



thompson
COUPLINGS Limited

TCAE-V



Product Maintenance Guide

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:

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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



Timetable and Maintenance Intervals

Item	Period 1 At company scheduled maintenance intervals	Period 2 Every 4,000 hours or 180 days	Period 3 Every 8,000 hours or every year
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 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 5)	☑		
Regrease the coupling heads with Mobilux EP111. Approx 100 grams per head. (refer note 3, page 4)			☑

Notes:

1. Visual inspection procedure:

- Check for smooth operation with minimal vibration.
- Inspect for build-up of contamination on all rotating parts.
- Inspect for corrosion on all parts and replace as necessary.

2. Audio inspection procedure:

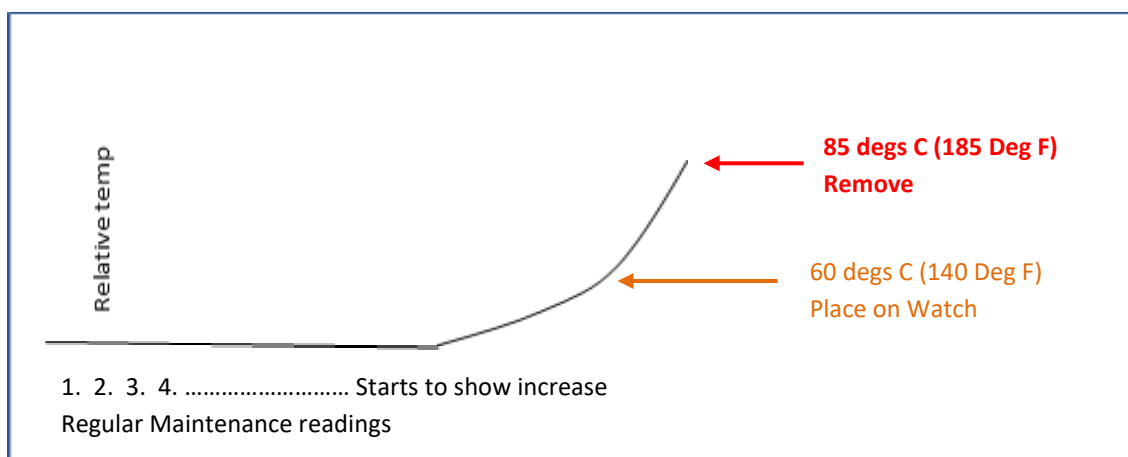
- Assess for unusual vibration and corresponding noise levels.
- Listen for unusual noises within the coupling.

3. The TCAE coupling is supplied with lifetime lubrication and is therefore maintenance free for normal light duty applications. However, for added life in more severe environments we recommend a yearly regreasing system of the coupling heads. (TCAE-V-6 to TCAE-V-14). Locate the grease nipple and apply an appropriate amount of grease with a grease gun.

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

TORQUE TABLE & PRODUCT WEIGHT		
Product	Coupling Weight [kg]	Coupling-Flange Fasteners - Tightening Torque [Nm]
TCAE-V-00	4	15
TCAE-V-0	4	15
TCAE-V-1	6	15
TCAE-V-2	10	15
TCAE-V-3	17	30
TCAE-V-4	25	50
TCAE-V-5	36	50
TCAE-V-6	30	50
TCAE-V-7	39	120
TCAE-V-8	50	120
TCAE-V-9	74	120
TCAE-V-10	103	160
TCAE-V-11	137	240
TCAE-V-12	181	240
TCAE-V-13	226	250
TCAE-V-14	274	250

5. 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)**.



6. Replacement method for coupling or rubber boot: send coupling to TCL or authorised service agent for replacement.
7. The maximum compound angle for both ends of the TCAE coupling is 10° with a maximum speed as listed below:

Model TCAE-V-00 to TCAE-V-5	----- 3,000 rpm
Model TCAE-V-6 to TCAE-V-7	----- 2,500 rpm
Model TCAE-V-8	----- 2,200 rpm
Model TCAE-V-9	----- 2,000 rpm
Model TCAE-V-10	----- 1,500 rpm
Model TCAE-V-11	----- 1,400 rpm
Model TCAE-V-12	----- 1,200 rpm
Model TCAE-V-13	----- 1,000 rpm
Model TCAE-V-14	----- 800 rpm

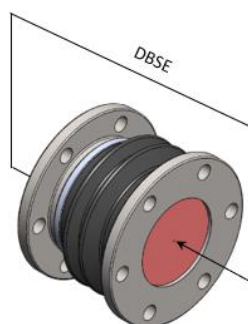
8. DBSE (Distance between shaft ends) – During installation, ensure that the critical distance between the shaft ends are set within the range of the specified dimensions. These dimensions are provided in the table below.

	TCAE-V-00	TCAE-V-0	TCAE-V-1	TCAE-V-2	TCAE-V-3	TCAE-V-4
DBSE [mm] (range)	77 (74 to 80)	88 (84 to 92)	102 (96 to 108)	133 (127 to 139)	148 (140 to 156)	170 (162 to 178)

	TCAE-V-5	TCAE-V-6	TCAE-V-7	TCAE-V-8	TCAE-V-9	TCAE-V-10
DBSE [mm] (range)	204 (196 to 212)	272 (250 to 294)	270 (244 to 296)	268 (242 to 294)	336 (300 to 372)	336 (300 to 372)

	TCAE-V-11	TCAE-V-12	TCAE-V-13	TCAE-V-14
DBSE [mm] (range)	362 (322 to 402)	528 (482 to 574)	528 (482 to 574)	578 (552 to 604)

Models TCAE-V-00 to TCAE-V-5



Models TCAE-V-6 to TCAE-V-14

