

INSTALLATION AND MAINTENANCE NOTES FOR HOWDON OVERLOAD SHEAR UNITS

SUBJECT: SPROCKET, PULLEY, COUPLING, GEAR DRIVES OR UJ FOR STANDARD / SPECIAL WEDGEKARD UNITS

DESCRIPTION

The Howdon shear unit consists of two main parts; a flanged hub carried on the shaft and a second flange freely mounted upon the hub. For UJ/Cardan shaft units these will be fitted with Ball Bearings, held together with a central hub.
(See online www.howdon.co.uk for data sheets)..

The second flange has a circle of tapped holes to give drive attachment for a sprocket, pulley, coupling, gear wheel or UJ.

The two flanges are connected by one or more Wedgepins which, after shearing on overload, allow the second flange together with the sprocket, pulley, coupling, gear wheel or UJ to rotate freely on the hub.

INSTALLATION

Unless otherwise called for, the hub bore will be finished to H8 limits with standard B.S. parallel keyway. A setscrew tapping will be provided over the keyway.



Always try to arrange an "inboard" mounting for the sprocket to minimise overhung loads. Make sure the mating sprocket or gear wheel is square and inline with drive.

For easy handling at site, large chain, pulleys, couplings or gear wheels may not be mounted on the hub. Attachment screws must be properly tightened to their maximum torque (See info sheet 8010).

NOTE

The hub shaft can be either the driving or driven member.

LUBRICATION

One or more grease nipples or holes at the bottom of the Sleeve Wedgeslots may be provided at the periphery of the unit which must be re-charged (Minimum) every 6 months with AMBERSIL AMBERGREASE FG1 water repellent grease containing *PTFE *Non ball bearing type units only.

If sealed ball bearings are fitted these require no further lubrication**.

NOTE

**If grease nipples are provided and bearings fitted then grease with a lithium based bearing grease as required.



If a unit is ever dismantled the coupling must always be taken out of service.
Secure the drive unit to prevent it from being started up unintentionally.
Attach a warning notice to the start switch.
The unit must be re greased and checked for free running before service.

SHEAR PINS

The principal type used in Howdon units is the Wedgepin. This has equal tapered portions either side of a circular shear neck which is correctly positioned when the two fixing screws are inserted.

TO CHANGE WEDGEPINS

- a) Take out the two securing screws.
- b) Remove sheared halves of broken Wedgepin. (If tapered pieces tend to "stick" use a suitable large flat screwdriver to lever out).
- c) Realign unit flanges. (Use timing marks if drive phasing required).
- d) Fit new wedgepin, reinsert screws and tighten to correct torque. (See Info sheet: 8010).



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NOTE

Most Howdon shear units have two, three or four Wedgeslots (Some have Six) for Wedgepins. One, two, three, four or six Wedgepins can be fitted depending upon the shear torque requirement. **Key/Keyway stresses should be calculated prior to fitting any overload device.**

Caution!

Sometimes blocking screws or balance blocks may be fitted to inoperative slots. These must not be removed.

MONITOR PLATE / PIN (OPTIONAL)

On overload the monitor plate / pin moves axially to operate a limit switch (Not supplied) which shuts down the driving motor. The plate / pin returns automatically when the flanges are realigned to fit a new Wedgepin.

Caution!

Howdon advise that the drive on all Wedgegard units be shutdown ASAP after an overload has occurred, this will prolong bearing life. If the Wedgegard unit is left free running for long periods of time, this will increase wear on the bearings, thus shortening bearing life significantly.

STARTING UP

Before running:



Remove Wedgepins and check for free rotation. Re-Fit Wedgepins.

Check ALL Wedgepins for correct seating, tighten ALL fasteners to MAXIMUM recommended torque with a torque wrench. (See Info sheet: 8010). If the shear torque required is unknown it is advisable to start up with Wedgepins of a lower strength and work up to the required value.

NOTE

The "running in" period of an installation often requires a higher shear torque figure than the calculated or eventual running figure.

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**SUBJECT: TIGHTENING TORQUES FOR ISO METRIC SOCKET HEAD CAP SCREWS.
 (GRADE 12.9 SELF COLOUR & PLATED.)**

THREAD SIZE	TREAD PITCH	MAX. TIGHTENING TORQUE Nm. SELF COLOUR	MAX. TIGHTENING TORQUE Nm PLATED
M3	0.50	2.0	1.6
M4	0.70	4.5	3.5
M5	0.80	9.5	7.1
M6	1.0	16.0	12.0
M8	1.25	39.0	29.0
M10	1.50	77.0	58.0
M12	1.75	135.0	101.0
M14	2	215.0	161.0
M16	2.0	330.0	248.0
M18	2.5	455.0	341.0
M20	2.5	650.0	488.0
M22	2,5	870	652.0
M24	3.0	1100.0	825.0



**DO NOT OVER TIGHTEN SCREWS.
 THESE FIGURES ARE FOR GRADE 12.9 SOCKET HEAD CAP SCREWS.
 CHECK THE GRADE BEFORE TIGHTENING
 CHECK IF THEY ARE SELF COLOUR OR PLATED.**