



## **CD HVII TYPE METAL MEMBRANE COUPLING Installation and Assembly Instructions**

The following instructions apply to a standard CD HVII coupling. The actual coupling supplied may vary depending on the customer's requirements and specifications. Where supplied, these instructions should be read in conjunction with the coupling general arrangement drawing.

### **SELECTION VERIFICATION**

The user is responsible for ensuring that the coupling ordered will in fact meet the duty requirements and that the duty has not changed from the time that the coupling was originally selected. Autogard can supply the duty under which the coupling was originally selected.

### **INSTALLATION**

#### **Preparation**

The coupling should be unpacked and examined for any signs of damage, which may have occurred during transit. Verify that all the parts have been properly supplied as per the order.

Check that the coupling bores and shaft separation are as per the original order. Care should be taken to ensure that all spigots and bores are free from burrs. The Autoflex CD HVII is typically fitted with a straight parallel bore and keyway for a light interference fit. Refer to the order for specifics relating to the actual bore and keyway supplied.

Standard Interference, the coupling hubs should be heated to 150 degrees C (300 degrees F) in an oil bath or an oven. Do not use spot heat or exceed 300 degrees C (600 degrees F) as this may cause flange distortion. Fit the hubs onto the shafts with the hub face flush with the shaft end or as specified in the General Arrangement Drawing. When clearance fit hubs are supplied, slide the hub onto the shaft and tighten the setscrews.

Where Taper Bored hubs and/or Hydraulic Mounted hubs are supplied, consult Autogard for the appropriate installation instructions.

NOTE: Care must be taken to ensure that the coupling hubs are properly supported during installation to ensure that they do not slip.

#### **Align Shafts**

To align the shafts place the equipment into its approximate location. Measure and set the DBSE (Distance Between Shaft Ends) of the equipment as per the original specification. This should correspond to the DBSE supplied on the General Arrangement Drawing where supplied.

Note: The DBSE is usually measured from the inner face of the hub, which usually relates to the overall length of the transmission unit.

Align the centre line of the driving and driven shafts using the best available methods. Autogard recommends the use of Laser Alignment where available. The better the alignment the lower the resultant loads will be transmitted onto the bearings of the driving and driven equipment. Autogard recommends that the misalignment be set at no more than 10% of the catalogue ratings. This will allow for misalignment, which occurs due to foundation settling, thermal growth etc.

The coupling alignment should be checked periodically to ensure that alignment deterioration is properly compensated.

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British Autogard Limited

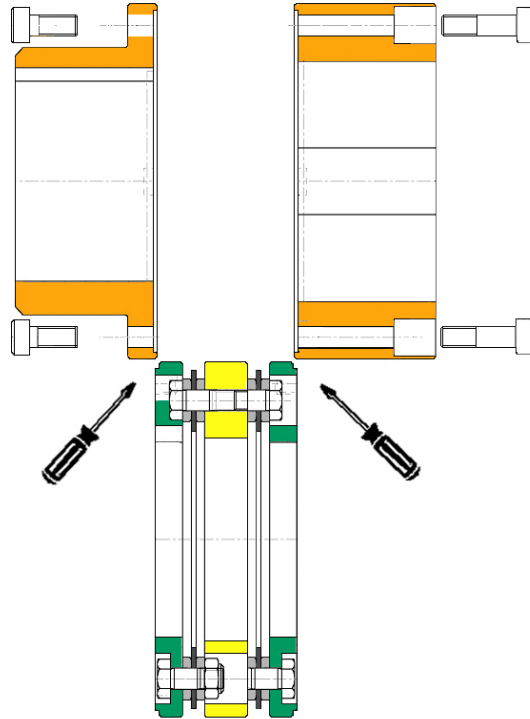
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## Assembly



**Figure 1**

Check the spigot on the Disc Pack Assembly to ensure that they are free from dirt and burrs. Align the shaft hubs and the Disc Pack Assembly such that the hub bolt holes line up with the mating threaded holes located in the Disc Pack Assembly. Insert two screw drivers into the screw driver slots provided in the face of the shaft hubs. Compress the Disc Pack Assembly as shown in figure 1 above. The Disc Pack Assembly will snap into the mating spigots located in the shaft hubs. Rotate each shaft hub until the bolts can be hand tighten into the mating threaded hole located in the Disc Pack Assembly.

Tighten the bolt to the torque shown in table 1. Bolts should be tightened in a diametrically opposite sequence.

The Disc Pack Assemblies are factory pre-assembled. DO NOT DISASSEMBLE.

### **Hub Bolt Tightening Torque**

| Coupling Size | Hub Bolt Size (mm) | Bolt Tightening Torque (Dry) (ft-lbs) | Bolt Tightening Torque (Dry) (Nm) |
|---------------|--------------------|---------------------------------------|-----------------------------------|
| CD 15 HVII    | M6                 | 8                                     | 11                                |
| CD 35 HVII    | M8                 | 21                                    | 28                                |
| CD 70 HVII    | M8                 | 21                                    | 28                                |
| CD 150 HVII   | M8                 | 21                                    | 28                                |
| CD 330 HVII   | M10                | 40                                    | 55                                |
| CD 480 HVII   | M12                | 70                                    | 95                                |

**Table 1**

### **Caution:**

Balanced coupling hub bolts have been weigh balanced and must only be supplied as a set.

Disc packs are factory assembled. DO NOT loosen the disc pack fasteners.

The standard for balancing the CD HVII is to component balance and as such match marks are not used. If match marks are present, the coupling has been specially balanced. The coupling must be assembled with the match marks in-line.

Once the coupling has been installed as noted above, slowly rotate the machinery to ensure that everything moves freely.

## **IMPORTANT INSTRUCTIONS BEFORE START-UP**

- Coupling guards must be provided in accordance with local and national regulations.
- Make sure all fasteners have been properly installed and tightened per the supplied tables or the General Arrangement Draws.
- If possible, re-check the coupling alignment after the driver and driven foundation bolts have been tightened.
- Consult Autogard Engineering for clarification of any of the points outlined in this installation guide.
- Only authorised Autogard replacement parts are to be used.

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