# Technical Bulletin

## Clutch Disc

Vehicle Type

All PC and HD

## Clutch Disc Failure Diagnostic

**BACKGROUND**

**The role of The drive plate is to connect the engine to gearbox that is moving at a different speed to allows gradually torque during engagement to transmit full torque during driving to filter engine**

**vibrations**

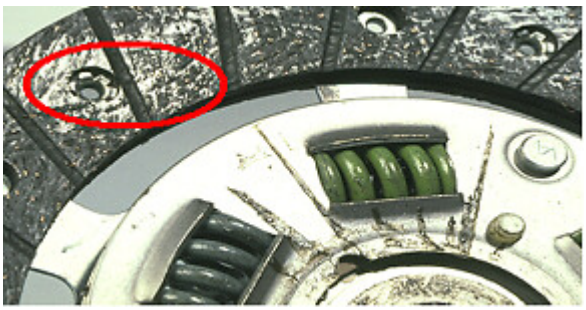
## Juddering

**ANOMALY OBSERVED**

Linings can move on the drive plate

**POSSIBLE CAUSE**

- The exenteration between the gearbox and the engine generation important shaking on the cushion disc and the rivet and deteriorate the linings fixations points.



## Juddering / Slipping

**ANOMALY OBSERVED**

This breakage is caused by an abnormally high operating temperature caused by prolonged gear slipping (the two linings are burned).

**POSSIBLE CAUSE**

- The facings are polluted by the presence of oil or grease.
- The pollution on the facings is irreversible, clean the facings will not remove the problem

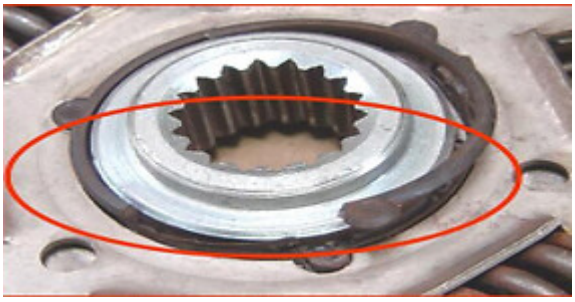
## Neutral gears noises

**ANOMALY OBSERVED**

Centrifugation of grease on the hub drive plate. That alter the damping

**POSSIBLE CAUSE**

- The pollution on the drive plate is irreversible, clean it will not remove the problem
- When reinstalling the new clutch, lubricate moderately with grease the bearing guide and the fork fingers



## Neutral gears noise coming from the gearbox

### ANOMALY OBSERVED

The drive plate hub worn out the washer until it broke.

### POSSIBLE CAUSE

- This damage is due to a gearbox exenteration or an oscillation of the primary shaft.
- At the time of the gearbox accosting, it is recommended to maintain the engine and the gearbox aligned by using hoist or jack until their fixing.

## Machine gun noise coming from the gearbox

### ANOMALY OBSERVED

One or more turns of the damper spring  was broken that alter the filtration

### POSSIBLE CAUSE

- A too important engine acyclism  ( injection, combustion, fuel... )
- a gearbox exenteration or an oscillation of the primary shaft.
- The centering pins on the engine are damaged and the gearbox is not correctly aligned.

## Machine gun noise coming from the gearbox

### ANOMALY OBSERVED

The Oscillation of the  gearbox primary shaft stress the retainer plate of the drive plate.

The spring force on the retainer plate until it complete breakage

### POSSIBLE CAUSE

- At the time of the gearbox accosting, it is recommended to maintain the engine and the gearbox aligned by using hoist or jack until their fixing

## Dampers move freely

### ANOMALY OBSERVED

The clearance of the filtration springs  is not a defect. This clearance permits filtering of the engine acyclism when the gearbox is in neutral

### POSSIBLE CAUSE

- When the engine is running, the springs are subjected to the engine torque and the clearance in the springs is cancelled due to the centrifugal force.

## Slipping

### ANOMALY OBSERVED

Linings are totally worn

### POSSIBLE CAUSE

- A bad return of the bearing due to the wear of the command system
- The presence of the driver foot on the clutch pedal
- Severe conditions of use, an overloaded trailer
- Remapped engine with to important torque transfert.

## Bad speed changeover / Impossibility of speed changing

### ANOMALY OBSERVED

Deterioration of the hub grooves

### POSSIBLE CAUSE

- Exertion of force on the gearbox primary shaft in the friction hub is responsible for the deterioration of the hub grooves. (presence of significant burrs and material displacement).

## Impossibility of speed changing

### ANOMALY OBSERVED

Destruction of the hub grooves

### POSSIBLE CAUSE

- The destruction of the grooves is probably caused by an abnormally high driving acyclism
- These impacts have generated mechanical stress up to the level of shearing the grooves.

## Impossibility of speed changing

### ANOMALY OBSERVED

Spring ejected

### POSSIBLE CAUSE

- A strong engine acyclism is probably the cause of the ejection of the damper spring and the deterioration of the others. The ejected spring settles in the sector of the diaphragm articulation in the clutch mechanism.
- Then the mechanism can no longer ensure release of the clutch.