



November 22, 2019

**SUBJECT: Australia Standard AS 4177.3-2004**  
**New Zealand Standard NZS 5232:1993**

**REPORT LT-1029**

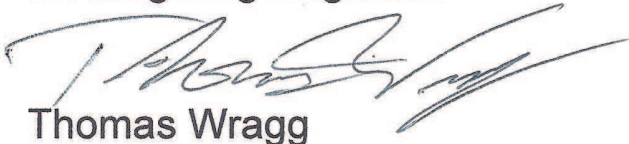
**TITLE** Trailer Coupling Testing

**SAMPLE IDENTIFICATION** A60 Actuator Assembly

**WORK REQUESTED** Carry out load testing in accordance with AS 4177.3-2004 Appendix A "STATIC Test Forces" and NZS 5232:1993 Section G table 1.

**SUMMARY** A60 Actuator assembly supplied for evaluation complies with testing criteria for 2,000 kg static load rating.

**Investigating Engineer:**

  
**Thomas Wragg**



**MARINE  
ENGINEERING  
SAN MARCOS**

# PRODUCT TEST

ACTUATOR CONFORMITY- AS 4177.3-2004 & NZS 5232:1993

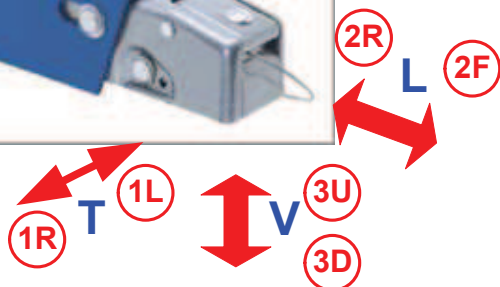
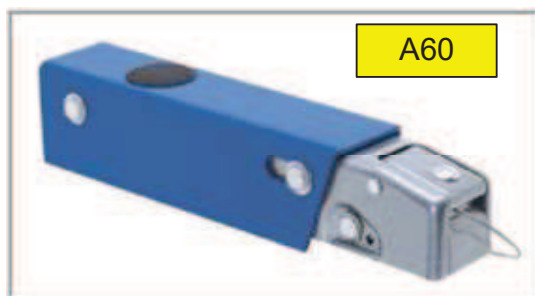
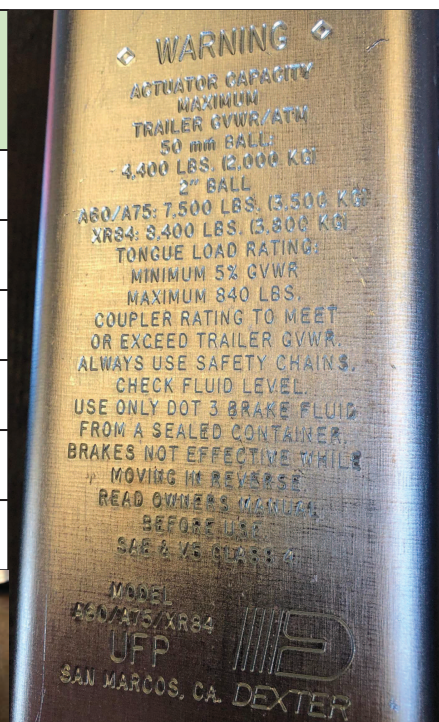
LT-1029

DATE: 11/22/19

ENGINEER: TOM WRAGG

## PRODUCT: ACTUATOR MODEL A60 Rated 2,000 kg (4,400lb.) with 50 mm BALL

MINIMUM REQUIREMENTS OF AS 4177.3-2004 APPENDIX A	MINIMUM REQUIREMENTS OF NZS 5232:1993	FORCE DIRECTION	NO. & BALL DIR.	TESTED FORCE	RESULT AS 4177.3-2004	RESULT NZS
20 kN (4,490 LBs)	18 kN (4,040 LBs)	TRANSVERSE	1L	20.06 kN	PASS	PASS
			1R	20.11 kN	PASS	PASS
49 kN (11,000 LBs)	60 kN (13,470 LBs)	LONGITUDINAL	2F	60.11 kN	PASS	PASS
			2R	60.14 kN	PASS	PASS
20 kN (4,490 LBs)	25 kN (5,612 LBs)	VERTICAL	3D	25.17 kN	PASS	PASS
			3U	31.06 kN	PASS	PASS
20 kN (4,490 LBs)	N/A	VERTICAL PULL OUT (TENSION)	3D	20.01 kN	PASS	



POST TESTED FORCE EXAM:	VISUAL SIGNS - ADVERSE EFFECTS OF FUNCTION, EXTERNAL DETERIORATION, BREAKAGE, RETENTION	PASS (NO ADVERSE EFFECTS)
	CRACK DETECTION - DYE PENETRATION	PASS
MARKING	MFRS NAME 50MM BALL 2000 KG TRACABILITY CODE WELDABLE MATERIAL	PASS



**NOTE:**

All tests performed with a 50mm towball (actual dia. 49.85mm) except Australia vert. pull out tested with a 49.11mm ball per the standard. All test forces were maintained for a minimum of 20 seconds.