

Chapter 17 SWIVEL COUPLING UNIT

Type No. 1.00491.001

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ILLUSTRATION

	<i>Fig.</i>
<i>Swivel pipe coupling unit</i>	1

Introduction

1. The swivel coupling is used instead of a flexible pipe and is normally located at a point where the movement is controlled about one axis. Two connections with fixed female type unions form the coupling (*fig. 1*). The swivel post of the male connection is assembled in the body of the female connection, and retained by a collar and a split pin. The bore of the swivel post is sealed by a screwed plug, fitted with a sealing ring, and is linked by radial holes to an annular groove in the post, which coincides with an annular groove in the female connection. Additional grooves in the female connection house sealing rings to prevent the leakage of fluid, and lugs are provided for attachment purposes.

SERVICING

Leakage

2. Leakage past the sealing rings will be indicated by external seepage or loss of

pressure during test. The appropriate sealing ring must be renewed.

Dismantling

3. (1) Remove the split pin and collar from the joint.
- (2) Withdraw the swivel post of the male connection from the female connection and remove the sealing rings.
- (3) Unscrew the plug from the swivel post and remove the sealing ring.

Assembling

4. All sealing rings are to be lightly coated with grease XG-315 (34B/9100521) before being assembled in the unit.
- (1) Fit the sealing rings to the female connection and the plug.
- (2) Screw the plug into the swivel post of the male connection until the slotted face is just below the split pin holes.

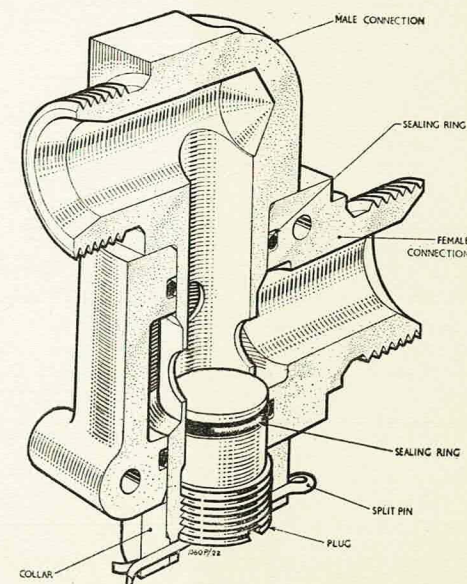


Fig. 1. Swivel pipe coupling unit

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- (3) Slide the female connection, with the protruding lug trailing, on to the swivel post of the male connection and secure the assembly with the collar and split pin.

Testing

5. A hand pump rig incorporating a pressure gauge and containing fluid consisting of 60% water and 40% methanol mixture at room

temperature, and one $\frac{3}{4}$ in. B.S.P. blanking cap is required for testing this unit.

- (1) Fit the blanking cap to one of the connections and connect the supply line of the rig to the other connection. Gradually apply a pressure of 100 lb/in² with the unit remaining static. Leakage is not permissible. Release the pressure.
- (2) Raise the pressure to 15 lb/in² and rotate

the swivel joint, through 180 deg. and back ten times and through 360 deg. ten times (five clockwise and five anti-clockwise). Leakage is not permissible.

- (3) Repeat the test in (2) and check that the torque required to rotate the swivel joint does not exceed 7 lb. in. Release the pressure, disconnect the supply line and remove the blank.

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