

INSTRUCTIONS FOR THE REPLACEMENT OF BRAKE DISCS

FOREWORD : Please read and strictly follow the instruction sheet ♦ Since the braking system is a safety element, personnel carrying out the disc replacement must be a qualified technician and must have received the specialized training pertaining to the replacement of brake components and specifically the disc ♦ The pads and discs needing replacement are an important component in the overall operation of the braking system. It is therefore important to conduct an in-depth analysis before proceeding to the replacement of the system's parts ♦ Always replace brake discs in pairs and ensuring that the parts to be replaced are conforming to the technical characteristics of the vehicle.

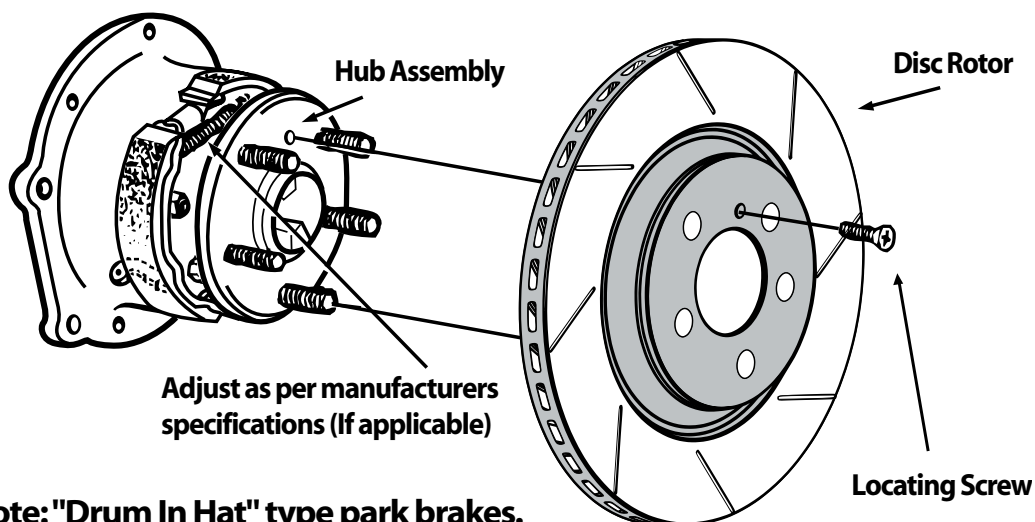
DISMANTLING AND REASSEMBLING NEW DISC BRAKE ROTORS

1. Remove the wheel.
2. Remove the pads and draw back the piston/s, using the specific tool (do not lever against the brake rotor).
3. Remove the complete caliper from its support bracket, without disconnecting the fluid feeder hose, making sure that it is not left loosely hanging from the hose itself but, for example, should be secured to the vehicle's suspension with a hook.
4. Remove the worn disc.
5. Carefully clean the discs mounting face, taking great care not to soil it with grease or oil as this could jeopardise proper operation of the braking system. Clean the friction surface area ensuring that you only use a non-oil based cleaner i.e. liquid acetone or AKM (DO NOT USE PETROL, KEROSENE or CARBY-CLEANER)
6. Carefully clean the surface of the wheels hub, removing rust and deposits and checking the surface for deformations or damages.
7. Verify that the bearings do not have greater play than the accepted design tolerance and that the ball bearings/rollers are freely running in their respective seats.
8. Assemble the new disc on the hub and, where possible and necessary, proceed to the adjustment of the bearing according to the instructions provided by the manufacturer. Secure the disc-fixing screw without over tightening (if applicable).
9. In the case of a hub type disc (bearing unit incorporated into the disc), tighten the hub nut to the recommended torque setting as outlined by the vehicle manufacturer (refer to the vehicle's specification manual).
10. Install the new pads, mounting them correctly in their seats with the relative springs, pins and shims. Where necessary, apply a film of grease correctly on the rear shoulder of the pads. **N.B.** use exclusively the products suggested by the manufacturer, otherwise serious damage could be caused to the caliper thus generating problems to the whole braking system.
11. After having installed the new disc, assemble the caliper on the support bracket. Check that the dust covers are not damaged and ensure that the caliper slide guides are not excessively worn and slide true and free.
12. Take the piston close to the pads by repeatedly and slowly pumping the brake pedal without reaching full extension. This process will allow the pedal movement to return to normal position.
13. Check the brake fluid level, topping-up to max. Level if necessary. Re-assemble the wheel making sure that the rims are not damaged. Tighten the wheel nuts evenly and in the correct sequence, observing the manufacturer's recommended wheel nut torque setting (refer to the Wheel Torque Chart section of this catalogue) .

TESTS AND RUNNING-IN : After having replaced disc and pads the specialised personnel must carry out a road test, making sure that no vibrations or noises issue from the brakes while in motion or on braking. During these tests avoid braking for a period longer than 3 seconds. The specialised personnel must advise the end users that a brief period of running in of about 200 Km should be observed. During this phase, to permit a correct alignment of pads/disc surfaces, only short and gentle braking (trying not to reach ABS activation) should be applied. Excessively long and sharp braking actions could generate overheating of the disc/pads with consequent risk of jeopardising the performance and efficiency of the braking system. In short, **GOOD RUNNING-IN = EFFICIENT BRAKING SYSTEM**

ABS PRECAUTIONS : If the new rotor is fitted with an ABS tone wheel, check the number of teeth are the same as the rotor you have just removed. If the new rotor does not have this tone wheel fitted, the tone wheel must be re-used. Press off the old tone wheel using the manufacturer's recommended procedure and refit to the new rotor ensuring the runout of the tone wheel is within specifications.

BASIC DISC ROTOR ASSEMBLY



Note: "Drum In Hat" type park brakes.

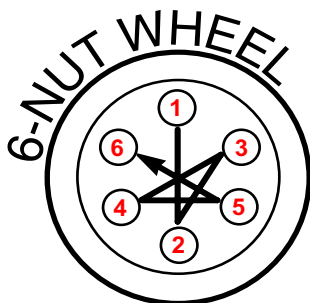
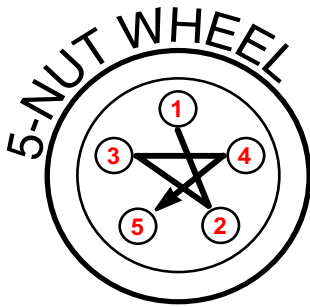
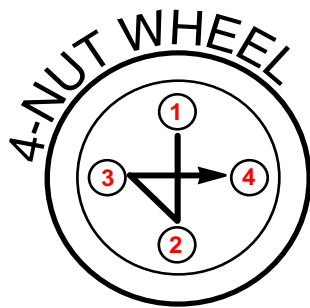
WHEEL TORQUE CHART

This chart to be used as a guide only

NOTE: Check all parts including wheels, studs and mounting faces of hub and wheels for dirt, rust or damage. Damaged parts should be replaced immediately. Careless installation of wheels on a vehicle is a major cause of tyre and wheel problems. Use only the correct sizes and types of studs and nuts. Tighten the nuts following the criss-cross sequence shown below. Failure to tighten nuts in the criss-cross sequence will cause misalignment of the wheel. Continue this process until all nuts are tightened to the torque specified in the chart.

Wheels supplied as aftermarket accessories may require different wheel nut tightening torques. If in doubt take advice from the manufacturer or supplier.

NOTE: MUST USE WITH CALIBRATED TORQUE WRENCH



Whilst every precaution has been taken to ensure the accuracy of the information given on these charts, Disc Brakes Australia Pty Ltd disclaim all liability for the consequences for any information which may be shown incorrect.

Vehicle Model	Year Model	NM TORQUE
ALFA ROMEO		
145/146	1994-97	93
155 Twin Spark, V6	1992-97	93
156	1997-02	90
Twin Spark/TD	1993-99	100
166	1998-02	100
Spider/GTV	1995-02	100
AUDI		
A2	2000-02	120
A3, S3	1996-02	120
80 Cabriolet	1992-01	110
A4 1.6i/1.8i	1994-02	120
1.8i Turbo/V6	1994-01	120
S4	1998-01	120
A5, A8	1994-02	120
TT	1999-02	110
BMW		
3 Series	1983-02	100
5 Series	1988-02	100
7 Series	1986-02	100
8 Series	1995-98	100
Z3 1.9L > 2.8L	1996-02	100
X5	2000-02	140
CHRYSLER		
Neon	1995-99	128
DAEWOO		
Matiz	1998-02	100
Lanos, Nubira	1997-02	90
Leganza	1997-02	100
Musso/Korando	2000-02	108
DAIHATSU		
Charade	1996-02	100
Sirion	1998-02	103
Applause 1.6L/4X4	1989-02	103
Move	1997-02	103
YRV	2001-02	103
Terios	1997-02	103
Feroza	1988-99	105
Rocky	1993-99	99
FORD		
Ka	1996-02	85
Escape	2000-on	136
Festiva	1988-97	90-120
Fiesta 1.25L/1.3L	1995-02	85
Focus	1998-02	85
Laser	1982-99	90-120
Meteor	1982-86	90-120
Mondeo	1993-02	85
Telstar	1983-99	90-120
Transit Van/Combi 260	2000-02	200
Bronco	1988-96	135
Taurus	1996-99	108-142
F150	1988-99	135
F150	1988-99	135
F100	1975-87	135
Maverick	2001-02	133
HOLDEN / G.M.		
Astra	1987-02	110
Commodore	1985-02	110
Lumina / Calais	1985-02	110
Statesman	1980-85	88
Statesman	1986-99	110
Barina	1995-99	110
Calibra	1995-98	110
Vectra	1998-02	110
Frontera	1999-02	120
Suburban	1998-99	190

Vehicle Model	Year Model	NM TORQUE
HONDA		
Accord Coupe	1998-02	108
Civic	2001-02	108
Prelude	1997-01	108
CRV	1997-02	108
HR-V	1999-02	110
HYUNDAI		
Accent	2000-02	100
Elantra, Lantra, Sonata	1991-01	100
S Coupe, Coupe	1992-02	100
Santa Fe, Trajet	2000-02	100
ISUZU		
Trooper	1992-02	118
JAGUAR		
X Type	2001-02	85
S Type	1999-02	128
XJ8/R	1997-02	85
XK8/R	1997-02	95
KIA		
Carnival	1999-02	100
Credos	1996-02	100
Mentor	1994-02	100
Sportage	1995-02	100
LANDROVER		
Defender 90, 100	1983-00	110
Discovery	1998-02	140
Freelander	1997-02	115
Range Rover	1995-02	108
LEXUS		
IS200, GS300/430	1999-02	103
LS400	1991-00	103
LS430	2000-02	103
SC430	2001-02	103
RX300	2001-02	103
MAZDA		
121 (ZQ)	1996-99	85
323 (BJ)	1998-02	103
626 (GF)	1997-02	100
Premacy	1999-02	103
MPV	1999-02	103
MX-5	1990-02	103
B2000	1994-99	136
B3000	1994-99	136
MERCEDES BENZ		
C Class	1993-02	110
E Class (210)	1996-02	110
M Class	1997-02	150
S Class (220)	1998-02	150
V Class	1995-02	175
SLK (170)	1996-02	110
Vito (638)	1995-02	175
MINI		
Mini Cooper	2001-02	100
MITSUBISHI		
Carisma / EVO	1996-98	110
Colt / Lancer	1992-02	100
Galant	1997-02	98
Space Star	1999-02	110
Space Wagon	1998-02	98

Vehicle Model	Year Model	NM TORQUE
Challenger/Pagero Sport	1998-02	130
Shogun/Pajero	1991-02	110
L200 - 4x4	1986-02	130
NISSAN		
All Models	1983-02	110
Patrol	1992-02	130
Pick-up/4x4 (D21)	1986-98	130
Terrano II	1993-02	130
PEUGOT		
106	1991-02	85
206	1998-02	85
306	1993-97	85
PORSCHE		
All models	1972-99	127-130
924	1972-82	108
SAAB		
900	1992-98	115
9000	1985-99	115
9-3	1998-02	110
9-5	1998-02	120
SUBARU		
Forester	1997-02	88
Impreza	1993-02	88
Legacy	1989-02	88
Outback	1997-02	88
SUZUKI		
Baleno	1995-02	70
Jimny	1998-02	95
Swift	1989-02	70
Vitara, XL-7	1989-02	95
Wagon-R	1998-00	85
TOYOTA		
Avensis	1997-02	103
Camry	1991-01	103
Celica	1990-02	103
Corolla	1997-02	103
MR-2 (ZZW30)	2000-02	103
Paseo	1996-00	103
Supra (JZA80)	1993-97	103
Rav4	1994-02	103
Landcruiser 100 series (steel wheels)	1998-02	209
Landcruiser 100 series (alloy wheels)	1998-02	179
Hi-Lux	1997-02	105
VOLKSWAGEN		
Golf/Bora	1984-02	110
Passat	1988-02	110
Polo	1994-02	110
Transporter	1996-02	180
VOLVO		
C70	1998-02	110
S40/V40	1996-00	110
S60	2000-02	110
S/V70/XC	1997-02	110
S80	1998-02	110

If a vehicle is not listed, please consult the owners manual for correct torque settings.