TECHNICAL INFORMATION ON STEERING

Identification of mechanical problems affecting the correct operation of the steering:

- Identify the mechanical causes;
  - Put the car on a ball platform or trestles on the trapeziums.
  - With the motor off, turn the steering wheel several times in both directions.
  - If the steering is stiff, remove the tie rod ends of the steering axial joints.
- Checks without the steering tie rod ends;
  - If the steering is smooth, the shaft and bushings are OK, as is the steering.
  - Also check the ball joints of the trapeziums, moving the wheel in either direction.
  - Mount a steering joint. If the steering is hard, replace the joint. If it goes smoothly, try with the other joint.
  - If the steering is hard, remove the cross piece from the shaft. If it is still hard, it is the shaft: either the bearing or the bushings are faulty.

Problems common to power and manual steering..

- The steering is stiff:
  - Faulty shaft needle bearings or bushings.
  - Faulty upper cross piece on shaft.
  - Faulty lower cross piece on shaft.
  - Faulty steering tie rod ends or suspension arms.
  - Steering poorly aligned.
  - Seizure due to rust.

- Noisy steering:
  - Play in the bushings.
  - Pinion-rack engagement not adjusted.
  - Faulty terminals.
  - Faulty steering tie rod ends or suspension arms.
  - Elastic links in poor condition.

- Slack steering wheel:
  - Faulty upper cross piece on shaft.
  - Faulty lower cross piece on shaft.
  - Pinion-rack engagement not adjusted.
  - Faulty steering tie rod ends.

Most frequent power steering problems

- Oil leaks:
  - Faulty pinion-valve seal.
  - Faulty pinion-valve O-rings.
  - Pinion housing broken.
  - Faulty tube connections.
  - Faulty cylinder seals.
  - Faulty cylinder O-rings.
  - Frame broken.
- Stiff steering:

  Due to problems in the hydraulic circuit:

  - Faulty steering.
  - Faulty pump.
  - Low fluid pressure.
  - Air in circuit.
  - Low oil level.
  - Dirty hydraulic fluid.
  - Dirty filters (=without oil).
  - Tubing strangled or blocked hose.
  - Both sides of the cylinder communicate.

  Due to possible mechanical causes:

  - The steering has been forced (deformed support) or no levelling shims.

- Seizure of steering or trapezium ball joints.
- Faulty needle bearings or shaft bushings.
- Slack pump belt.
- Noise level.

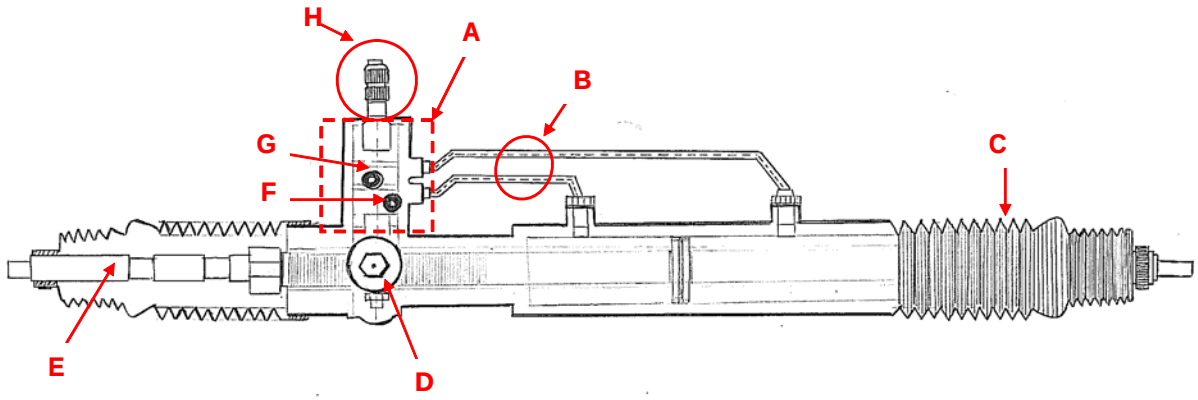
Hydraulic noise or turbulence:

- Due to air bubbles.
- Due to strangulation of a tube in the circuit.

Abnormal noise level:

- Slack pulley belt.
- Loose or damaged pulley.
- Faulty pump bearings and bushings.

Gráfico dirección a cremallera asistida



A	DISTRIBUIDOR, ALOJAMIENTO PIÑÓN	PINION HOUSING	DISTRIBUTEUR, LOGEMENT PIGNON
B	TUBOS DIRECCIÓN	RACK TUBES	TUYAUX DIRECTION
C	FUELLE	BOOT	SOUFFLET
D	TETÓN	RACK TRACKING	PIÈCE POUR RÉGLAGE CREMAILLÈRE
E	RÓTULA AXIAL, TERMINAL	TIE-ROD	AXIALE
F	RACOR RETORNO DEPÓSITO	OUTLET CONNECTION	RACCORD SORTIE
G	RACOR PRESIÓN BOMBA	INLET CONNECTION	RACCORD RENTRÉE PRESSION
H	PIÑÓN	PINION	PIGNON