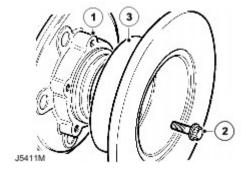
Published: Feb 14, 2007

Brake Disc (70.12.33)

Removal

- 1 . Remove rear wheel bearing and hub assembly. For additional information, refer to Wheel Bearing and Wheel Hub (64.15.14)
- 2. Remove disc bolts.
- 3 . Remove disc from rear hub.



Installation

- 1. Install disc to rear hub.
- 2. Install disc bolts. Tighten to 73 Nm (54 lbf.ft).
- 3 . Check total disc run out, this must not exceed 0,15 mm (0.006 in). If necessary reposition disc.
- 4 . Install rear wheel bearing and hub assembly. For additional information, refer to Wheel Bearing and Wheel Hub (64.15.14)
- 5. Disc reclamation.
- 6 . **NOTE**:

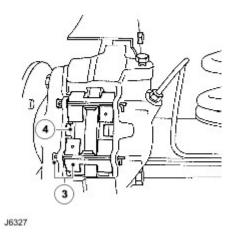
The brake disc MUST BE renewed if the minimum running thickness stamped on the disc is recorded.

Check disc thickness. This dimension may be machined to minimum thickness of 12 mm. Machine equal amounts off each face.

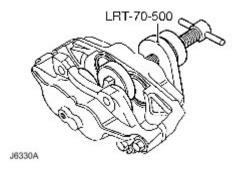
Brake Pads - 90 (70.40.03)

Removal

- 1 . Remove rear road wheels.
- 2 . Clean exterior of calipers.
- 3 . Remove pad retaining pins and anti-rattle springs.
- 4 . Remove brake pads and shims.

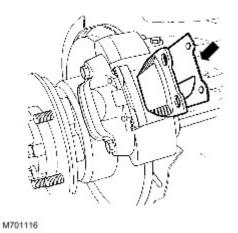


- ${\bf 5}$. Clean exposed parts of pistons, using new brake fluid.
- 6. Wipe away excess fluid with lint free cloth.
- 7 . Using piston clamp LRT-70-500 press each piston back into its bore. Ensure that displaced brake fluid does not overflow from reservoir.



Installation

1 . Instal brake pads and shims. Ensure shims are correctly fitted, see illustration.



NOTE:

Vehicles from 02MY have leading and trailing edge chamfers on rear pads. Shims are also fitted.

- 2. Instal anti-rattle springs and secure with retaining pins.
- 3 . Apply brake pedal several times to locate pads.
- 4 . Install road wheels, remove chassis stands and jack. Tighten wheel nuts to 130 Nm (96 lbf.ft).
- 5 . Check fluid reservoir, top up if necessary, using correct grade of fluid.

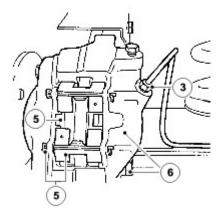
For additional information, refer to **Specifications**

Published: Jan 27, 2006

Brake Caliper - 90 (70.55.25)

Removal

- 1. Remove rear road wheels.
- 2. Using a recognised hose clamp, clamp flexible brake hose above rear axle.
- 3 . Remove brake pipe from rear brake caliper.
- 4 . Seal pipe ends to prevent ingress of dirt.
- 5 . Remove retaining pins and springs and withdraw pads. If same pads are to be refitted, identify them for assembly in original positions.
- 6. Remove 2 bolts and withdraw caliper from rear axle.

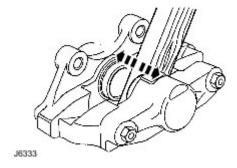


J6331



WARNING: Do not separate caliper halves.

- 7. Clean outer surfaces of caliper with aerosol brake cleaner.
- 8. WITH CAUTION expel pistons from their bores by applying air pressure to fluid inlet port. It is unlikely both pistons will expel at same time, regulate rate with a suitable piece of wood inserted between two pistons.

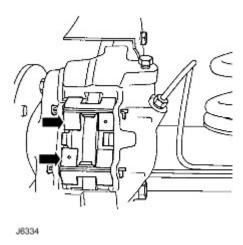


- 9 . Finally, remove pistons keeping them identified with their respective bores.
- 10 . Remove wiper seal retainer by inserting a blunt screwdriver between retainer and seal and pry retainer carefully from mouth of bore.

11 . Taking care not to damage seal grooves, extract wiper seal and fluid seal.

Installation

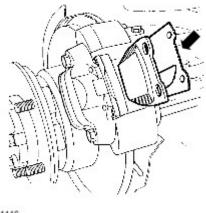
- 1 . Clean bores, pistons and particularly seal grooves using clean brake fluid only. If caliper or pistons are corroded or their condition is not perfect new parts must be fitted.
- 2 . Apply brake fluid to new seals. Fit seals into groove in bores. When seals are seated they feel raised to touch at edge furthest away from mouth of bores.
- 3 . Coat pistons with brake fluid. Insert them squarely into bores. Do not tilt pistons during insertion and leave 8mm projecting from bores.
- 4 . Coat new wiper seals with brake fluid and fit to new seal retainers. Slide assemblies, seal first, over protruding piston into bore recesses.
- 5 . Using special tool LRT-70-500 piston clamp, press home seal retainer and piston. Carry out same procedure for fitting outboard pistons and seals.
- 6. Instal calipers and pads to vehicle.
- 7. Instal caliper to axle, tighten 2 bolts evenly to 82 Nm (60 lbf.ft).
- 8. Connect brake pipe to caliper. Tighten to 15 Nm (11 lbf.ft).
- 9 . Remove clamp from flexible brake hose.
- 10 . Up to 2002 MY, insert pads and retaining springs, secure in position with new retaining pins and spread ends or fit new split pins, depending on vehicle model.



11 . NOTE:

Vehicles from 02 MY have leading and trailing edge chamfers on rear pads.

2002MY on, ensure shim are correctly fitted, see illustration.



M701116

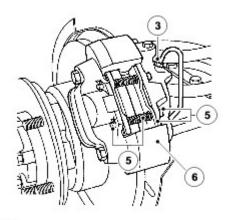
- 12 . Bleed brake system . For additional information, refer to <u>Brake System Bleeding (70.25.02)</u>
- 13 . Press brake pedal firmly several times to locate pads.
- 14 . Fit road wheels, remove axle stands. Finally tighten road wheel nuts to correct torque:
 - 1) Alloy wheels 130 Nm (96 lbf.ft)
 - 2) Steel wheels 100 Nm (80 lbf.ft)
 - 3) Heavy duty wheels 170 Nm (125 lbf.ft)
- 15 . Road test vehicle. Note new brake pads require 'bedding-in', for several hundred miles before brakes are at maximum efficiency.

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Brake Caliper - 110/130 (70.55.25)

Removal

- 1. Remove rear road wheels.
- 2. Using a recognised hose clamp, clamp flexible brake hose above rear axle.
- 3 . Remove brake pipe from rear brake caliper.
- 4 . Seal pipe ends to prevent ingress of dirt.
- 5 . Remove retaining pins and springs and withdraw pads. If same pads are to be refitted, identify them for assembly in original positions.
- 6. Remove 2 bolts and withdraw caliper from rear axle.

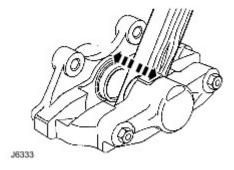


J6332



WARNING: Do not separate caliper halves.

- 7. Clean outer surfaces of caliper with aerosol brake cleaner.
- 8. WITH CAUTION expel pistons from their bores by applying air pressure to fluid inlet port. It is unlikely both pistons will expel at same time, regulate rate with a suitable piece of wood inserted between two pistons.

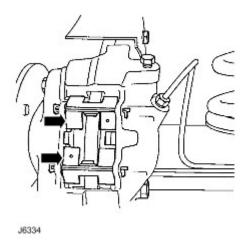


- 9 . Finally, remove pistons keeping them identified with their respective bores.
- 10 . Remove wiper seal retainer by inserting a blunt screwdriver between retainer and seal and pry retainer carefully from mouth of bore.

11 . Taking care not to damage seal grooves, extract wiper seal and fluid seal.

Installation

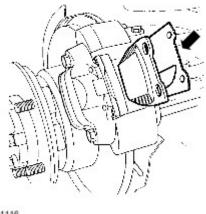
- 1 . Clean bores, pistons and particularly seal grooves using clean brake fluid only. If caliper or pistons are corroded or their condition is not perfect new parts must be fitted.
- 2 . Apply brake fluid to new seals. Fit seals into groove in bores. When seals are seated they feel raised to touch at edge furthest away from mouth of bores.
- 3 . Coat pistons with brake fluid. Insert them squarely into bores. Do not tilt pistons during insertion and leave 8mm projecting from bores.
- 4. Coat new wiper seals with brake fluid and fit to new seal retainers. Slide assemblies, seal first, over protruding piston into bore recesses.
- 5 . Using special tool LRT-70-500 piston clamp, press home seal retainer and piston. Carry out same procedure for fitting outboard pistons and seals.
- 6. Instal calipers and pads to vehicle
- 7. Instal caliper to axle, tighten 2 bolts evenly to 82 Nm (60 lbf.ft).
- 8. Connect brake pipe to caliper. Tighten to 15 Nm (11 lbf.ft).
- 9 . Remove clamp from flexible brake hose.
- 10 . Up to 2002 MY, insert pads and retaining springs, secure in position with new retaining pins and spread ends or fit new split pins, depending on vehicle model.



11 . NOTE:

Vehicles from 02 MY have leading and trailing edge chamfers on rear pads.

2002MY on, ensure shim are correctly fitted, see illustration.



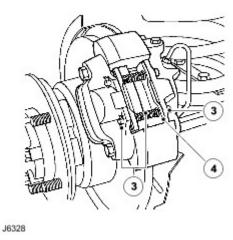
M701116

- 12 . Bleed brake system . For additional information, refer to <u>Brake System Bleeding (70.25.02)</u>
- 13 . Press brake pedal firmly several times to locate pads.
- 14 . Instal road wheels, remove axle stands. Finally tighten road wheel nuts to correct torque:
 - 1) Alloy wheels 130 Nm (96 lbf.ft)
 - 2) Steel wheels 100 Nm (80 lbf.ft)
 - 3) Heavy duty wheels 170 Nm (125 lbf.ft)
- 15 . Road test vehicle. Note new brake pads require 'bedding-in', for several hundred miles before brakes are at maximum efficiency.

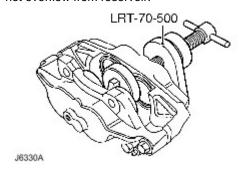
Brake Pads - 110/130 (70.40.03)

Removal

- 1 . Remove rear road wheels.
- 2 . Clean exterior of calipers.
- 3 . Remove pad retaining pins and anti-rattle springs.
- 4. Remove brake pads and shims.

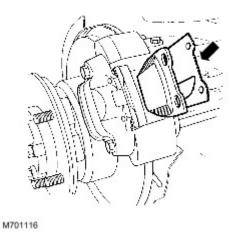


- 5 . Clean exposed parts of pistons, using new brake fluid.
- 6. Wipe away excess fluid with lint free cloth.
- 7 . Using piston clamp LRT-70-500 press each piston back into its bore. Ensure that displaced brake fluid does not overflow from reservoir.



Installation

1 . Instal brake pads and shims. Ensure shims are correctly installed, see illustration.



NOTE:

Vehicles from 02MY have leading and trailing edge chamfers on rear pads. Shims are also fitted.

- 2. Instal anti-rattle springs and secure with retaining pins.
- 3 . Apply brake pedal several times to locate pads.
- 4 . Instal road wheels, remove chassis stands and jack. Tighten wheel nuts to 130 Nm (96 lbf.ft).
- ${\bf 5}$. Check fluid reservoir, top up if necessary, using correct grade of fluid.

For additional information, refer to