



Module Number: 06-2

Subject: Axle Research

Objective:

At the conclusion of this module you will be able to:

- Locate data regarding the lubrication specification of front and rear axle
- Explain the adjustment procedure for the front wheel bearings
- List the reasons for an adjustment of the steering knuckle bearings
- Explain the replacement procedure for the drive pinion sealing rings
- List items of care when removing a complete rear axle from vehicle
- Explain the adjustment of the differential lock cylinder

Vehicle and tools required:

- N/A

Required materials:

- Hand out material for Transfer Case
- WIS

Instructions:

1. Follow the attached instructions and answer the questions
2. Use your hand out and ask your instructor for assistance
3. It should take you about 45 minutes

Task: Adjust wheel bearing play front (AR33.20-P-0300GG)

1. What is the play for adjusting a run in bearing? _____mm
2. How about for new bearings? _____mm, aiming at _____mm
3. How is the wheel bearing play adjusted? _____
4. What is the initial torque for the inner grooved nut? _____Nm
5. How should the chamfer on the grooved nuts be pointed? _____
6. When installing and torquing the outer grooved nut, it should be _____

7. What is the final torque for the outer grooved nut? _____Nm
Note: Bearing play tends to reduce after torquing outer nut. Always verify!

Task: Adjust steering knuckle bearing (AR33.25-P-0401A)

1. When removing the joint housing why would it become necessary to measure and adjust the steering knuckle bearings? _____

2. What is the preload adjustment for these bearings? _____mm
3. Besides the list of special tools needed is there an additional information/ requirement when determining thickness of the shims? YES NO
Which one? _____

Task: Replace radial seal ring on drive pinion (AR35.30-P-4670F)

Note: Procedure also applies to front axle. In order to replace the radial seal ring on the drive pinion it is necessary to remove/install the drive flange

1. What measurement should be done prior to removing the drive flange from drive pinion? _____
2. Is it necessary to mark drive flange relative to the drive pinion? YES NO
3. What special tool is needed to drive in the inner radial sealing ring? _____

4. What special tool is needed to drive in the outer radial sealing ring? _____

5. Which radial sealing rings should be coated with sealing compound prior to installation? _____
6. Is it necessary to grease the radial sealing ring prior to installation of drive flange? YES NO
7. What value should be attained when adjusting the friction torque of the drive pinion after replacing the radial sealing ring? _____
8. Is it acceptable to turn back the collar nut if the friction torque was adjusted to high? YES NO
9. What steps are necessary to replace the compressed ring of the drive pinion?

10. When is it necessary to carry out a concentricity measurement of the drive flange?

Task: Removing and installing complete rear axle (AR35.10-P-0010F)

1. Is this job performed with the vehicle on the ground or raised? _____
2. What is the procedure for removing the coil springs? _____

3. Is it necessary to mark the position of the propeller shaft to the drive flange prior to removal? YES NO
4. Are the axle mounting bolts tightened to their specified torque with the vehicle in the air? YES NO
5. Is there an adjustment when installing the ABS speed sensor? YES NO
6. What is the gap specification between speed sensor and ABS measuring ring? _____ mm
7. Is the basic parking brake adjustment at the axle the same as on other MB vehicles? YES NO

8. How is the hand brake lever and left/right brake force adjusted on this vehicle? _____

Task: Install and adjust differential lock shift cylinder (AR35.40-P-9131-02F)

Note: Procedure also applies to front axle

1. When is it necessary to perform an adjustment of the shift cylinder?

a. _____

b. _____

c. _____

2. Is the adjustment performed in the engaged or disengaged position?

3. How far should the actuated shift cylinder be pushed in? _____

4. Can it be pushed in to far in? How would you know? YES NO

5. How is the correct adjustment verified? _____

Note: Also check for positive differential lock disengagement!

Return all tools to their original condition. Call your Instructor if clarification is needed.