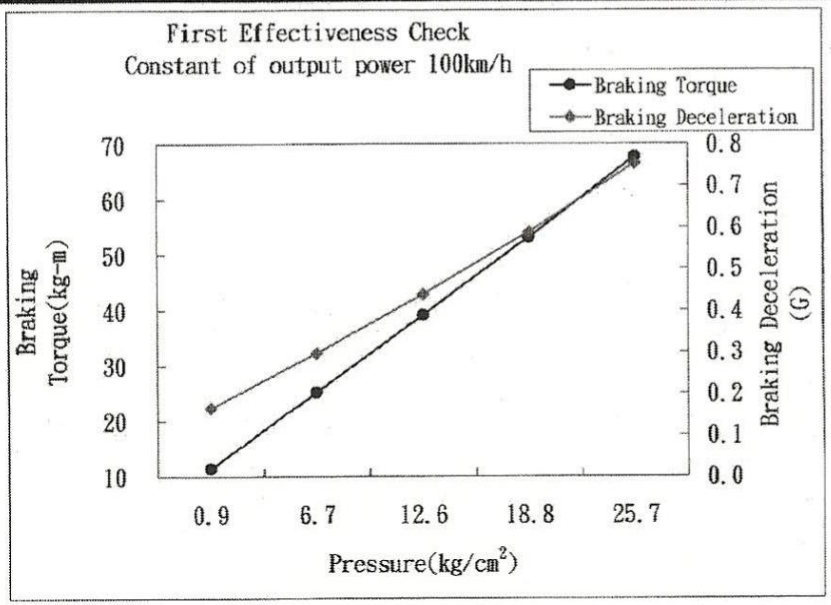

Fig.5 First Effectiveness Check

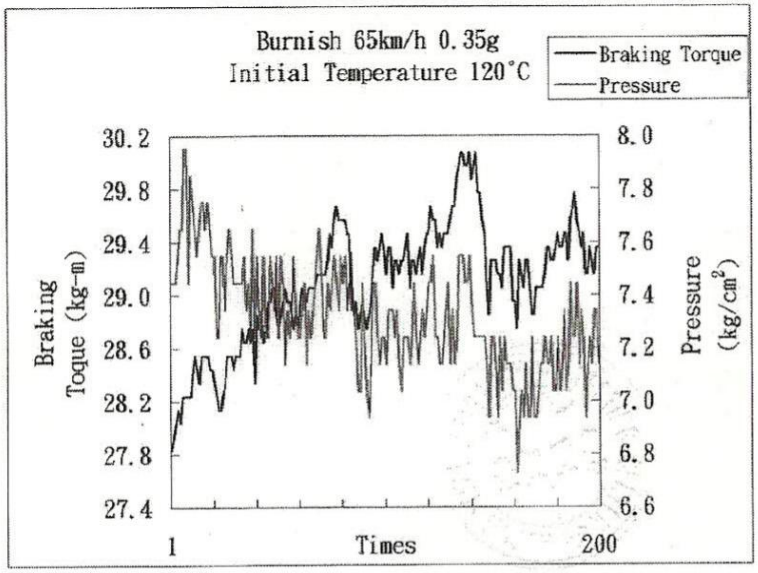

Fig.6 Burnish

www.tuv.com ID:9105039099

CERTIFICATE

The Certification Body of TÜV Rheinland Group

certifies, in accordance with the TÜV Rheinland Group procedures, that the Company

TW RACING PARTS INC.

No. 3, Gongyequ 10th Rd., Xitun Dist., Taichung City 407, Taiwan, R.O.C.

has established and applies a quality management system

for the following scope :

Manufacturing and Sales of Shock Absorbers and Brake System for Tuning

Through an Audit, Report No. 064129, proof has been furnished

that the requirements according to the standard

ISO 9001:2008

are fulfilled.

The certificate is valid from 2013-01-18

The certificate is valid until 2016-01-17

Certificate Registration No. 01 100 822 064129

QMS 010

Quality Management QC010

TÜV Rheinland Taiwan Ltd.
11F, No. 758, Sec. 4, Bade Rd.,
Taipei 105, Taiwan

TÜV Rheinland Group
Taipei, 2013/02/01, rev. 2.0

www.tuv.com

TÜVRheinland®
Precisely Right.

Table 1 Test procedure of general performance

Sequence	Test Items		Initial Speed (km/h)	Interval (s)	Initial Temperature (℃)	Braking Deceleration (G)	No. Applications(times)
1	Initial Measurement[Remark1]		-	-	-	-	-
2	Preburnish Check		50	120	-	0.3	10
3	First Effectiveness Check		50 100	-	80	0.1~0.8	5 at each initial speed
4	Burnish		65	-	120	0.35	200
5	Second Effectiveness Check		50 100 130	-	80	0.1~0.8	5 at each initial speed
6	First Reburnish		65	-	120	0.35	35
7	Emergency Brake Test[Remark2]		80	-	80	0.1~0.25	4
8	First Fade and Recovery Test	A. Base Line Check	50	-	80	0.3	3
		B. Fade Test[Remark3]	100	35	60 at first brake application	0.45	10
		C. Recovery test	50	120	-	0.3	12
		D. Effectiveness Spot Check	100	-	60	0.45	2
9	Second Reburnish		65	-	120	0.35	35
10	Second Fade and Recovery Test		Repeat (8) First Fade Recovery Test, 15 applications in (b) Fade Test.				
11	Third Reburnish		65	-	120	0.35	35
12	Third Effectiveness Test		50 100 130	-	80	0.1~0.8	5 at each initial speed
13	Fourth Reburnish		65	-	120	0.35	35
14	Water Recovery Test	A. Base Line Check	50	-	80	0.3	3
		B. Water Immersion	Thoroughly wet brakes for 120 sec.				
		C. Recovery	50	60	-	0.3	15
15	Final Measurement and Inspection[Remark4]		-	-	-	-	-

Remark1:Meauring 5 points of pad.
Remark2:After this test, repeat (6) First Reburnish.
Remark3:After 8B Fade Test, cool the brake for 120 sec until first brake application of 8C Recovery Test.
Remark4:Inspection of brake and measurement or pad thickness.

Test Report

Report No:B95WV078 Test category：☐Regulation ■Non-regulation

Test item: **FRICTION MATERIAL TEST** page 1/15

Product identification information

Product name: DISC BRAKE PAD

Model： 8 PISTON BRAKE PAD

Serial No.: B1

Test condition: Under Room Temperature&Humidity

Test standard CNS 8565

1. **Vehicles with their nominal maximum speeds exceeding 140km/h.**
2. **Requirement inertia I:28.125kg-m^2，testing inertia I:29.95 kg-m^2.**
3. **Cooling wind velocity:11m/s**
4. **Rolling radius of tire r:0.3m**
5. **Area of piston of wheel cylinder Arz: 0.0047m^2, length of brake arm Rm:0.165m, efficiency of brake η :1,coefficient of count Kmu=1x10^{-3}/(ArzRm η)=1.2895**
6. **Test procedure of general performance is showed as table 1.**

Test equipment

FRICTION MATERIAL TESTER/MACHINE (JF2500, SUN-SHENG COMPANY)

Test results

1.The new and tested specimens are showed as Fig.1 and Fig.2.

2.The pad thickness of new and tested specimens are showed as table 2.

3. Description on results of each test items as follows:

Test items	Results	Test items	Results
Preburnish Check	Fig.3	First Fade and Recovery Test	Fig.13 , Fig.14, Fig.15
First Effectiveness Check	Fig.4, Fig.5	Second Reburnish	Fig.16
Burnish	Fig.6	Second Fade and Recovery Test	Fig.17, Fig.18, Fig.19
Second Effectiveness Check	Fig.7, Fig.8, Fig.9	Third Reburnish	Fig.20
First Reburnish	Fig.10	Third Effectiveness Test	Fig.21, Fig.22, Fig.23
Emergency Brake Test	Fig.11	Fourth Reburnish	Fig.24
Reburnish after Emergency Brake Test	Fig.12	Water Recovery Test	Fig.25, Fig.26

Remarks

1.The responsibility of this reports is only for specimen.

2.Each part of brake device upon testing shall be new.(Provided by JIN KANG AUTO PARTS CO.,LTD)

3.Testing date :Sep.11, 2006~Sep.15,2006

Huang Ching-Chou

Signature of Report

TEST REPORT

Report No：**B93FD002** Report Date：**2004/02/10**

CLIENT：**Fu Bu Auto Parts Company**

ADDRESS: **No. 10, Lane 623, Wen. Hsin S. Rd, Taichung 402, Taiwan**

TEST LAB.：**FATIGUE & DURABILITY TEST LAB**

TEST ITEM：**Shock Absorber Durability Test**

TESTING CATEGORY：**Non-regulation**

DEVICE：**Shock Absorber**

MODEL：**D2 Shock Absorber**

THIS REPORT INCLUDES 3 PAGE OF REPORT BODY AND 4 PAGES TOTAL.

NO PART OF THIS REPORT MAY BE ABSTRACTED OR REPRODUCED.

THE TEST RESULTS ONLY APPLY TO THE TEST DEVICES.

ARTC 財團法人 車輛研究測試中心
Automotive Research & Testing Center
地址：彰化縣鹿港鎮505鹿工南七路 6 號 TEL：(04)7811222 (代表號)
Address: No. 6, Lunkung, S. 7Rd, Lu-Kang Town, Changhwa Hsien, Taiwan R.O.C. FAX：(04)7811333，7811777

TEST REPORT

Report No：B93FD002

Test category：☐Regulation
■Non-regulation

TEST ITEM：Shock Absorber Durability Test

Total body page： 1 / 3 page

DEVICE IDENTIFICATION INFORMATION
DEVICE NAME：Shock Absorber
MODEL：D2 Shock Absorber

Lab. Temp/Hum
Temp： 20~22 ℃；Hum： 50~60 %RH

Test standard & Procedure：

According to the test standard provided by the client.

1. Wave：Sine。
2. Frequency：5Hz。
3. Span：±10mm。
4. Cycles：1000000 Cycles。

Test equipment：

MTS - Servo Hydraulic Actuator (15 kN)
HP 35670A DYNAMIC SIGNAL ANALYZER (SER.3613A03697)

Test result：

Test date： 2004/2/2

1. Shock Absorber Durability Test: shown as the following table

DEVICE MODEL	Test Cycles	Test Result
D2 Shock Absorber	1000000 Cycles	No liquid leakage

2.The sample photograph：

Fig.1 Setup of Shock Absorber Durability Test
Fig.2 Before The Durability Test (Load & Span & Frequency)
Fig.3 After The Durability Test (Load & Span & Frequency)

※ Note：The choosing item was indicated by ■ or ☑
※ The final evaluation shall be confirmed by the customer.
※This test result is only confirm the products of this testing.

Lin Ken-Yuan

Signatory of Laboratory

TEST REPORT

Report No：B93FD002

Test category：☐Regulation
■Non-regulation

TEST ITEM：Shock Absorber Durability Test

Total body page： 3 / 3 page

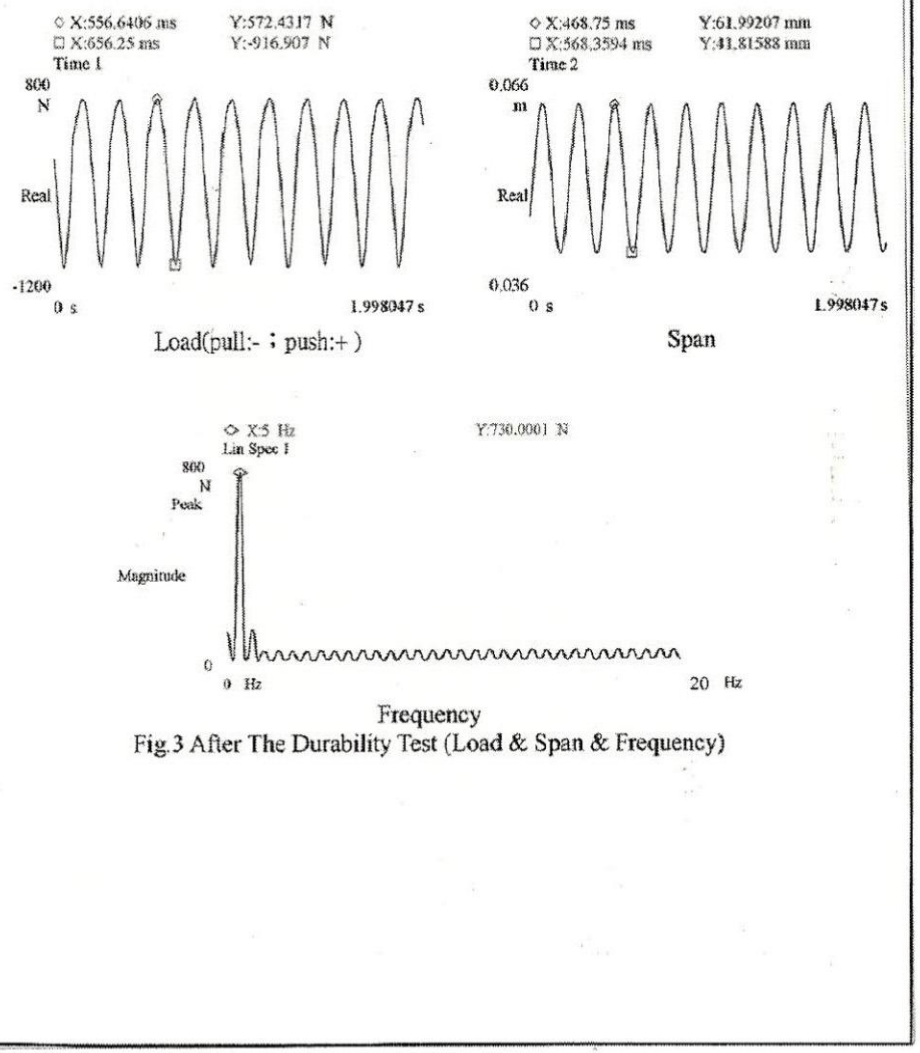

Fig.3 After The Durability Test (Load & Span & Frequency)