TIMKEN

UC-SERIES

TIMKEN® BALL BEARING HOUSED UNIT INSTALLATION GUIDE

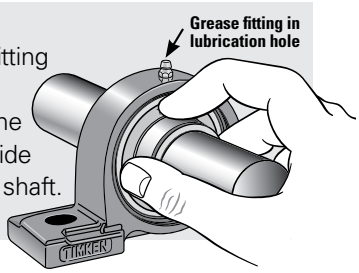
INSTALLATION

Ball bearing housed units are available in a wide variety of sizes and housing styles to accommodate a complete range of operating conditions.

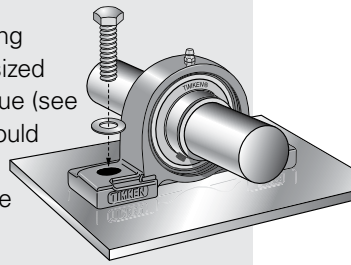
These units generally have cast-iron housings and are designed for mounting on straight shafts with a slip fit. The set screw locking mechanism provides ease in mounting.

1. Ensure that the shaft is clean, free from burrs, straight and of proper diameter. The bearing should not be mounted on a worn section of the shaft. Using shafts with hardness greater than HRC 45 will reduce effectiveness of locking devices. See table 2 on back page for shaft tolerances.

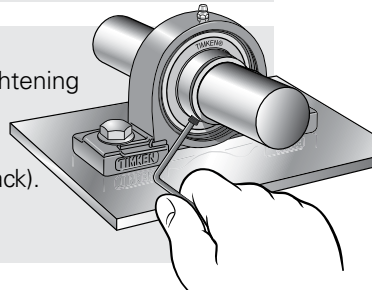
2. Install the supplied grease fitting into the threaded lubrication hole on the housing. Align the bearing in its housing and slide the unit into position on the shaft.



3. Bolt housing tightly to its mounting supports using an appropriately sized fastener and suggested bolt torque (see table 4 on back). Flat washers should be used when installing any kind of housed unit. Washers should be properly sized to bolt diameter.



4. Lock bearing to the shaft by tightening each inner ring set screw incrementally to suggested torque levels (see table 3 on back).



⚠ WARNING

Failure to observe the following warnings could create a risk of death or serious injury.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

Overheated bearings can ignite explosive atmospheres. Special care must be taken to properly select, install, maintain and lubricate housed unit bearings that are used in or near atmospheres that may contain explosive levels of combustible gases or accumulations of dust such as grain, coal, or other combustible materials. Consult your equipment designer or supplier for installation and maintenance instructions.

Do not use excessive force when mounting or dismounting the unit.

Follow all tolerance, fit and torque recommendations.

Always following the Original Equipment Manufacturer's installation and maintenance guidelines.

Ensure proper alignment.

Never weld housed units.

Do not heat components with an open flame.

Do not operate at bearing temperatures above 121°C (250°F).

CAUTION

Failure to follow these cautions may result in property damage.

If hammer and bar are used for installation or removal of a part, use a mild steel bar (e.g., 1010 or 1020 grade). Mild steel bars are less likely to cause release of high speed fragments from the hammer or bar or the part being installed or removed.

Do not use damaged housed units.

For additional Timken product warnings, visit www.timken.com/warnings.

RELUBRICATION

Timken Ball Bearing Housed Units are prelubricated. However, periodic relubrication is advisable in some applications for which these units are designed. Consult your equipment manufacturer's operating manual for the relubrication cycle. General guidelines are found in Table 1.

GENERAL RELUBRICATION SUGGESTIONS FOR GREASED BEARINGS [1]

TABLE 1

CONDITION	RELUBRICATION INTERVAL
Indoor service	Not required
Outdoor service	Two/three times per year
Severe outdoor exposure	Once a month
High contamination/washdown	Once a week

[1]As a guideline, relubricate until the first indication of grease is observed purging from the bearing.

TECHNICAL DATA

The following tables provide useful installation details related to shaft tolerance and torque for set screws and bolts.

SUGGESTED SHAFT TOLERANCE [2]

TABLE 2

SHAFT SIZE mm	SHAFT SIZE in.	TOLERANCE
12-18	$^1/_2$ - $^5/_8$	nominal to -11 µm, -.0005 in.
19-30	$^3/_4$ - 1	nominal to -13 µm, -.0005 in.
31-50	1 $^1/_4$ - 1 $^{15}/_{16}$	nominal to -16 µm, -.0005 in.
51-80	2 - 3	nominal to -19 µm, -.0010 in.
81-90	-	nominal to -22 µm, -.0010 in.

[2]These are for normal service; for heavy loads, high speeds or vertical shaft applications, consult your equipment manufacturer or your local Timken representative.

SUGGESTED SET SCREW TIGHTENING TORQUE

TABLE 3

SET SCREW SIZE mm	TIGHTENING TORQUE Nm
M6 x 0.75	**4.0**
M8 x 1	**8.5**
M10 x 1.25	**17.5**
M12 x 1.5	**28.0**
in.	**in. - lbs.**
$^1/_4$ - 28 UNF	35.4
$^5/_6$ - 24 UNF	75.2

SUGGESTED BOLT MOUNTING TORQUE

TABLE 4

BOLT SIZE mm	TIGHTENING TORQUE Nm
M10	**12 - 21**
M12	**21 - 37**
M14	**34 - 60**
M16	**53 - 93**
M20	**104 - 186**
M22	**143 - 256**
in.	**ft. - lbs.**
$^3/_8$	9 - 15.5
$^1/_2$	15.5 - 27.5
$^5/_8$	39 - 68.5
$^3/_4$	76.5 - 137
$^7/_8$	105.5 - 190

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance steel as well as mechanical components, including bearings, gears, chain and related mechanical power transmission products and services.

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