



23 - 25 Production Ave
Molendinar, QLD, 4214
Australia

ACN: 070 053 584

ABN: 39 070 053 584

Phone: 07 55949844
Fax: 07 55949079
Email: sales@rg.com.au

www.rg.com.au

SERVICE BULLETIN

Basket Levelling Drive Operating Characteristics

Doc. No.: 601028-03

Date: 01/02/2021

Rev No.:	Date:	Author:	Description:
	01/02/2021	M. Danks	Original issue

Applicable Vehicles:	All TL model MEWP's
Issue Date:	01 February 2021
Overview:	This bulletin provides information regarding the physical construction and operational characteristics of the worm gear drive responsible for levelling the basket. The objective of this bulletin is to inform MEWP operators on how the levelling system works and address any safety concerns.

1 Introduction

The introduction of the TL MEWP model in 2014 presented a new method of basket levelling for Redmond Gary (RG) machines. In place of the traditional levelling rod and linkage arrangement, the end of the TL fly boom was equipped with a rotating worm gear drive (or levelling drive). This new method allows the basket to level to the horizon rather than the truck, offering improved ergonomics for operators when working in the basket.

The levelling drive consists of a hydraulic motor that drives a worm gear, which then rotates a large worm wheel. This worm wheel is attached to the basket structure and its movement performs the basket levelling function. The operation and output position of the levelling drive is carefully monitored and controlled by an advanced electronic system.

Please see Figures 1 and 2 below for an illustration of the levelling drive arrangement.



Figure 1 – Representation of a similar assembled worm gear drive



Figure 2 - Disassembled RG worm gear drive

2 Customer Feedback

Redmond Gary has received feedback from some customers that operators can experience vibration and noise during levelling of the basket. To investigate this matter, RG has completely disassembled numerous new and ‘noisy’/in-service levelling drives. RG can confirm that no noteworthy damage, faults, abnormalities or excessive wear has been found.

The noise and vibration experienced can be attributed to characteristics of the gear tooth profile used and the low rotational speeds that both the hydraulic motor and gear set operate at. This behaviour is further exacerbated by small variations in tolerances and backlash from the levelling drive manufacturing process, which appears to explain why only some levelling drives experience issues and others do not.

3 Response & Recommendation

Redmond Gary understands that the characteristics experienced with some levelling drives may cause concern or discomfort for operators. RG would like to emphasise that the levelling system is very safe and can confirm the following:

1. The levelling system and associated structural parts have been designed to be as failsafe as possible and designed to carry loads with a significant margin of safety over the WLL
2. Each RG MEWP is rigorously tested and inspected before it leaves the factory. Overload testing is carried out according to AS1418.10 requirements, ensuring that the MEWP can handle testing loads well above the normal operating WLL

Even though our investigations have not identified any units with faults, RG recommends operators continue to monitor the levelling drive and report any instances where vibration or noise increases significantly during service.

RG takes customer feedback seriously and as a result, we are currently working on design improvements to deliver better operator comfort from the levelling drive system.

Please contact Redmond Gary if you have any further questions or concerns.