

Chapter 1

(Completely revised)

SWIVEL COUPLING UNIT**LIST OF CONTENTS**

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ILLUSTRATION

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

1. This unit is attached to a specific nose undercarriage lock strut and provides sealed swivel joints in the rigid pipes connecting the aircraft hydraulic system to the strut. A basic type is described in the chapter and appendices cover the variants.

Description

2. Four pairs of pipes are secured end to end to form the swivel jointed unit. The pipes which connect to the aircraft hydraulic system are fitted with collars and unions and belled

for loose olive connections. The opposite ends of these pipes are soldered into a swivel coupling post, which is formed with lugs and drilled for attachment to the airframe.

3. The pipes which connect to the lock strut are soldered into a swivel coupling body formed with lugs for attachment purposes. The outer ends of these pipes terminate in banjo unions. A hollow spigot, grooved for a sealing ring, which projects from the face of the coupling body and through which fluid passes to the lock strut, receives a blanking screw fitted for test purposes only.

4. The shorter pair of intermediate pipes are soldered into coupling bodies and the longer pair are similarly secured in coupling posts.

5. Each coupling post has two longitudinal holes each intersected by a radial hole to provide individual passages from the pipes to two annular grooves in the post. Screwed plugs soldered in position blank the longitudinal holes. A swivel coupling body is secured over each coupling post by a collar and a split pin, and annular grooves in the body con-

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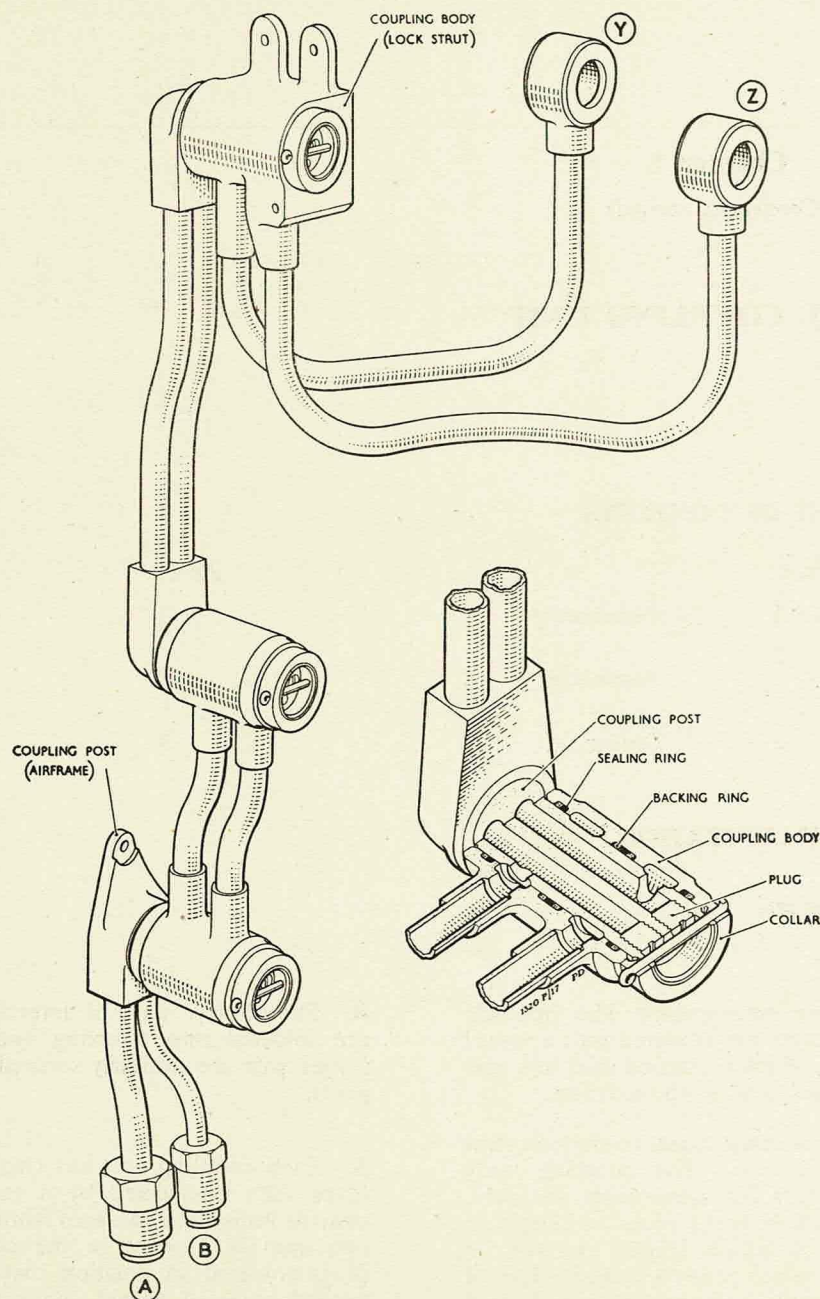


Fig. 1. Swivel coupling unit

nect with the pipes and coincide with the grooves in the post. Additional grooves in the coupling bodies house sealing rings and backing rings which seal off one fluid passage from another and prevent external leakage.

SERVICING

Leakage

6. Leakage past the sealing rings will be indicated by external seepage or loss of pressure under test. The appropriate sealing ring must be renewed.

Dismantling

7. (1) Remove the split pins and collars from the swivel coupling assemblies, and withdraw the coupling posts from the coupling bodies.
- (2) Remove the sealing rings and the backing rings from the bodies.

Note . . .

The screwed plugs are soldered in position and must not be removed.

Assembling

8. All sealing rings are to be lightly coated with Grease XG-315 (34B/9100519) before being assembled in the unit.

- (1) Fit the sealing rings and the backing rings to the coupling bodies. The rough faces of the backing rings are to be adjacent to the sealing rings.
- (2) Slide the coupling bodies over the relevant coupling posts and secure the assemblies with the collars and split pins.

Testing

9. A static hydraulic test rig is required, together with a blanking plug Part No. 1006U-0C26 and a bonded seal Part No. AGS. 1186-2 for blanking off the spigot of the coupling body. The unit is to be tested at room temperature.

- (1) Referring to fig. 1, connect the supply line of the static hydraulic test rig to connection A and apply pressure. Fluid should flow freely from the spigot

connection and the connection Z. Disconnect the supply line.

(2) Connect the test rig supply line to connection B and apply pressure. Fluid should flow freely from connection Y.

(3) Screw the blanking plug, fitted with the bonded seal, into the spigot connection of the coupling body and blank off connection Z. Connect the supply line to connection A and gradually apply a pressure of 6000 lb/in² with the unit remaining static. Leakage is not permissible. Release the pressure and disconnect the supply line.

(4) Blank off connection Y. Connect the supply line to connection B and gradually apply a pressure of 6000 lb/in² with the unit remaining static. Leakage is not permissible. Release the pressure.

(5) With connection Y still blanked off and the supply line of the test rig connected to B, apply a pressure of 100 lb/in². Rotate each swivel joint through an angle of 180 degrees and back ten times and through 360 degrees ten times (five clockwise and five anti-clockwise). If a swivel joint is prevented from moving through 360 degrees by the obstruction

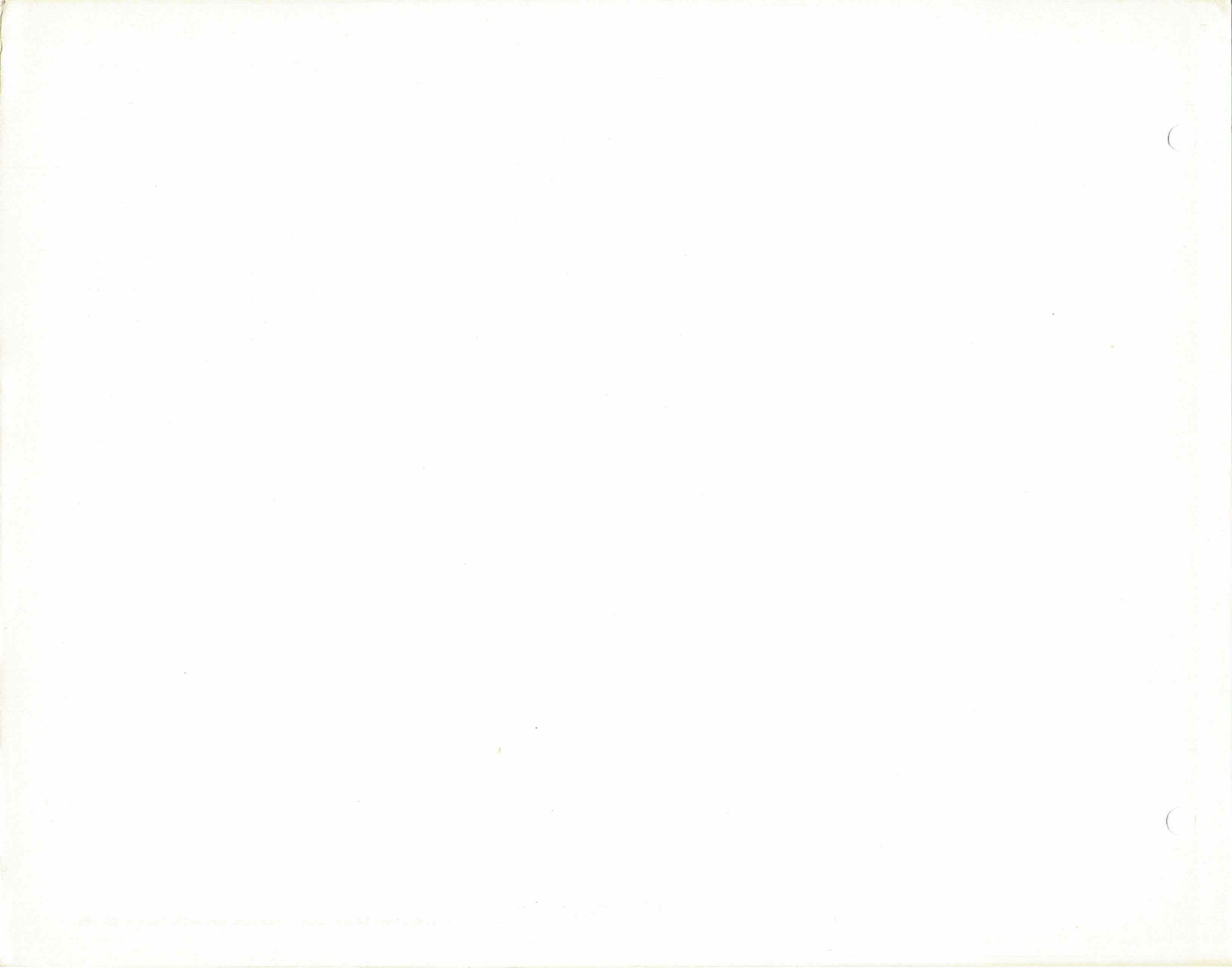
of other pipes, etc., it should be moved as far as possible. Leakage is not permissible. Release the pressure and disconnect the supply line.

(6) Repeat test (5), applying pressure at connection A.

(7) Repeat tests (5) and (6), applying a pressure of 4,400 lb/in² and check that the torque required to rotate each swivel joint at this pressure does not exceed ◀ 60 lb in. ▶ Release the pressure, disconnect the supply line and remove the blanking plugs.

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Appendix 1

SWIVEL COUPLING UNIT

Type No. 11824YA02

1. This unit is identical to the type described in the chapter.

Appendix 2

SWIVEL COUPLING UNIT

Type No. 1.00549.001

1. This unit is identical to the type described in the chapter, except that the banjo unions for connections Y and Z have machining differences to accommodate 'O' section rings in lieu of bonded seals. ◀The maximum torque load required to rotate each swivel joint at 4,400 lb/in² must not exceed 60 lb. in.▶

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