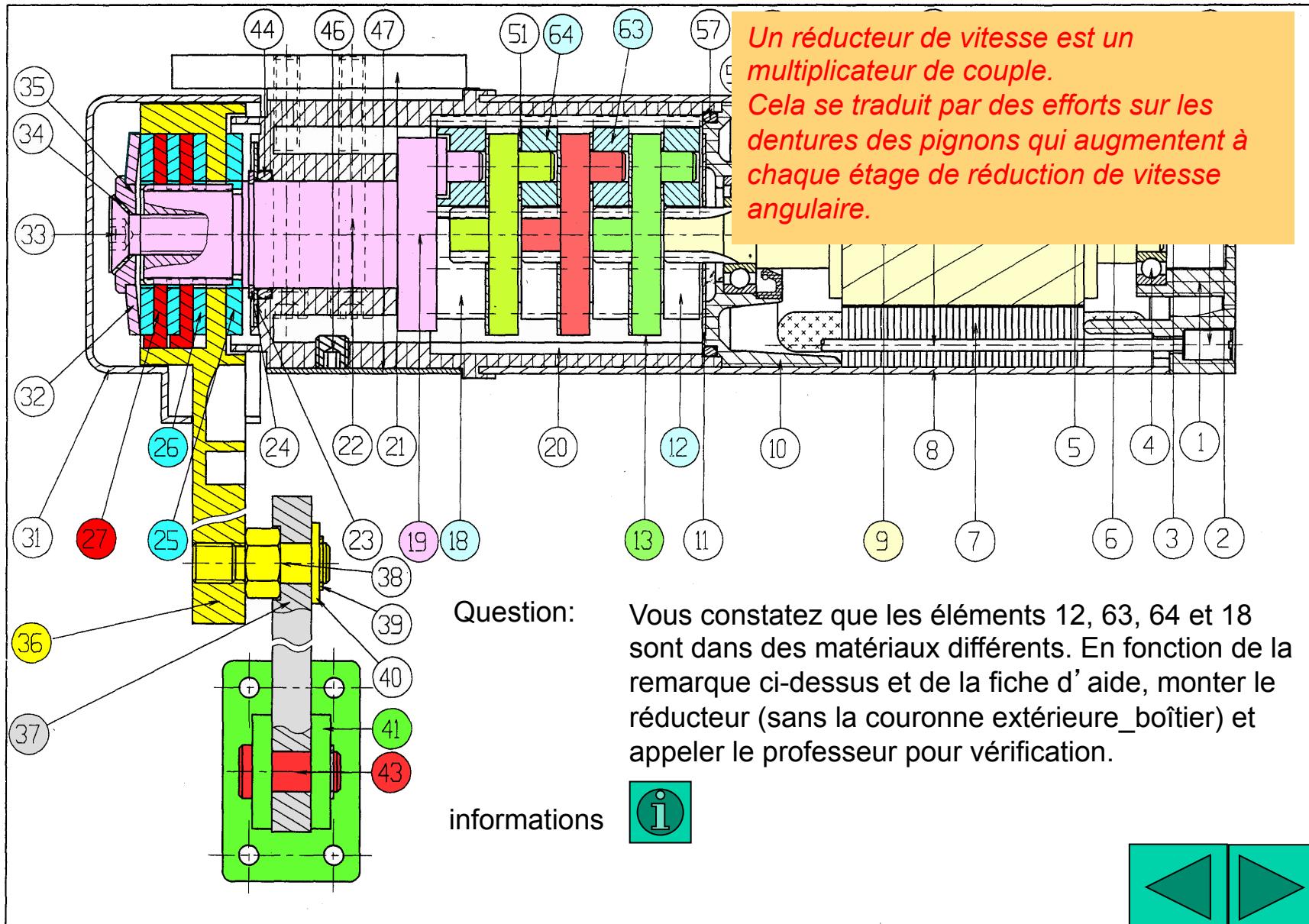
* L' élément 1 se nomme « insert »

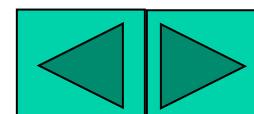
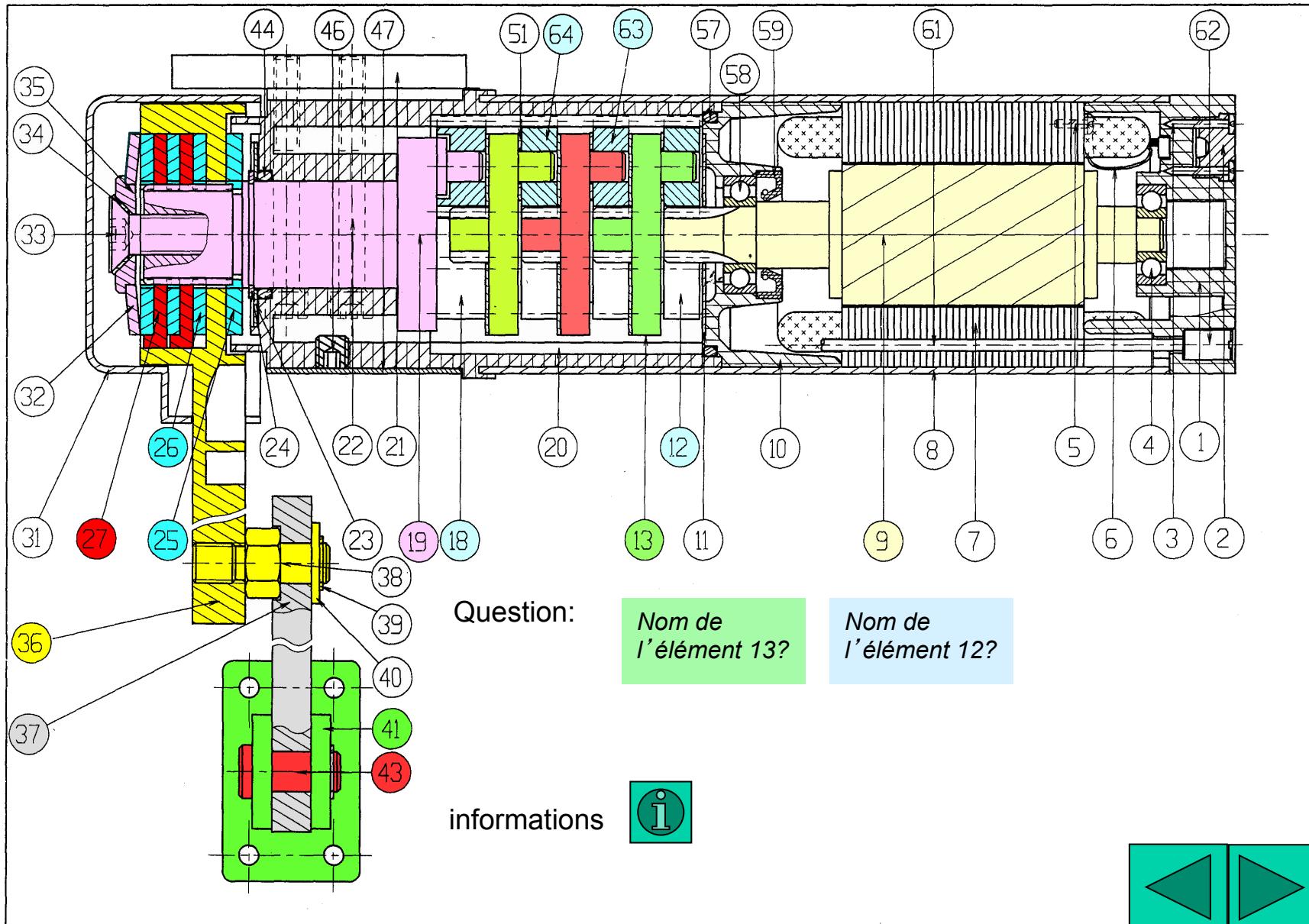




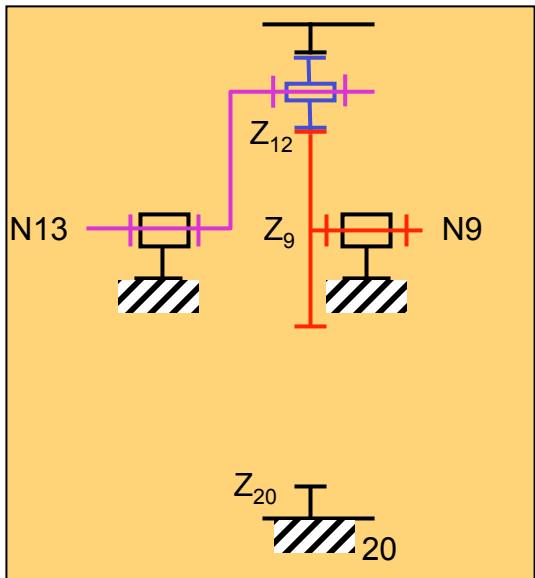








TRAIN EPICYCLOIDAL (cinématique)



9_planétaire d' entrée
20_planétaire de sortie

12_satellite

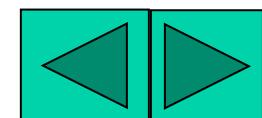
13_porte satellite

$$\text{On démontrer que : } \frac{N_{13/20}}{N_{9/20} - N_{13/20}} = \frac{Z_9}{Z_{20}}$$

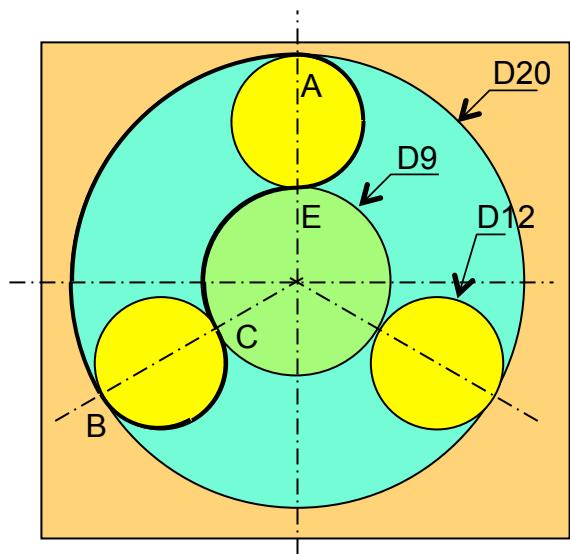
Question:

En utilisant le matériel fourni déterminer le rapport de réduction du 1er étage de réduction N_{13}/N_9

Déterminer ensuite le rapport global N_{19}/N_9



TRAINS EPICYCLOIDIAUX_(cinématique)



Rappel $D=mZ$

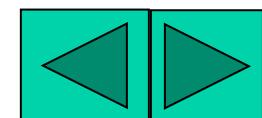
Pour que le montage des trois satellites 12 soit possible il faut :

- a) Z_9+Z_{20} multiple de 2
- b) Z_9+Z_{20} multiple de trois

Question:

En utilisant le matériel fourni vérifier cette particularité.

Essayer de justifier les relations a) et b)



Analyse des liaisons

