

**VALE**

All Mines Services

Test #: 2018100303

Mobile Equipment 20% Ramp Test Results

mm/dd/yy

MACHINE TYPE: Personnel Carrier - "Jeep" Style

Make Toyota Model Landcruiser HZJ79

Test Type - Purchase ☐ Lease ☐ Rent ☐ Contractor ☐ Other ☒

Unit # STOCK Hours NEW

Destination

Supplier Miller Technology

Net Weight 5,800 lbs Gross Weight 9680 lbs

Mfg. Serial Number T1660

ENGINE DATA:

Make Toyota Model 1HZ H.P. 128

Serial No. Stall R.P.M.

Low Idle R.P.M. High Idle R.P.M.

Oil Pressure Temperature

TORQUE CONVERTER DATA:

Make n/a Model

Trans. Clutch Pressure

AXLE DATA:

Front Axle: Make Toyota Model Type Open

Rear Axle: Make Toyota Model Type LSD

BRAKE DESCRIPTION:

Service Brake 4 wheel, hydraulic apply, split system, OEM front dry disc, rear OEM drums, OEM master cylinder

Emergency Brake OEM handbrake to rear brake drums interlocked with Mico SAHR Caliper on rear Driveline. Spring Applied Hydraulic Release with 12V powerpack pump.

Park Brake Mico SAHR Caliper on rear Driveline. Spring Applied Hydraulic Release with 12V powerpack pump.

DATE: 10/3/2018

Location: CCNM 20% Test Ramp

Conditions: 10°C - Overcast & Dry
Ramp Good**RIM & TIRE DATA:**

Tire Size: 7.50 x 16

No. of Stud Holes: 5

Offset of Centre Plate:

Dia. of Hub Opening:

Pilot Type - Hub / Stud

TRANSMISSION DATA:

Make Toyota

Model

Type: Manual - 5 Speed

Trans. Temperature

Hydrostatic H.P.

Hydrostatic L.P.

☒ PASS☐ FAIL

Comments:

Stability Chk'd

Acceptable

Unit loaded with 3880 lbs Steel ballast in rear box + 1 Operator

Unit Tested in 4wd LOW Range

Unit Approved for 2nd Gear on Ramp

DYNAMIC BRAKE TEST - Test Condition: Empty ☐ Loaded ☒**STOPPING DISTANCES IN METRES ON 20% RAMP****SERVICE BRAKES**

TEST	Gear 1	Speed (km/h)	Gear 2	Speed (km/h)	Gear 3	Speed (km/h)	Gear 4	Speed (km/h)	Gear 5	Speed (km/h)	Gear 6	Speed (km/h)	Gear 7	Speed (km/h)	Gear 8	Speed (km/h)
1	4.3	16.5	9.2	31.0		52.0										
2	4.2	16.5	9.2	31.0		52.0										
3	4.1	16.5	10.3	31.0		52.0										
4	3.8	16.5	9.8	31.0		52.0										
5	3.5	16.5	9.9	31.0		52.0										
Test on Flat	3.7	16.5	7.5	28.0												

EMERGENCY BRAKES

TEST	Gear 1	Speed (km/h)	Gear 2	Speed (km/h)	Gear 3	Speed (km/h)	Gear 4	Speed (km/h)	Gear 5	Speed (km/h)	Gear 6	Speed (km/h)	Gear 7	Speed (km/h)	Gear 8	Speed (km/h)
1	3.8	16.5	8.9	31.0	18.9	52.0										
2	3.7	16.5	8.3	31.0		52.0										
3	3.6	16.5	8.3	31.0		52.0										
Test on Flat	4.0	16.5	6.5	28.0												

PARK BRAKE HOLDS ON RAMP: Yes ☒ No ☐**SPEED TESTS**

	Gear 1	Speed (km/h)	Gear 2	Speed (km/h)	Gear 3	Speed (km/h)	Gear 4	Speed (km/h)	Gear 5	Speed (km/h)	Gear 6	Speed (km/h)	Gear 7	Speed (km/h)	Gear 8	Speed (km/h)
Down		16.5		31.0		52.0										
Down retarded *		5.0		25.0												
Up		14.5		26.0												
Flat		16.5		28.0												

*Powertrain retardation

Good Retardation in 1st and 2nd Gears Low Range - 3rd Gear too fast for Ramp Travel - Not Tested

STATIONARY BRAKE TEST

Test #: 2018100303

	SERVICE	EMERGENCY / PARKING	PARKING
1st Gear	STALL R.P.M.	- R.P.M.	R.P.M.
2nd Gear	STALL R.P.M.	STALL R.P.M.	R.P.M.
3rd Gear	STALL R.P.M.	STALL R.P.M.	R.P.M.
4th Gear	STALL R.P.M.	STALL R.P.M.	R.P.M.
5th Gear	STALL R.P.M.	STALL R.P.M.	R.P.M.
6th Gear	R.P.M.	R.P.M.	R.P.M.
7th Gear	R.P.M.	R.P.M.	R.P.M.
8th Gear	R.P.M.	R.P.M.	R.P.M.

Automatic Brake Application (ABA) time (sec.)- N/A

Service Brake Cycle Test (20 applications at 6 / min - high idle)- Pass N/A Fail

Accumulator Pressure not to drop below 70% -Max (P.S.I.) N/A Min (P.S.I.)

OPERATING BRAKE TEST PROCEDURE

SERVICE & EMERGENCY BRAKE (Lever Interlocked with Park)

Select Low Range - 3rd Gear - Using hand control knob set Engine to Full Throttle

Release Clutch to Near Stall

Unit Does Not Move

PARK BRAKE (Red Button) - Neutral, Holds On Ramp

ADDITIONAL INFORMATION

Test Operator: Kyle Amyotte

Vale Representative: Brendan Peacock

O.E.M. Representatives: Jason Gagnon

Others:

RAMP TEST APPROVED

Approver:

Date:

October 3rd, 2018

ADDITIONAL COMMENTS / OBSERVATIONS:

Brake Application Force:

Service - 150lb.f = 1800psi system pressure - Foot pedal application

(Additional Tests: 50lb.f = 1400psi, 100lb.f = 1700psi, Max. = 1950psi)

Emergency - 65 lb.f Pull - Hand Lever Operation

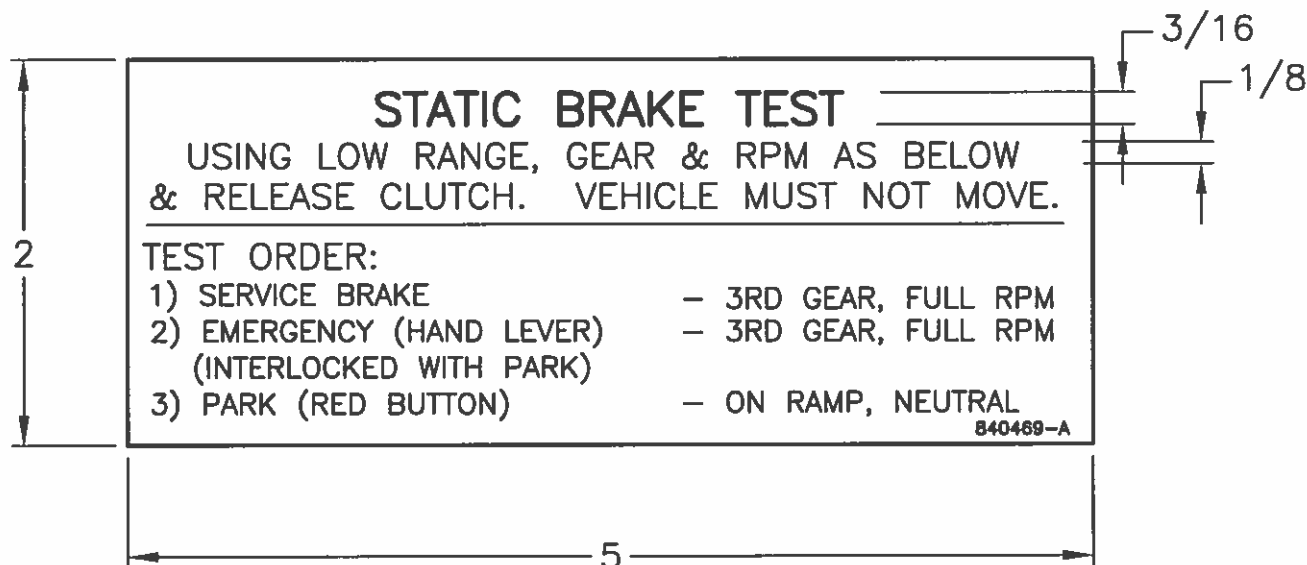
Dynamic Wheel Chock Test (Roll onto chocks - 4" Gap on 20% Grade - 1 per axle)

8" Aluminum Wheel Chock - OK (B&D Model# WC-8 Tested)


Black Rubber Wheel Chock - OK (Miller Part# 843561)

Test PO# - 115579

For units with HZJ79 OEM FRONT DISC, REAR DRUM AND CABLE DRUM
BRAKES INTERLOCKED TO SA/HR DRIVELINE



RED PLASTIC —
WHITE LETTERS —
ADHESIVE BACK —

						ITEM	QTY	PART NO.	DESCRIPTION		
						GENERAL SPECIFICATIONS UNLESS OTHERWISE NOTED >>BREAK ALL SHARP EDGES<< TOLERANCES: Fractions ±1/16 .00 ±.030 .000 ±.010 Angles ±1' Finish 125/			 <div>MILLER TECHNOLOGY</div>		
						THIS DRAWING AND SUBJECT MATTER SHOWN ON IT ARE THE EXCLUSIVE PROPERTY OF MILLER TECHNOLOGY. REPRODUCTION OF THE DRAWING IN WHOLE OR IN PART AND ANY UNAUTHORIZED UTILIZATION OF THE SUBJECT MATTER SHOWN ARE STRICTLY PROHIBITED.			DRN G.C. DATE NOV 10/10 CHK G.C. SCALE FULL NEXT ASSY.	CUSTOMER HZJ79 OEM CABLE & SA/HR DRIVELINE FILE NAME DECALS	
						MATERIAL RED PLASTIC			TITLE DECAL, BRAKE TEST "STATIC"	DWG. No. 840469-A	REV. 1
1	REFER TO REV.0	G.C.	MAR/11	G.C.		No.	REVISION	BY	DATE	CHK	ECN