

Brake Systems (06.00)

Hand Brake (06.05)

Description

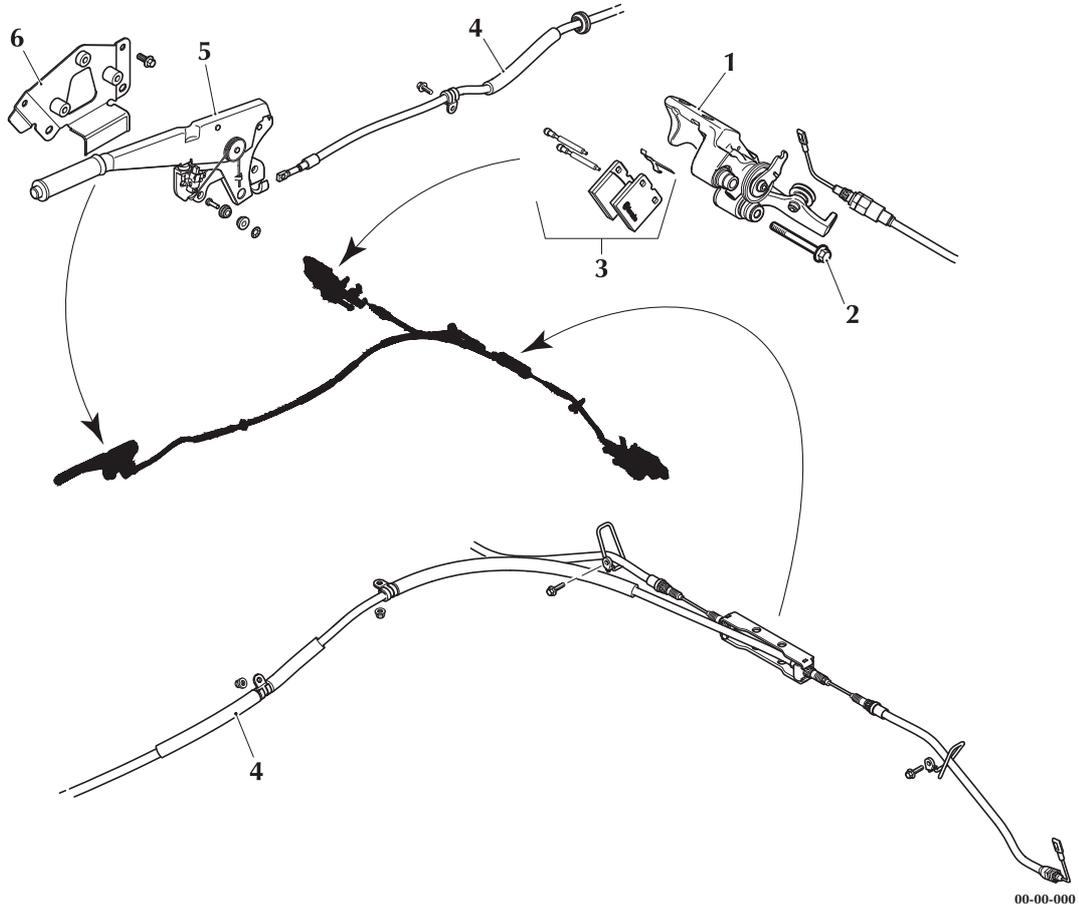


Figure 06.05.01 - Handbrake Assembly

Key to Figure 06.05.01 - Handbrake Assembly	
1. Handbrake Caliper	4. Handbrake Cable
2. Handbrake Caliper Attachment Bolt	5. Handbrake Lever Assembly
3. Pad Assembly	6. Stop Assembly

The hand brake control lever is installed at the outer side of the driver's seat. When the lever is operated, a cable applies mechanical brakes to each rear wheel. Each mechanical caliper applies brake pads to a brake disc installed on each rear road wheel hub. The calipers are bolted to the vertical links. When the parking brake is released, the pads are retracted by springs. Each caliper has a mechanism that automatically adjusts for wear in the pads. There are adjusters to tension the cable if it stretches.

There is a switch installed on the lever assembly that has contacts that are normally closed. When the handbrake is off, the contacts in the switch are open. The contacts close when the handbrake is applied. This causes the hand brake warning light in the instrument panel to come on.

Specifications

Brake pads

Minimum lining thickness 6 mm

Torque Figures

Description	Nm.	lb. / ft.
Brake Caliper to Vertical Link	15 then 92° more.	11.5 then 92° more.

Maintenance

Right Hand Brake Caliper - Remove and Install

Repair Operation Time (ROT)

Item	Code
Right Handbrake Caliper - Remove and Install	06.05.AB

Remove

1. Use the applicable lifting equipment to lift the vehicle.
2. Remove the rear-right road wheel.
3. Make sure that the handbrake lever is fully released.
4. Release the handbrake adjustment at the two sides of the vehicle.



Fig. A0-605-632

5. Release the inner cable eyelet from the right handbrake caliper lever.
6. Compress the ring clip (Use special tool No. 303-535) and remove the cable.



Fig. A0-605-699

7. Remove the two brake pad attachment pins and the anti-rattle spring.



Fig. A0-605-634

8. Remove the pads and the shims from the caliper.
9. Remove and discard the two bolts that attach the handbrake caliper to the knuckle.



Fig. A0-604-621

Install

⚠ Warning ⚠

Do not use compressed air to remove brake pad dust. The dust can be dangerous. Always use a vacuum brush or aqueous brake cleaner to remove brake pad dust.

1. Clean the brake pads, the pad attachment pins and the anti-rattle spring.
 2. Put the handbrake caliper in position on the knuckle.
 3. Install and torque two new attachment bolts to 15 Nm (11 lb/ft).
 4. Tighten the bolts 92° more.
 5. Install the two pads into the caliper.
- Always renew the handbrake pads in axle sets.
6. Put the anti-rattle spring in position on the caliper.

7. Install the two pins to attach the pads and the anti-rattle spring.
6. Compress the ring clip (Use special tool No. 303-535) and remove the cable.

⚠ Warning ⚠

Before you drive the vehicle, operate the hand brake lever 2 or 3 times to make sure that the hand brake operates correctly. You must operate brake caliper pistons to close the space between the brake pads and the disc.

8. Operate the lever on the caliper until the pads touch the disc.
9. Install the cable onto the lever on the caliper.
10. Adjust the hand brake cable (Refer to 'Handbrake Cable Assembly - Adjust', page 6-5-6)
11. Install the rear-right road wheel.
12. Lower the vehicle.

Left Hand Brake Caliper - Remove and Install

Repair Operation Time (ROT)	
Item	Code
Left Handbrake Caliper - Remove and Install	06.05BB

Remove

1. Use the applicable lifting equipment to lift the vehicle.
2. Remove the rear-left road wheel.
3. Make sure that the handbrake lever is fully released.
4. Release the handbrake adjustment at the two sides of the vehicle.



Fig. A0-605-632

5. Release the inner cable eyelet from the left handbrake caliper lever.



Fig. A0-605-699

7. Remove the two brake pad attachment pins and the anti-rattle spring.



Fig. A0-605-634

8. Remove the pads and the shims from the caliper.
9. Remove and discard the two bolts that attach the handbrake caliper to the knuckle.



Fig. A0-604-621

Install

⚠ Warning ⚠

Do not use compressed air to remove brake pad dust. The dust can be dangerous. Always use a vacuum brush or aqueous brake cleaner to remove brake pad dust.

1. Clean the brake pads, the pad attachment pins and the anti-rattle spring.
2. Put the handbrake caliper in position on the knuckle.
3. Install and torque two new attachment bolts to 15 Nm (11 lb/ft).
4. Tighten the bolts 92° more.
5. Install the two pads into the caliper.

Always renew the handbrake pads in axle sets.

6. Put the anti-rattle spring in position on the caliper.
7. Install the two pins to attach the pads and the anti-rattle spring.

⚠ Warning ⚠

Before you drive the vehicle, operate the hand brake lever 2 or 3 times to make sure that the hand brake operates correctly. You must operate brake caliper pistons to close the space between the brake pads and the disc.

8. Operate the lever on the caliper with your hand, until the pads touch the disc.
9. Install the cable onto the lever on the caliper.
10. Adjust the hand brake cable (Refer to 'Handbrake Cable Assembly - Adjust', page 6-5-6).
11. Install the rear-left road wheel.
12. Lower the vehicle.

Handbrake Lever Assembly - Remove and Install

Repair Operation Time (ROT)	
Item	Code
Handbrake Lever Assembly - Remove and Install	06.05.CB

Remove

1. Remove the driver's seat (Refer to 'Front-Left Seat Assembly - Remove for Access and Install', page 1-4-2).
2. Use the applicable lifting equipment to lift the vehicle.
3. Remove the two rear road wheels.

4. Release the handbrake adjustment at the two sides.



Fig. A0-605-632

5. Release the velcro that attaches the handbrake lever gaiter and remove the gaiter.



Fig. A0-605-648

6. Remove the bolt that attaches the handbrake lever to the sill.



Fig. A0-605-649

7. Release the carpet from the sill.
8. Remove the three bolts that attach the handbrake lever bracket to the sill.

9. Move the lever to get access to the clevis pin.



Fig. A0-605-650

10. Remove the Lucar connector from the switch for the warning light.



Fig. A0-605-651

11. Remove and discard the spring clip from the clevis pin. Remove the clevis pin from the lever.



Fig. A0-605-701

12. Disconnect the outer-cable from the handbrake lever and remove the lever.

Install

1. Connect the outer-cable to the lever.
2. Install the clevis pin and attach it with a new clip.
3. Put the lever in position on the body and install the bolt to attach the lever.

4. Connect the Lucar connector to the warning light switch.
5. Install the two rear roadwheels.
6. Lower the vehicle.
7. Install the gaiter to the handbrake lever and attach it with the velcro.
8. Install the driver's seat (Refer to 'Front-Left Seat Assembly - Remove for Access and Install', page 1-4-2).
9. Adjust the handbrake cable (Refer to 'Handbrake Cable Assembly - Adjust', page 6-5-6).

Handbrake Pad Set - Remove and Install

Repair Operation Time (ROT)	
Item	Code
Handbrake Pad Set - Remove and Install	06.05.DB

Remove

1. Use the applicable lifting equipment to lift the vehicle.
2. Remove the two rear road wheels.
3. Make sure that the handbrake lever is fully released.
4. Release the handbrake adjustment at the two sides.



Fig. A0-605-632

5. On the right-side caliper, remove the two pins that attach the brake-pads and collect the anti-rattle spring.



Fig. A0-605-634

6. Remove the two pads from the caliper.

- Remove the two bolts that attach the handbrake caliper to the knuckle and remove the caliper.



Fig. A0-604-621

- Use string or equivalent material to hold the caliper and stow it in the wheelarch.
- Repeat steps 5 to 8 again for the left-side caliper.

Install

⚠ Warning ⚠

Do not use compressed air to remove brake pad dust. The dust can be dangerous. Always use a vacuum brush or aqueous brake cleaner to remove brake pad dust.

- Clean the pad attachment pins, the anti-rattle springs, the caliper slide pins and the pistons.
- Use the applicable tool to turn the pistons clockwise until they are fully retracted into the calipers.



Fig. A0-605-635

- Put the right handbrake caliper in position on the knuckle. Install and torque the two attachment bolts to 15 Nm.
- Tighten the two caliper attachment bolts 92° more.
- Install the two pads into the right handbrake caliper.
- Put the anti-rattle spring in position and install the two pad attachment pins into the caliper.
- Do steps 2 to 5 again for the left handbrake caliper.
- Operate the levers on the calipers until the pads touch the discs.

- Adjust hand brake cable (Refer to 'Handbrake Cable Assembly - Adjust', page 6-5-6).
- Install the two rear road wheels
- Lower the vehicle.

Handbrake Cable Assembly - Adjust

Repair Operation Time (ROT)	
Item	Code
Handbrake Cable Assembly - Adjust	06.05.DC

Remove

- Make sure that the handbrake is fully released
- Use the applicable lifting equipment to lift the vehicle.
- Remove the two rear road wheels.
- Visually examine the condition of handbrake cable.
- Release the hand-brake cable adjustment at the two sides.



Fig. A0-605-632

- Adjust the cable equally at each caliper to give four clicks at the handbrake lever.
- Make sure that the discs turn freely.
- Install the two rear road wheels.
- Lower the vehicle.
- Make sure that the warning light goes off when the handbrake lever is released.
- Make sure that the handbrake operates correctly.