Moment Couplings: Sizes DM50–DM2100

Instruction Manual

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see **dodgeindustrial.com** for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

STEP 1: PRE-ASSEMBLY INSPECTION

All parts should be examined for any damage during the shipping and handling process. Measurements should be taken to ensure parts meet application requirements, such as hub and shaft fits, shaft separation, etc. All parts must be clean and free of any foreign material before attempting installation. Ensure that the shafts are free of burrs, grease, and other foreign material before installing hubs.

STEP 2: INSTALLATION OF KEYS

Install keys in respective shafts. Keys should be made from quenched and tempered alloy steel or similar material to ensure the same strength as that of the Moment Coupling hub. Keys should fit in the key seat with a tight fit on the sides and slight clearance over the key. Ensure key is free of burrs and break all edges.

STEP 3: MOUNTING HUBS

NOTE: PPE (Personal Protective Equipment) must be used due to the high temperature of the hub.

1. Moment couplings are designed for tight interference fits. Recommendations for shaft tolerances is as follows: shaft diameter +0.00”/-0.001”. It is important to achieve the proper fit as this coupling not only transmits the torque but must also provide support for the drive system.
2. Clean hubs and shafts and inspect for any nicks, burrs or dents. Address issues as needed.
3. Heat the coupling hub to between 350°F (177°C) to 450°F (232°C). Depending upon availability of equipment and safety of processes, the following heating methods can be used (in order of preference): oven, induction heater, oil bath, and open flame. When using an open flame, be sure to apply heat evenly over the entire hub to avoid uneven heating and distortion. It is recommended that temperature sensitive crayons or stickers are used to ensure the hub reaches the proper temperature for installation.
4. In some cases it might be necessary to shrink the shaft by using dry ice.
5. Install each hub so that it is flush with the end of the shaft. Also ensure that there is full length through bore engagement with the key and shaft. Allow each hub time to cool to room temperature before assembling the halves together.

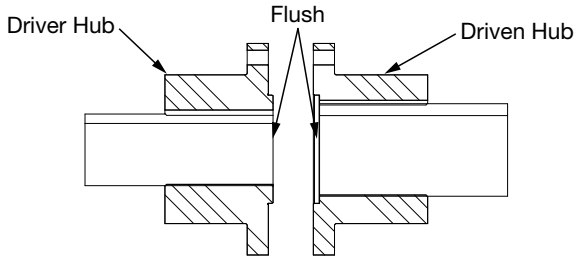

Figure 1 - Hub Installation

STEP 4: COUPLING ASSEMBLY

1. Moment couplings are not designed to accommodate any misalignment. They are intended to be used for shaft-mounted gear drives where the assembly is free to move with the eccentricities in the driven equipment.
2. Move the drive assembly into position using properly sized lifting equipment. The output shaft of the reducer should be parallel and in line with the driven shaft. Apply medium strength thread locker on each bolt prior to installation. Align fastener holes and loosely tighten bolts.

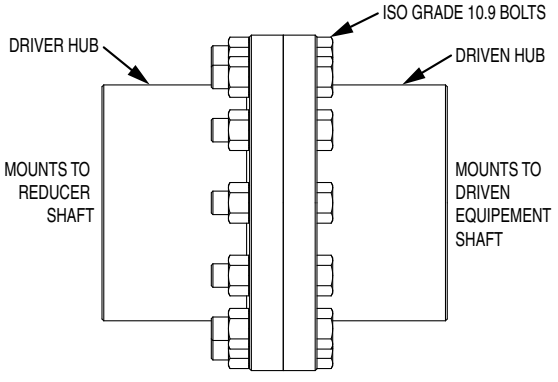

Figure 2 - Coupling Assembly

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Dodge® nor are the responsibility of Dodge. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

3. Tighten bolts gradually and evenly in an alternating star pattern to the recommended tightening torques displayed in Table 1 using a calibrated torque wrench. It is best to tighten each bolt to 50% of the tightening torque and then tighten to 100% of the tightening torque. Recheck each bolt to ensure that they have all maintained their torque value.
4. Fasten the torque arm to the frame per the reducer manufacturer's instructions and remove lifting equipment.

Table 1–Tightening Torque

Moment Coupling Size	Bolt Size	Tightening Torque		Hardware Kit Part Numbers
		N-m	ft-lbs	
DM 50	M20-2.5 x 90MM ISO 10.9	610	450	001561
DM 75	M20-2.5 x 90MM ISO 10.9	610	450	001562
DM 100	M20-2.5 x 90MM ISO 10.9	610	450	001563
DM 150	M20-2.5 x 90MM ISO 10.9	610	450	001564
DM 210	M24-3.0 x 120MM ISO 10.9	1055	778	001565
DM 285	M24-3.0 x 120MM ISO 10.9	1055	778	001566
DM 390	M30-3.5 x 140MM ISO 10.9	2095	1545	001567
DM 525	M30-3.5 x 140MM ISO 10.9	2095	1545	001568
DM 700	M30-3.5 x 140MM ISO 10.9	2095	1545	001569
DM 920	M30-3.5 x 140MM ISO 10.9	2095	1545	001570
DM 1400	M36-4.0 x 160MM ISO 10.9	3662	2701	001571
DM 2100	M36-4.0 x 160MM ISO 10.9	3662	2701	001572

STEP 5: REMOVAL

1. Use appropriate lifting equipment to remove the weight of the drive assembly from the Moment coupling and driven shaft. Ensure the swing base is properly balanced to prevent the load from swinging once the fasteners are removed.
2. Remove all fasteners from the Moment coupling flange.
3. Follow the manufacturer's instructions for removing the tie rod and torque arm. Once the tie rod is removed lower the swing base to the ground.
4. Coupling Hub Removal – Standard Keyed Interference Fit
   a. Clean coupling hubs of any debris or grease that might have accumulated during operation.
   b. Connect a coupling hub puller or other removal tool to the flange and ensure both the puller and coupling hub are properly supported.
   c. Heat the coupling hub evenly with an acetylene torch to between 350°F (177°C) to 450°F (232°C). Use temperature sensitive crayons to prevent overheating the hub. Be sure to keep the torch away from the shaft to insure that only the coupling hub is expanding.
   d. Remove the hub from the shaft using the coupling hub puller or other removal tool.

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