Subject
Best Practices for TCMC Front Brake Pad Installation

Market
USA

Service Category
Brake

Section
Brake (front)

Applicability
Multiple Models

APPLICABLE VEHICLES

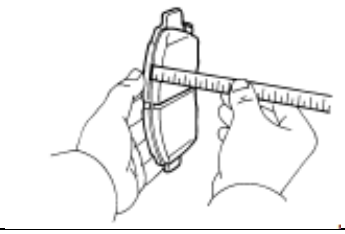
1996-2009	Camry	2007-2010	FJ Cruiser
2001-2007	Highlander	2001-2003	Prius
2000-2006	Tundra	1998-2009	Sienna
2003-2013	Matrix	1996-2009	4Runner
2000-2005	Echo	2003-2007	Sequoia
1997-2009	Avalon	1996-2013	RAV4
2000-2005	MR2 Spyder	2006-2013	Yaris
1999-2013	Tacoma	1999-2002, 2004-2008	Solara
2007-2011	Camry HV	1999-2013	Corolla

CONDITION

A key part to maintain the proper function and safe operation of the vehicle's braking system is to perform a visual inspection when installing brake pads, calipers and discs. The following recommendations are intended to provide general tips for the inspection and/or installation of **Toyota Complete Maintenance Care (TCMC)** front brake pads and discs. Always refer to the model specific Repair Manual and TIS publications for specific repair instructions.

RECOMMENDATIONS

To ensure proper function and safe operation of the braking system, the following points should be followed when inspecting and installing Genuine Toyota TCMC brake pads. Refer to PANT Bulletin 2012-049 for specific vehicle applications for the TCMC brake pad kits.

KEY INSPECTION POINTS	***Description***	***Notes***
Pad lining thickness Using a ruler or a pad thickness gauge to measure the pad lining thickness. If the pad lining thickness is less than the minimum, the brake pads should be replaced.		• Worn brake pads can cause noise and damage the rotor if not inspected and serviced regularly • Refer to the model specific Repair Manual for standard and minimum thickness levels

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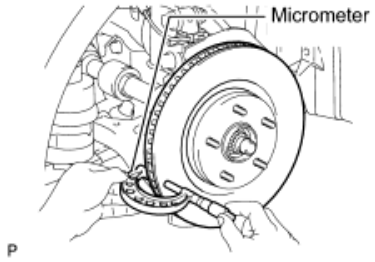
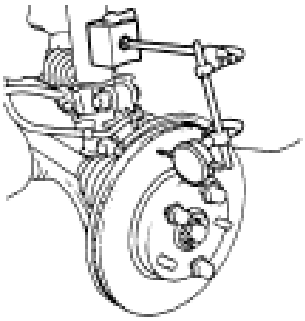
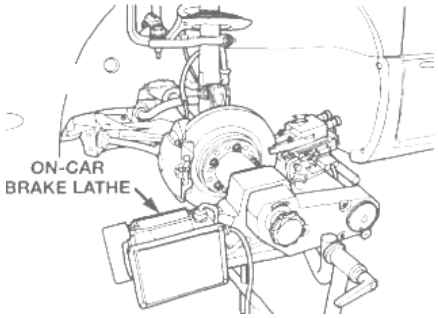
RECOMMENDATIONS

Disc Thickness Using a micrometer, measure the disc thickness. Refer to the vehicle model specific Repair Manual for Standard and Minimum thickness. If the disc thickness is less than the minimum, replace the front disc.		• Many customer complaints about disc brake operation are caused by rotor condition issues • Variations can cause noise and vibration when braking • Inspect rotor surface for any abnormalities and address/repair as necessary
Rotor Run-out Using a dial indicator, measure the lateral run-out. Refer to the vehicle model specific Repair Manual for Maximum disc run-out. * Excessive run out can cause brake pedal pulsation		• If run-out is excessive, remove the rotor, turn it to the next lug, and repeat the procedure until the minimum amount of run-out is achieved • If the run-out still exceeds the maximum, check the bearing play and the axle hub run-out. If the bearing play and hub run-out are normal and disc thickness is within the specified range, use an on-vehicle brake lathe
Disc Brake Rotor Repair Toyota recommends using the on-car brake lathe for repairing rotor run-out and thickness variation. This method improves rotor and hub combined run-out, and is the preferred method when compared to rotor replacement and off-the-car rotor machining.		• If the disc thickness is less than the minimum, replace the disc • Rinse rotor with brake cleaner after using the brake lathe to remove surface contaminants
Brake Caliper and Piston Inspect the caliper piston and boot for rust, fluid leak or damage. If necessary, repair or replace the disc brake caliper assembly. * Refer to Repair Manual for further instructions		• Abnormal brake pad and rotor wear can be caused if the caliper or caliper piston “sticks” and keeps the pad in constant contact with the rotor • Always lube piston and piston boot before installing brake pads • Apply a light layer of lithium soap base glycol (rubber) grease (P/N 08887-01206) to the piston and boot

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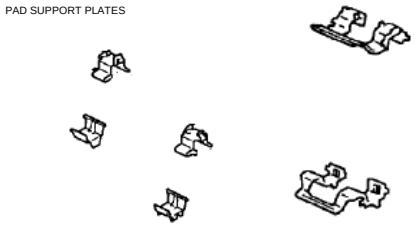
Front Disc Brake Pad Support Plates
***if equipped**

Make sure the pad support plates have sufficient rebound, no deformation, no cracks or wear and that all rust and dirt are cleaned off.



- Remove, inspect, and clean pad clips to ensure a smooth open/close operation when the brake is applied, and replace if damaged
- DO NOT apply any grease or lubricants to pad clips when re-installing

Apply Grease to Pins and Clips
***If equipped**

Apply a light layer of lithium soap base glycol (rubber) grease (P/N 08887-01206) to the sliding and sealing surfaces of the front disc brake cylinder slide pins and support bracket.

- Do not use shim grease to lubricate caliper pins
- *Never* apply grease or other surface treatments to the brake pad friction surface

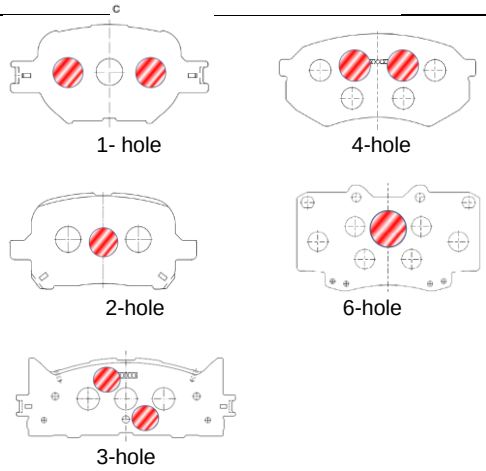
Brake Pad Shims

When replacing worn pads, the supplied TCMC anti-squeal shims must be replaced with the TCMC pads.

Apply 1-2mm thickness of the supplied TCMC shim grease to the areas of the pad backing plate as indicated by the shaded areas based on plate configuration.

Do not apply shim grease to the entire area of the backing plate.

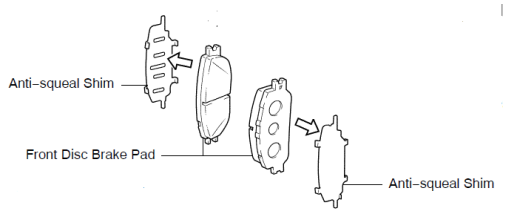
NOTE: The use of shim grease other than the shim grease supplied with the TCMC brake pad kits may cause abnormal brake noise/squeal.



- **For TCMC Brake Pad Kits:* Use the supplied shims and shim grease that comes with the TCMC brake kit
- *Never* apply grease or other surface treatments to the brake pad friction surface.
- *Never* use old or worn shims. They may have cracks or damage that is not clearly visible to the eye
- *Never* apply anti-seize or other types of non-approved grease to the shims or caliper slide pins

Install Front Brake Pads

Install the TCMC brake pads with the supplied TCMC anti-squeal shims to the disc brake cylinder mounting.



- When replacing the brake pads, the anti-squeal shims must be replaced together with the brake pads
- Install the brake pads in correct position and direction
- Never alter the friction material or pad shape

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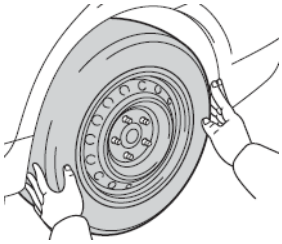
RECOMMENDATIONS

Install Front Wheel Check applicable vehicle repair manual for lug tightening and torque specifications		• *Do not* use an air impact wrench to tighten lugs • Use a torque wrench to install lug nuts • Follow the proper lug torque tightening sequences when reinstalling wheel	

LINK REFERENCES

- 2012-049: Introducing Phase 2 TCMC AZ Brake Pads - Additional Model Coverage