

## Diagnostic protocol - Manual gearbox

DATE \_\_\_\_\_ VEHICLE LICENSE PLATE NO. \_\_\_\_\_ DIAGNOSIS PERFORMED BY (FULL NAME) \_\_\_\_\_

.....  
 CAR MAKE / MODEL \_\_\_\_\_ MODEL YEAR \_\_\_\_\_

.....  
 ENGINE SIZE / FUEL \_\_\_\_\_ MILEAGE (KM) \_\_\_\_\_

VEHICLE IS A

- Commercial vehicle**
- Emergency vehicle
- Taxi
- Courier / delivery vehicle
- Vehicle for other heavy use
- Private vehicle

GENERAL USE

- Regularly carry heavy load
- Regularly pulls a trailer
- Regularly travels in city traffic
- Regularly travels on the freeway
- Regularly transports passengers

### General

Has any gearbox related parts been recently exchanged?

- Yes** (date) \_\_\_\_\_  **No**
- Clutc.....
- Slave cylinder.....
- Flywheel.....
- Release bearing.....
- Other.....

- The clutch operate normally?  Yes  No .....
- The clutch feels normal?  Yes  No .....
- .....
- .....
- .....
- .....

### Description of problem / error

Did the problem occur at a particular event / time? When? Where? How? Describe the circumstances thoroughly:

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FLIP >

## Symptoms

|                                  |  |                                   |   |
|----------------------------------|--|-----------------------------------|---|
| The symptoms are                 | <input type="checkbox"/> Sporadic                      | <input type="checkbox"/> Constant | <input type="checkbox"/> No information   |
| Occurs when the gearbox (oil) is | <input type="checkbox"/> Cold                          | <input type="checkbox"/> Warm     | <input type="checkbox"/> Regardless cold/warm <input type="checkbox"/> No information |
| Has the oil been replaced?       | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> Not checked  |
|                                  | When (date).....                                       |                                   |   |
| Is the oil level correct?        | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> Not checked  |
| Does the oil look normal?        | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> Not checked  |
| Metal chips in the oil?          | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> Not checked  |
| Missing drive on any gear?       | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
|                                  | Which gear/s?.....                                     |                                   |   |
| Difficulty shifting gear?        | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
| Noise occur when shifting gear?  | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
|                                  | Which gear/s?.....                                     |                                   |   |
| Any other audible noise?         | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
|                                  | <input type="checkbox"/> Single gear/s                 |                                   |   |
|                                  | <input type="checkbox"/> Constant                      |                                   |   |
|                                  | <input type="checkbox"/> Constant but only during idle |                                   |   |
|                                  | <input checked="" type="checkbox"/> Connected to speed |                                   |   |
|                                  | <input type="checkbox"/> During acceleration           |                                   |   |
|                                  | <input type="checkbox"/> At engine brake               |                                   |   |
| Noise if clutch is pressed down? | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
| Gears feel/appear sluggish?      | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
|                                  | Which gear/s?.....                                     |                                   |   |
| Gearshift mechanism adjusted?    | <input type="checkbox"/> Yes                           | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
| Any vibrations?                  | <input checked="" type="checkbox"/> Yes                | <input type="checkbox"/> No       | <input type="checkbox"/> No information   |
|                                  | How strong?.....                                       |                                   |   |
|                                  | Increases with acceleration?.....                      |                                   |   |
|                                  | When? (specify speed, throttle and engine brake) ..... |                                   |   |

## Comments

Car mechanic's comments on the vehicle's problems, the use of the vehicle and the customer's style of driving:

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## Instructions for driving a car with error symptoms in the manual transmission

The test run is an important part of trouble shooting and should be performed both when the gearbox is cold and when it is warm (some symptoms are only noticeable when the gearbox is cold and some symptoms are only noticeable when the gearbox is warm).

Undvik provkörning av en bil som har:

- kraftiga missljud
- kraftig slir
- för lite olja

1. Start the car.
2. Press down the clutch and then release it.

- Any sound/noise noticeable?
3. If yes, does the sound/noise change when you press down the clutch?
4. Is there any vibrations in the clutch pedal?
5. Whilst the car is standing still: change to first gear, then consequently change to second gear, third gear and so on. Also try putting in the reverse gear.
6. Any difficulties changing gears in general, or putting in a particular gear?
7. If all gears seem fine when standing still: put in first gear and drive with light acceleration. Try shifting up to higher gears as well as shifting back to lower gears.

8. Are there any difficulties changing to higher or lower gears?
9. Listen for sound/noise when the car is accelerating, engine braking and turning (both left and right).
10. Do vibrations occur while driving?

The gearbox should now be warm, repeat the test run with the same accuracy as before. Thoroughly write down all observations that take place during test run 1 (cold) and 2 (hot).

Archive this diagnostic document and other notes regarding the vehicle.