

# CAUSES OF FAULTS IN A CLUTCH SYSTEM



# CLUTCH DOES NOT DISENGAGE



Pressure plate diaphragm finger tips, prematurely worn

- Incorrectly adjusted clutch release system • Incorrect driving practice: resting foot on the clutch pedal or
- prolonged operation of the clutch e.g. at red lights Clutch release system stiff / seized
- Clutch release bearing obstructed / faulty

- Check the clutch release bearing mechanism and
- adjust / replace if necessary
- Replace the clutch pressure plate



Clutch lever or diaphragm finger tips, bent or broken Note: The height difference of the diaphragm finger tips can only be measured when installed

- Incorrect installation practice: bolts were not
- tightened sequentially and evenly Transport / handling damage
- Clutch release bearing off-centre or damaged
- Clutch release shaft defective

 Check the clutch release bearing mechanism and replace if necessary

• Replace the clutch pressure plate

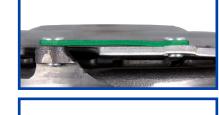


Pressure plate broken or clutch facings burnt

- Clutch overheated by excessive slipping due to prolonged hill starting, or an overloaded vehicle Release system adjusted incorrectly, seized or damaged
- Too much or incorrect grease on the gearbox input shaft, leaking engine oil or gearbox oil, causing prolonged slipping

# SOLUTION

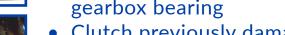
Eliminate the cause of the fault and replace the



# Tangential strap on clutch pressure plate distorted

# Incorrect installation practice: bolts were not tightened

• Play in the drive train e.g. worn flexible disc, worn



sequentially and evenly

- Clutch previously damaged e.g. by being dropped Incorrect clutch fitted
- Incorrect driving practice: harsh gear changing

• Eliminate the cause of the fault and replace the clutch



Clutch cover housing / pressure plate distorted

• Incorrect installation practice: bolts were not tightened sequentially and evenly

Replace the clutch pressure plate

# SYMPTOM

Clutch disc facings stuck, because of grease or oil contamination on the surface

 Too much or incorrect grease on the gearbox input shaft Leaking engine oil or gearbox oil

# SOLUTION

• Eliminate the cause of the leak

Replace the clutch disc and clean the remaining parts

# CLUTCH SLIPS

SYMPTOM

lywheel depth too big

eavy scoring marks

Excessive lateral run-out of clutch disc

## CAUSE

SOLUTION

## Transport damage or damaged during installation

Replace the clutch disc



Stiff clutch disc on the gearbox input shaft

## CAUSE Corrosion in the hub profile

 Dirty gearbox shaft • Hub profile damaged due to rough handling / installation

• Check the hub profile, then clean and lubricate the profile with the correct grease

Replace the clutch disc



Clutch disc facing segments broken

- Misalignment between engine and gearbox
- Defective pilot bearing / gearbox input shaft bearing • Defective or missing dowel pins between engine
- Defective dowel pins on the flywheel
- Clutch disc damaged during installation

# (gearbox input shaft is stuck in the hub profile)

• Eliminate the cause of the fault and replace the defective clutch parts



Marks on the clutch disc e.g. on the clutch disc

# retainer plate

Clutch disc fitted incorrectly

Incorrect clutch parts fitted

 Check the clutch disc and replace in the case of severe damage



Clutch release bearing defective



Defective release system

# Overheated release bearing due to incorrect

• Eliminate the cause of the fault and replace the

## adjustment of the release system Contact surface with the clutch fork not greased • Incorrect adjustment of the release system



Gearbox guide tube worn / scoring marks on the bearing (inner diameter)



Replace the defective clutch parts



No grease or incorrect grade of grease



# SOLUTION

release bearing



Marks on the clutch disc e.g. on the clutch disc retainer plate

Clutch disc fitted incorrectly

SOLUTION • Check the clutch disc and replace in the case of



# severe damage



ure plate diaphragm finger tips, prematurely worn

Incorrectly adjusted clutch release system ncorrect driving practice: resting foot on the clutch pedal

or prolonged operation of the clutch e.g. at red lights

Mating surface of the flywheel badly worn

Replace or reface the flywheel as necessary

Incorrect flywheel, wrong or excessively refaced

- Clutch release system stiff / seized Clutch release bearing obstructed / faulty
  - SOLUTION
  - Check the clutch release bearing mechanism and
  - adjust / replace if necessary Replace the clutch pressure plate



# SYMPTOM

- Worn / wear and tear
- Incorrect driving practice: resting foot on the clutch pedal or prolonged operation of the clutch e.g. at red lights
- Incorrect clutch fitted Defective release system
- SOLUTION

• Eliminate the cause of the fault and replace the clutch kit

Oil Contamination on the clutch disc or flywheel facing,

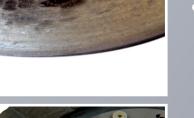
utch facings or clutch pressure plate overheated or burnt

Clutch overheated by slipping too long



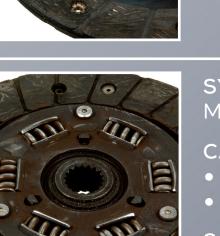
# lue to a leaking engine oil seal or gearbox oil seal duced coefficient of friction)

Defective release system (cable or hydraulics)

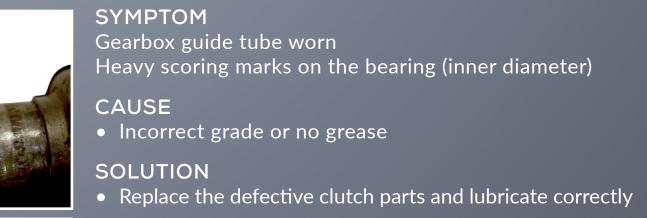


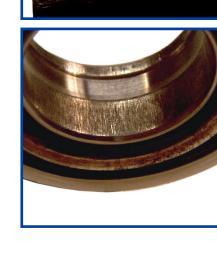
# Eliminate the cause of the fault and replace the clutch kit

Too much or incorrect grease on the gearbox input shaft



# • Incorrect clutch parts fitted





# **CLUTCH JUDDER**



Flywheel depth too big Heavy scoring marks

 Mating surface of flywheel not refaced Flywheel not replaced



**SOLUTION** Replace or reface the flywheel as necessary



Tangential strap on clutch pressure plate bent or broken



- Incorrect installation practice: bolts were not
- tightened sequentially and evenly • Play in the drive train e.g. worn out flexible disc, worn out gearbox bearing
- Clutch previously damaged e.g. by being dropped Incorrect clutch fitted

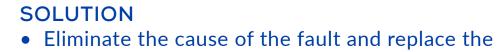
clutch pressure plate

sequentially and evenly

Transport / handling damage

Clutch release bearing off-centre

Incorrect driving practice: harsh gear changing





Note: The height difference of the diaphragm spring fingers can only be measured when installed

• Incorrect installation practice: bolts were not tightened

- Clutch release shaft defective
- Check the clutch release bearing mechanism and replace
- Replace the clutch pressure plate



# Dirty / corroded gearbox input shaft splines Replace the clutch disc

## Hub profile damaged due to rough handling / fitting / alignment

profile with grease

• Check the hub profile, then clean and lubricate the

input shaft

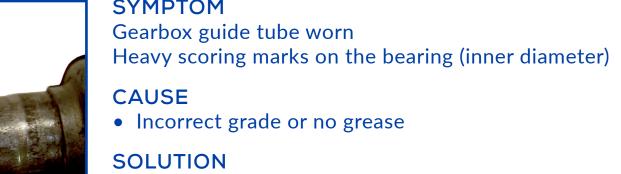
**SYMPTOM** 

# Oil or grease on the clutch parts

 Leaking engine oil seal or gearbox oil seal SOLUTION

# • Eliminate the cause of the lubricant leak Replace the defective clutch parts

Too much / wrong type of grease on the gearbox



Gearbox guide tube worn

SOLUTION

• Replace the defective clutch parts and lubricate correctly

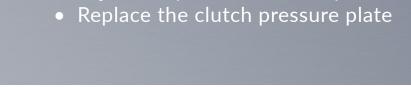
# **CLUTCH NOISE**



ssure plate diaphragm finger tips, prematurely worn

Incorrectly adjusted clutch release system

- correct driving practice: resting foot on the clutch pedal or rolonged operation of the clutch e.g. at red lights
- Clutch release system stiff / seized
- Clutch release bearing obstructed / faulty
- SOLUTION Check the clutch release bearing mechanism and adjust / replace if necessary





Incorrect clutch parts fitted



## YMPTOM Clutch disc, centre retaining rivet worn

Incorrect clutch disc Incorrect driving practice: driving in a too high gear

Motor tuning

# • Eliminate the cause of the fault and replace the clutch disc

rsion spring broken

Check the clutch disc and replace in the case of

Incorrect clutch disc fitted

# Incorrect driving practice: driving in a too high gear Oil or grease on the clutch facing

SOLUTION

Eliminate the cause of the fault and replace the clutch disc

Hub profile splines worn / damaged Problem with alignment

replace if necessary

utch release bearing defective

of the release system

Gearbox guide tube worn

Pilot bearing damaged / Dowel pins damaged SOLUTION

Check the pilot or gearbox input shaft bearing and

Check the dowel pins between engine and gearbox,

and the flywheel dowel pins and replace if necessary

Incorrect installation practice: splines damaged

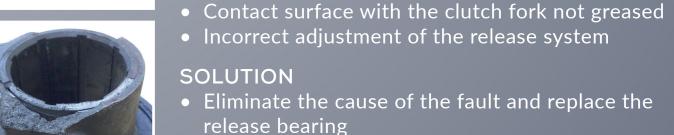


SYMPTOM

SYMPTOM

SOLUTION

• Defective release system (cable or hydraulics) Overheated release bearing due to incorrect adjustment



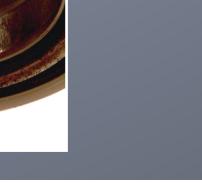
release bearing



Heavy scoring marks on the bearing (inner diameter) Incorrect grade or no grease









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