thompson
COUPLINGS Limited

TCAE-L

Product Maintenance Guide

PO BOX 141, Sunnybank, QLD, 4109, Australia
P: +61 7 3040 8066
www.thompsoncouplings.com

General Information

Thompson Couplings Limited is proud of its products and employs the latest manufacturing techniques to ensure that a premium product is delivered to its customers. Thompson Couplings Limited believes in a high level of quality control to provide only the best products, advice and service.

The fundamental function of a coupling is to transmit power from drive to driven device in a regular action. The TCAE product range is designed to operate at angles, sending torque through the shaft inside the coupling whilst ensuring operation is smooth and efficient.

Owner Responsibility

It is the responsibility of the purchaser to ensure that the product is kept clean, inspected regularly and maintenance is performed as advised

Customer Relations

For any enquiries or assistance please contact:

Thompson Couplings Limited

info@thompsoncouplings.com
Phone: +61 7 3040 8066

Contents

Safety Precautions

To prevent injury to yourself and /or damage to the equipment:

- *Read carefully all owners' manuals, service manuals, and/or other instructions.*
- *Always follow proper procedures and use proper tools and safety equipment.*
- *Be sure to receive proper training, installation and maintenance work should be performed by qualified personnel.*
- *Never work alone while under a vehicle or while repairing or maintaining equipment.*
- *Always use proper components in applications for which they are approved.*
- *Be sure to assemble components properly.*
- *Never use worn-out or damaged components.*
- *Always store and handle coupling safely*
- *Use blocks or adequate racking to prevent coupling moving or rolling away and ensure points are not adversely loaded during storage*

- *Rotating auxiliary coupling is dangerous. You can snag clothes, skin, hair, hands, etc. This can cause serious injury or death.*
- *Do not work on or around the coupling when the engine/motor is running.*
- *Keep hands away from the joint as danger of crushing may occur.*
- *Do not work on or near an exposed coupling when engine/motor is running.*
- *Exposed rotating coupling must be guarded.*

WARNING: THIS SYMBOL WARNS OF POSSIBLE PERSONAL INJURY

WARNING: ROTATING DEVICE

thompson
COUPLINGS Limited

Timetable and Maintenance Intervals

Item	**Period 1** At company scheduled maintenance intervals	**Period 2** Every **4,000** hours or **180** days
Check for unusual vibration and noise levels during operation of the coupling. (refer note 2, page 4)	☑	☑
Visually inspect coupling for damage. (refer note 1, page 4)	☑	
Visually inspect boot for damage. (refer note 1, page 4)	☑	
Ensure that all fasteners are tensioned to values shown in the Torque Table. (refer note 5, page 4)		☑
Apply grease to the spline shaft, if applicable (refer note 4, page 4)		
IN CRITICAL APPLICATIONS PERIODICALLY RECORD THE SURFACE TEMPERATURE OF THE COUPLING HOUSING WHILST RUNNING TO DETECT ABONORMAL RISES IN TEMPERATURE USING A NON-CONTACT LASER THERMOMETER OR SIMILAR (refer Note 5, page 4)	☑	

Notes:

1. **Visual inspection procedure:**
    a. Check for smooth operation with minimal vibration.
    b. Inspect for build-up of contamination on all rotating parts.
    c. Inspect for corrosion on all parts and replace as necessary.

2. **Audio inspection procedure:**
    a. Assess for unusual vibration and corresponding noise levels.
    b. Listen for unusual noises within the coupling.

3. The TCAE coupling is supplied with lifetime lubrication and is therefore maintenance free. However, if fitted with a sliding spline shaft then it must be periodically greased.

4. Greasing method for spline shaft (if applicable): locate the grease nipple on the shaft tube and apply an appropriate grease gun. Fill approximately with 4-5 pumps using grease type NLGI 2 Lithium based complex such as Shell Retinax LX or equivalent

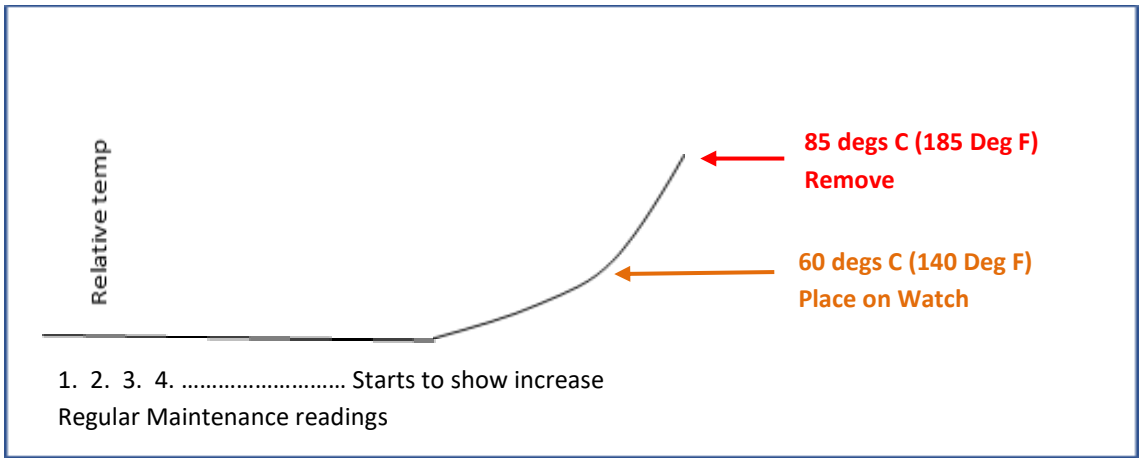
5. Check tension of the following fasteners / screws to the recommended torque settings:

Product	Coupling Weight [kg]	QR Flange Weight x2 [kg]	Coupling-Flange Fasteners - Tightening Torque
TCAE-L-1	Dependent on Length	4	15 Nm
TCAE-L-2		5	15 Nm
TCAE-L-3		10	30 Nm
TCAE-L-4		17	50 Nm
TCAE-L-5		20	50 Nm
TCAE-L-6		30	50 Nm
TCAE-L-7		44	120 Nm
TCAE-L-8		52	120 Nm

6. It is recommended that a routine check be made of the coupling outer surface temperature using a non-contact thermometer (or similar) to detect any abnormal changes in temperature. The surface temperature is a function of conditions such as: ambient temperature, actual running power and speed, operating angle, duty cycle of the driven device and others. As such it is recommended that the coupling

temperature be regularly recorded (usually as part of the plant condition monitoring routines). In normal operating environments (ambient up to 35 deg C) a threshold set point temperature of 60 deg C (140 deg F) should be the first warning signal to

increase the frequency of subsequent temperature monitoring times. If the temperature is observed to increase significantly in subsequent inspection periods, or if it starts to exceed a temperature of 85 deg C (185 deg F) or more it should be **stopped** and **replaced (see below Graph for reference)**.



7. Replacement method for coupling or rubber boot: send coupling to TCL or authorised service agent for replacement.

8. The maximum compound angle for both ends of the TCAE coupling is 10°. The maximum allowable operating speed is dependent on the length of the shaft, and is calculated as follows:

Max Speed = (-0.4667 x DBSE) + Max Speed of Selected Model

With the maximum speed of the selected models as below

Model TCAE-L-1, TCAE-L-2	----- 3,600 rpm (maximum)
Model TCAE-L-3, TCAE-L-4, TCAE-L-5	----- 3,000 rpm (maximum)
Model TCAE-L-6	----- 2,700 rpm (maximum)
Model TCAE-L-7	----- 2,300 rpm (maximum)
Model TCAE-L-8	----- 2,000 rpm (maximum)

Example: if a L-2 coupling with DBSE of 1,500mm is selected, the maximum allowable operating speed is

Max Speed = (-0.4667 x 1,500mm) + 3,600rpm
= 2900 rpm