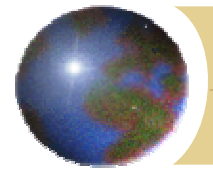


JB Enterprises, Inc.
Supporting truck, trailer industries since 1993

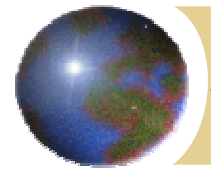
5-Spoke Wheel & Drum Assembly

12443 Lewis St. #204 Garden Grove, CA. 92840
Tel. (714) 621-1600 Fax. (714) 621- 1606
E-mail : jbenterprisesinc@sbcglobal.net



Contents

- ✦ 5-Spoke Wheel Specification
- ✦ Brake Drum Specification
- ✦ 5-Spoke Wheel & Drum Assembly
- ✦ Material Inspection Report
 - 5-Spoke Wheel
 - Wheel Stud Bolt
 - Brake Drum
- ✦ Test Certification
 - Radial Test
 - Rotary Test

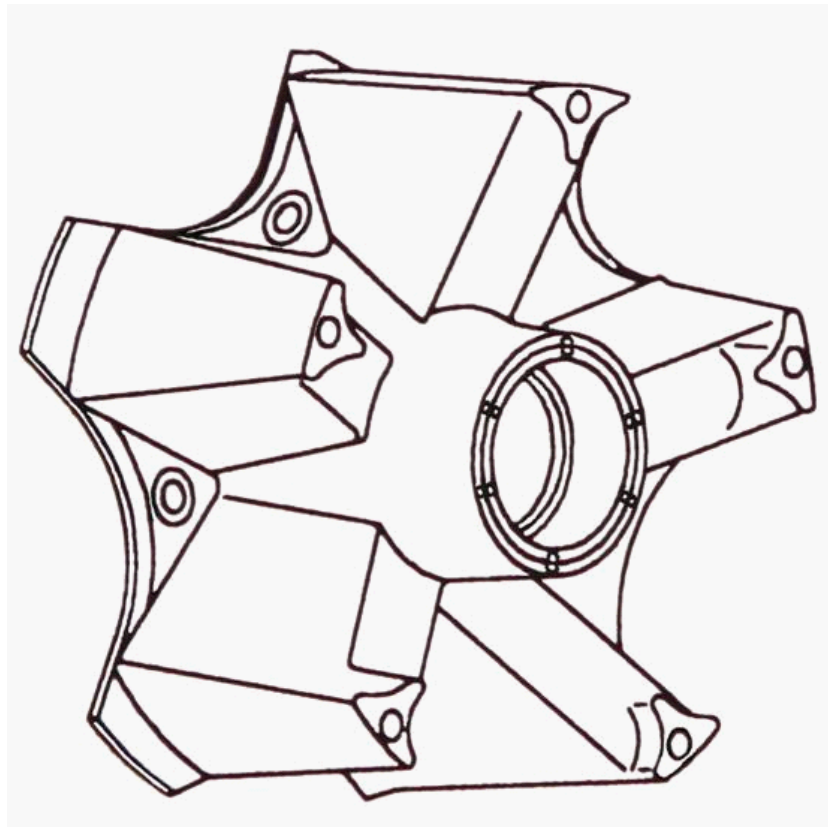


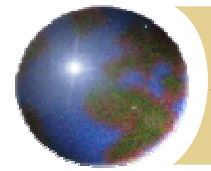
5-SPOKE WHEEL

PART #	Description
1031	Non-ABS
1031 T	ABS

SPECIFICATION

DESCRIPTION	5 SPOKE 20 INCH
HUB CAP CIRCLE	6-P.C.D. 139.7 mm
PILOT DIA	239.7 mm
BOLT CIRCLE	5-P.C.D. 279.4 mm
WEIGHT (5-SPOKE WHEEL)	74 LBS





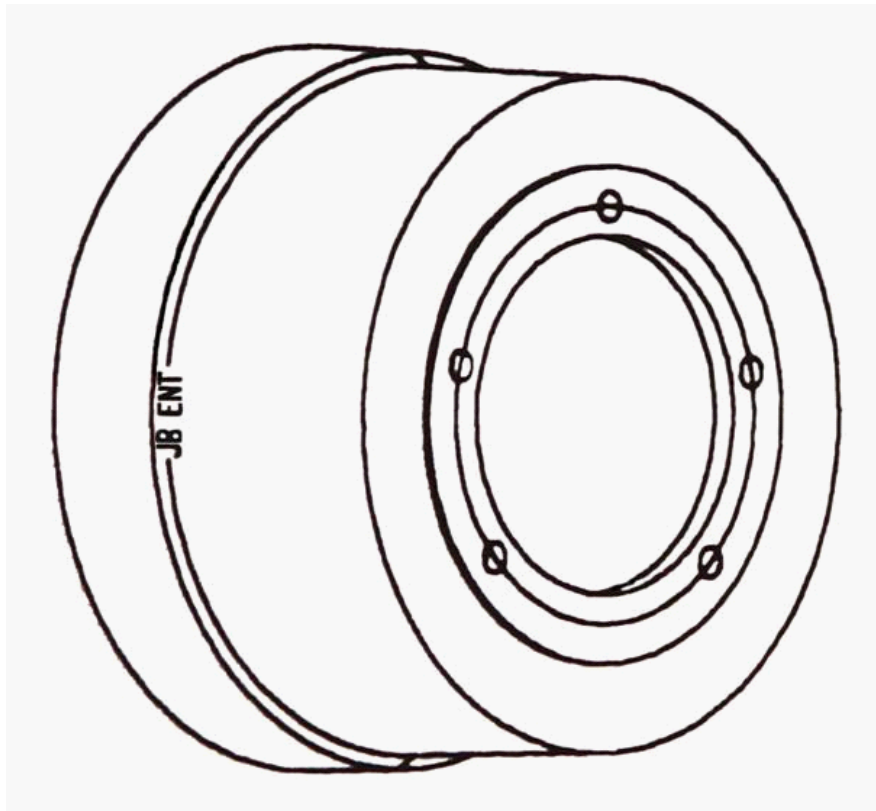
BRAKE DRUM

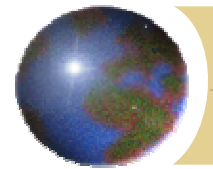
PART #

1202

SPECIFICATION

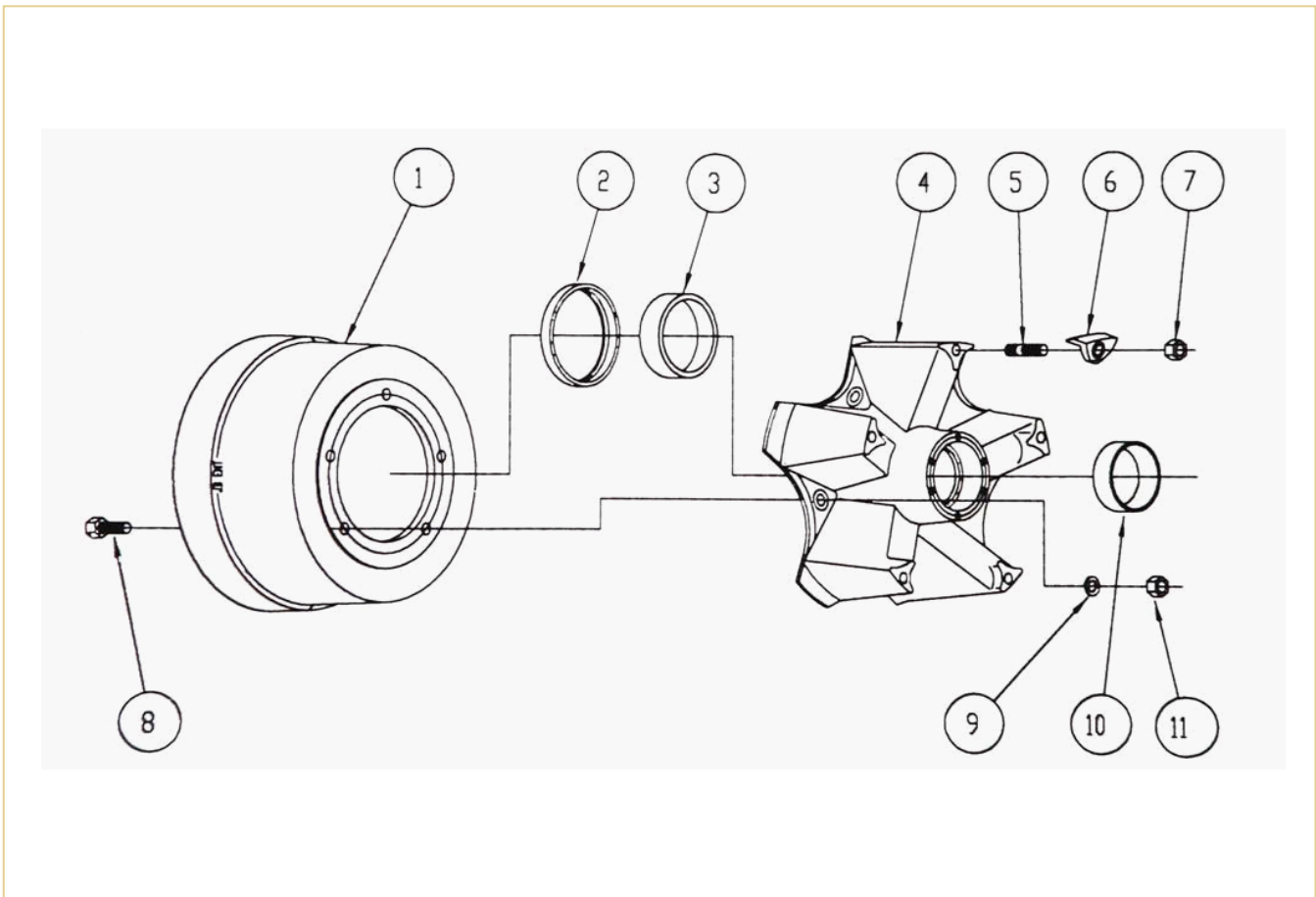
BRAKE SIZE	16.5" X 7"
OVERALL DEPTH	208.3 mm
PILOT DIA	239.7 mm
BOLT CIRCLE	5-P.C.D. 279.4 mm
BRAKE SURFASE	189.23 mm
WEIGHT (BRAKE DRUM)	102 LBS



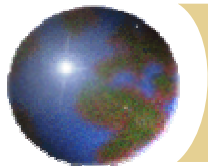


5-SPOKE WHEEL & DRUM ASSEMBLY

PART #	Description
1011	Non-ABS
1011 T	ABS



NO	Part Name	Part No.	NO	Part Name	Part No.
1	Brake Drum	1202	6	Rim Clamp	C536
2	ABS Ring	15916	7	Rim Clamp Nut	S115
3	Inner Bearing Cup	HM 218210	8	Hex Bolt	14018-3451
4	5 Spoke Wheel	1031 Non-ABS	9	Flat Washer	14018-00100
		1031T ABS	10	Outer Bearing Cup	HM 212011
5	Stud Bolt	171027	11	Lock Nut	14018-3417



Material Inspection Report

Inspected Date : 03/MAR/1999

Part Name	Part No.	Material Grade	LOT No.	Decision
5-Spoke Wheel	1031	FCD450	9B03	O.K

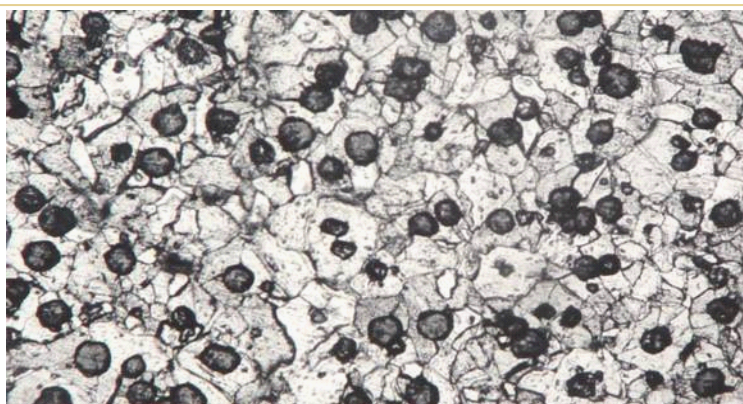
1. CHEMICAL COMPOSITION

Composition	C	Si	Mn	P	S	Ti	Mg
SPEC	3.40~4.20	2.20~2.75	0.10~0.50	0.5 Max	0.02 Max	0.025 Max	0.035~0.070
RESULT	3.49	2.47	0.25	0.03	0.01	0.003	0.041
Composition	Ni	Cr	Mo	Cu	Al	V	
SPEC	0.025 Max	0.08 Max	0.15 Max	0.40 Max	0.025 Max	0.04 Max	
RESULT	0.002	0.022	0.008	0.03	0.016	0.009	

2. PHYSICAL PROPERTIES

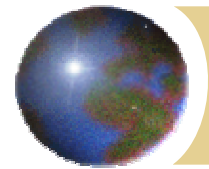
PROPERTIES	SPEC	RESULT			Decision
		S1	S2	S3	
Tensile Strength(Kg.f/mm ²)	46 Min	51.6	52.1	52.7	OK
Elongation (%)	12 Min	14.50	15.78	15.65	OK
Brinell Hardness (HBN)	156 ~ 217	179	171	173	OK
Micro Structure (x 100)	Graphite Type	Type I, Type II	I, II	I, II	OK
	Nodularity (%)	80 Min	90	90	OK
	Pearlite (%)	50 Max	20	20	OK
	Ferrite (%)	50 Min	80	80	OK

● Microphotograph
(X 100, 3% Nital)



APPROVED BY :

DATE : 99.3.4



Material Inspection Report

Inspected Date : 04/MAR/1999

Part Name	Part No.	Material Grade	LOT No.	Decision
Wheel Stud Bolt	171027	SCM435	23/02/99	ACCEPT

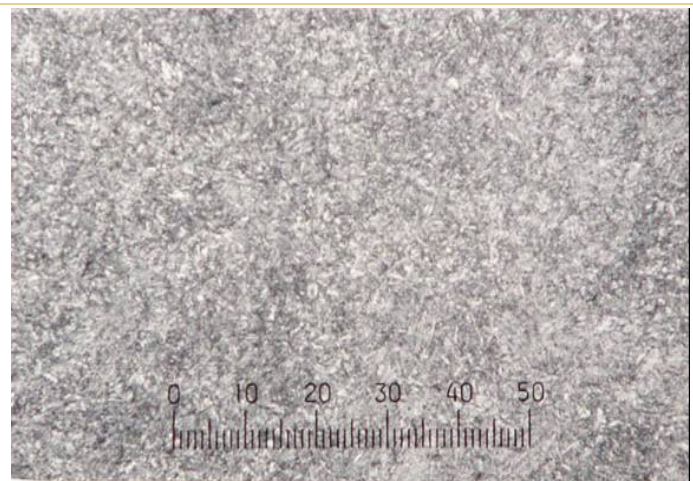
1. CHEMICAL COMPOSITION

Composition		C	Si	Mn	P	S	Cr	Cu	Mo
SPEC		0.33 ~ 0.38	0.15 ~ 0.35	0.60 ~ 0.85	0.030 Max	0.030 Max	0.90 ~ 1.20		0.15 ~ 0.30
RESULT	S1	0.361	0.264	0.72	0.0241	0.0072	1.090	0.020	0.174
	S2	0.357	0.260	0.75	0.0234	0.0070	1.082	0.019	0.182

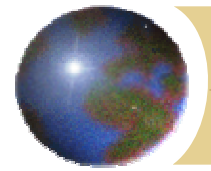
2. PHYSICAL PROPERTIES

PROPERTIES		SPEC	RESULT			Decision
			S1	S2	S3	
Tensile Strength(Kg.f/mm ²)		55 Min	68.1	67.2		OK
Elongation (%)		20 %	27	23		OK
Brinell Hardness (HRC)		32 ~ 38	35	35.5	36	OK
Micro Structure (x 100)	Graphite Type					
	Graphite Size					
	Pearlite Base					
	Ferrite + Carbide					

● Microphotograph
(X 200, 5% Nital)



APPROVED BY :  DATE : 99. 3. 8



Material Inspection Report

Inspected Date : 04/MAR/1999

Part Name	Part No.	Material Grade	LOT No.	Decision
Brake Drum	1202	SAE J431 G3500b	9B23	O.K

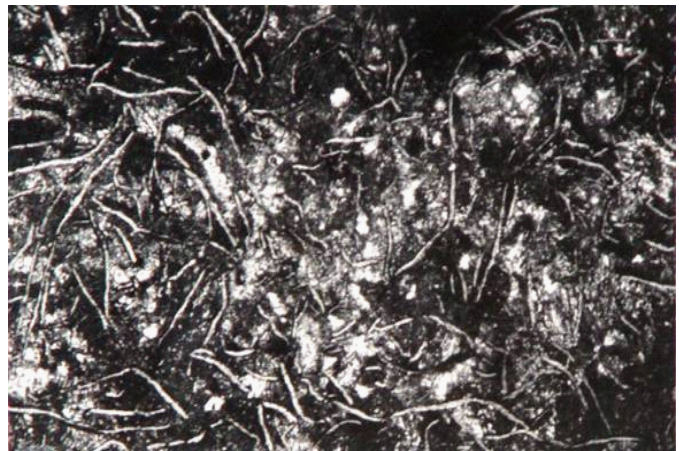
1. CHEMICAL COMPOSITION

Composition	C	Si	Mn	P	S	Cr	Cu	Sn
SPEC	3.40 Min	1.30 ~ 1.80	0.60 ~ 0.90	0.15 Max	0.12 Max			
RESULT	S1	3.46	1.77	0.85	0.067	0.09	0.49	0.96
	S2	3.53	1.79	0.87	0.062	0.08		

2. PHYSICAL PROPERTIES

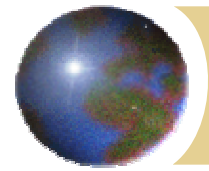
PROPERTIES	SPEC	RESULT			Decision
		S1	S2	S3	
Tensile Strength(Kg.f/mm ²)	22.8 Min	29.5	30.1		OK
Elongation (%)					
Brinell Hardness (HBN)	207 ~ 255	217	212	212	OK
Micro Structure (x 100)	Graphite Type	ASTM A247 VII (A Type)	A	A	OK
	Graphite Size	No 3~5	3~5	3~5	OK
	Pearlite Base	95 Min	96 %	96 %	OK
	Ferrite + Carbide	5 % Max	4 %	4 %	OK

- Microphotograph (X 100, 3% Nital)



APPROVED BY :

DATE : 99.3.5



Test Certification



RADIAL FATIGUE TEST REPORT

SET UP TECH	ES	END TECH	ES
START DATE	6/27/01	END DATE	7/5/01
		STATION	87

STL TEST NUMBER	JB1-614R1
STL JOB NUMBER	L1-436
ACCOUNT REP.	GARVEN
CUSTOMER	JB ENTERPRISES
ENGINEER	CHONG
PURCHASE ORDER	ST061301-42

TEST SPECIFICATIONS

INITIAL PSI	126	TIRE SIZE	10.00R20
LOAD RANGE		TIRE BRAND	HANKOOK
RADIAL TEST LOAD (lbs.)	18,000		
TEST TORQUE (ft lbs.)	250		
TEST DURATION (cycles)	1,300,000		
TEST SPEED (mph)	15		
TEST SPEC.	CUSTOMER		
WHEEL WEIGHT			
FAILURE CRITERIA:	CRACKS		

WHEEL SPECIFICATIONS

WHEEL SIZE	20x7.5
PART NO.	1011
MOLD NO.	5 SPOKE WHEEL/DRUM
MATERIAL	DUCTILE/CAST IRON
ADAPTOR NUMBER	N/A
WEAR PLATE	N/A
STUD NUMBER	CUSTOMER
LUG NUT NUMBER	SUPPLIED

SPECIAL INSTRUCTIONS

DYE CHECK AT:	650,000	1,300,000
---------------	---------	-----------

FLATNESS CHECK AT START	.000	FLATNESS CHECK AT END	.000
	.000		.000
	.000		.000

TEST RESULTS

CYCLES COMPLETED (1)	650,000	INSPECTION	DYE	1	250	7	NA
TECHNICIAN	NH	TOTAL HOURS	88.0	2	250	8	NA
DATE	7/1/01			3	250	9	NA
COMMENTS (1)	No cracks found.			4	250	10	NA
				5	250	11	NA
				6	NA	12	NA

MID TORQUE

FINAL TORQUE

CYCLES COMPLETED (2)	1,300,000	INSPECTION	DYE	1	250	7	NA
TECHNICIAN	ES	TOTAL HOURS	185.85	2	250	8	NA
DATE	7/5/01			3	250	9	NA
COMMENTS (2)	Test Complete. No cracks found.			4	250	10	NA
	Testing successfully completed SAE J1095 requirements of 1,000,000 cycles.			5	250	11	NA
				6	NA	12	NA

APPROVAL:  DATE: 7-12-01

see above referenced
test spec for operational
tolerances

